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Behavioral Finance: The Impact of Investor Expectation on the Financial Decision-Making

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Abstract: This paper offers a comprehensive exploration of fundamental concepts in behavioral finance and their repercussions on financial markets. Initially, it scrutinizes the efficient market hypothesis, highlighting disparities between its idealized assumptions and the complexities of real-world markets. Subsequently, it investigates the impact of loss aversion on investor behavior and its propensity to generate market anomalies. Moreover, the paper delves into the influence of framing theory and the endowment effect on investors' perceptions and decision-making processes, elucidating how cognitive biases can distort market dynamics. By synthesizing these theories, the paper presents a coherent framework for analyzing markets through a behavioral finance lens. It asserts that investors stand to benefit from a thorough comprehension and utilization of behavioral finance principles, enabling them to make more reasoned and efficacious investment choices. It concludes that investors can enhance their decision-making by embracing the principles of behavioral finance, thus contributing to a more rational and efficient market overall.

Keywords: Loss Aversion, Momentum and Reversal, Framing Effect, Endowment Effect

1. Introduction

Efficient market theory (EMH) suggests that the price of a security in a market adequately reflects all relevant information, including public and insider information. In an efficient market, investors are unable to analyze information or adopt specific strategies to gain excess returns. However, behavioral finance has challenged the efficient market theory. Behavioral finance argues that investors are not completely rational, but are influenced by psychological, emotional, knowledge and ability constraints. This leads investors to make decisions with biases and patterns of behavior that are somewhat systematic and predictable.

Behavioral finance also assumes that markets are not always perfectly efficient, hence the existence of models that make use of non-behavioral finance use in which some subjects are not perfectly rational, either because of preferences or because of false beliefs. An example of an assumption about preferences is that people are loss averse - a $2 gain might make people feel better, while a $1 loss might make them feel worse. False beliefs arise because people are bad Bayesians. Modern finance is based on the EMH. The EMH assumes that competition among investors seeking abnormal profits pushes prices to the "right" value. The EMH does not assume that all investors are rational, but it does assume that markets are rational.

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Behavioural finance looks at the actual process of investor decision-making and argues that investors' decision-making behavior is influenced and constrained by their psychology, emotions, knowledge and abilities, resulting in a range of cognitive biases. These biases are systematic rather than random and therefore investors are unable to make a correct assessment of the value of a security based on known information [1]. Behavioral finance also states that the forces of arbitrage cannot be unconditional and therefore markets are not always efficient. This provides behavioural finance with a unique perspective on how market prices deviate from their intrinsic value and how this deviation affects investors' decision-making behavior.

By contrasting efficient market theory and behavioural finance, it can be seen that efficient market theory emphasizes the rationality and efficiency of markets, while behavioural finance focuses more on the truthfulness and irrationality of investor behavior. These two theories provide us with different perspectives to understand the operation of the financial market and help us to better grasp the dynamics and risks of the market. The emergence of behavioural finance provides us with a deeper understanding of market operations and investor behavior. By combining psychology and finance, it is better understand the workings of markets and provide more accurate guidance to investors [2]. The efficient market hypothesis does not assume that the market can foresee the future, but it does assume that the market makes fair predictions about the future.

In summary, behavioural finance focuses on the impact of investor psychology and behavior on the market, thus expanding the understanding of financial market and the way to analyze it. Loss aversion, market anomalies, framing effects and endowment effects will be analyzed later.

2. Loss Aversion

Loss aversion is a cognitive bias that suggests that the pain of loss is psychologically twice as great as the pleasure of gain for an individual. It is a related concept in cognitive psychology, decision theory and behavioural economics, and is particularly common in financial decisions. Loss aversion causes individuals to be less likely to take risks, even if the potential reward is high, and it becomes stronger as the risk of the choice increases. This bias has practical implications in a variety of areas, including investment decisions, where it can lead to overly conservative portfolios and market underperformance [3]. Understanding and managing loss aversion in investment strategies is important to prevent emotional decision-making and to guide individuals towards more rational choices. The phenomenon of loss aversion can be summarized as "losses outweighing gains" and it can cause individuals to priorities avoiding losses over gaining equal gains.

Suppose these is an investor with $1 million on hand. There are now two investment options:

- Invest in Project A, which has an expected annual return of 10%, or $100,000 per year.
- Invest in Project B, which has an expected annual return of 20%, or $200,000 per year.

From an expectation perspective, investing in Project B has more potential because it offers a higher annual rate of return. However, when faced with an investment decision, people tend to choose more conservative investment options because they are afraid of losses. This is because if they choose to invest in Project A and get the expected returns, they will feel satisfied and relieved. Whereas if they choose to invest in Project B, they may face greater losses in case the market changes or the project goes wrong, which will make them feel anxious and uneasy. This psychological phenomenon is a manifestation of loss aversion. People's aversion to loss often outweighs their pursuit of gain, so when faced with potential loss, they tend to adopt a more conservative strategy to avoid possible loss.

Loss aversion has attracted a great deal of research attention in the field of investment. Studies have shown that investors, when faced with potential losses, tend to adopt conservative investment strategies to avoid possible losses. This psychological phenomenon can cause investors to miss out on some potential investment opportunities or sell their stocks prematurely when the market falls,

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thus affecting their long-term investment returns [4]. Investors with a higher degree of loss aversion are more inclined to adopt a conservative investment strategy; they are more likely to hold low-risk assets and avoid investing in high-risk assets. At the same time, these investors make less frequent portfolio adjustments, preferring to hold on to existing assets rather than engage in frequent buying and selling operations.

In addition, loss aversion has an impact on financial markets. When markets fall, more loss averse investors are more likely to sell stocks, which can lead to further market declines. Conversely, when the market rises, these investors are more likely to hold on to stocks, which can help drive the market further up [5]. Thus, loss aversion has an important impact on investor behavior and financial market interactions.

3. Market Anomalies

Market anomalies are situations where the price behavior of a security or group of securities is inconsistent with the efficient market hypothesis. Market anomalies are unanticipated and irrational fluctuations in stock market prices, trading volumes and other indicators. These fluctuations cannot be explained by fundamental analyses and are therefore considered anomalies. There are various types of market anomalies and common ones include calendar effect, size effect, book-to-market ratio effect, etc. [6]. These anomalies can present opportunities for investors, but they are not guaranteed and can be affected by factors such as transaction costs, taxes and risk adjustment. Anomalies can be categorized as time series anomalies, cross-sectional anomalies or other anomalies such as the size effect and the value effect. Whilst they may influence trading decisions, it is worth noting that anomalies should not dictate an investment strategy and that proper research into a company's financial position remains essential for long-term growth. Market anomalies must be treated with caution as they can be psychologically driven and may not always result in abnormal profits. In addition, the persistence of market anomalies over time is a key consideration in determining their validity. A proper understanding of market anomalies and their impact is important for investors seeking to navigate the complexities of financial markets.

Market anomalies provide investors with opportunities to capture excess returns. For example, calendar effects and scale effects both reveal certain irrational behaviors in the market that investors can exploit to generate excess returns. However, these opportunities are also accompanied by risks as the performance of market anomalies is not stable and investors need to take certain risks. The existence of market anomalies prompts investors to continuously adjust and optimize their investment strategies. Investors need to pay close attention to market dynamics and formulate effective investment strategies taking into account the phenomenon of market anomalies. At the same time, investors also need to continuously learn and master new investment techniques and tools to better respond to market changes. Market anomalies are often accompanied by fluctuations in investor sentiment, investors need to deal with market changes rationally and avoid behaviors such as blindly following the trend and panic selling. At the same time, investors also need to keep a cool head, not be confused by market anomalies, and adhere to their investment principles and strategies. The existence of market anomalies makes it necessary for investors to be more cautious and flexible in allocating their investment portfolios. Investors need to reasonably allocate their assets according to market conditions and their own risk tolerance in order to achieve the goal of long-term stable returns.

In conclusion, the impact of market anomalies on investment is multi-faceted. Investors need to maintain a rational and cautious attitude, and continue to learn and master new investment techniques and tools to better cope with market changes. At the same time, they also need to reasonably allocate their assets according to market conditions and their own risk tolerance in order to achieve the goal of long-term stable returns. Regarding the existence of market anomalies, many scholars have tested them through empirical studies. For example, some studies have found that the return of some stocks

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in January is significantly higher than that of other months, which is known as the "January effect". In addition, it has been found that small-capitalization stocks have higher returns, which is known as the "size effect". These findings suggest that market anomalies do exist and have an impact on investors' investment decisions.

3.1. Momentum

Market momentum is the acceleration of security prices or the total acceleration of the market as a whole. It is a measure of overall market sentiment and can support buying and selling with or against a market trend. When a trend gains traction, investors can use market momentum to leverage the momentum of the trend into that trend. Positive momentum may signal a potential bullish trend, while negative momentum may signal a possible bearish trend. Momentum trading is a strategy designed to use momentum to enter a growing trend. It involves purchasing securities that are rising and selling them when they reach their peak. However, it is important to note that future price trends can never be guaranteed and there are risks associated with momentum trading. Market momentum has been a topic of much interest in academic research.

Several studies have shown that market momentum has a persistent performance. That is, stocks that have performed well in the past have a tendency to continue to rise in the future, while stocks that have underperformed in the past may continue to fall. The existence of this momentum effect may lead to market overreaction, whereby investors are overly attracted to stocks that have performed well in the recent past and overly sell off stocks that have underperformed in the recent past [7]. However, there are some studies that argue that market momentum is not persistent. These studies suggest that the momentum effect on stock prices is due to excessive trading by noise traders (irrational investors) in the market. When these noise traders start selling stocks, the market experiences a reversal effect whereby stocks that have performed well in the past start to fall while stocks that have underperformed in the past start to rise.

In addition to the persistence of market momentum, other studies have examined the mechanisms by which market momentum is formed. Some scholars believe that market momentum may result from investors' overreaction to information. When there is positive or negative information in the market, investors may overreact, leading to a momentum effect on stock prices. In addition, there are some scholars who believe that market momentum may be caused by behavioural biases of investors, such as overconfidence or representativeness inspiration.

Overall, market momentum is a complex phenomenon with controversial formation mechanisms and persistent performance. Future research needs to further explore the formation mechanism and influencing factors of market momentum in order to better understand the behavioural and dynamic characteristics of stock markets.

3.2. Reversal

A market reversal is a change in the direction of an asset price trend, which can occur in both rising and falling markets. It is a significant event that may signal a potential shift in market sentiment and can be used by traders to make investment decisions. There are different types of market reversals, such as uptrend reversals and downtrend reversals, and can be triggered by a number of factors including market overexpansion, major events and changes in the economic cycle. Traders can use different methods to spot market reversals, such as recognizing weak trends, using technical indicators such as moving averages, oscillators or channels, and monitoring support and resistance levels. However, it is worth noting that market reversals are not always easy to predict and trading based on market reversals carries risks. The causes and effects of market reversals are complex and involve multiple factors. The causes of market reversals may involve fundamental factors such as

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economic data, policy changes, and industry dynamics. When economic data performs poorly, the market may expect a downturn in the economy, leading to a decline in stock prices. Conversely, if economic data performs well, the market may expect the economy to grow, leading to higher stock prices.

Technical indicators are one of the most important tools for determining market reversals. When price indicators are diverging or overbought and oversold, it may mean that a market reversal is imminent. In addition, changes in indicators such as market volume and momentum may also signal a market reversal. Market sentiment can also influence market reversals. When investor sentiment is overly optimistic or pessimistic, the market may reverse. When market sentiment is overly optimistic, investors may over-buy stocks, causing market prices to rise to unreasonable levels and ultimately leading to a market reversal. Policy intervention may also lead to market reversal. The government may adopt measures such as monetary policy and fiscal policy to regulate the economy, and these policies may have an impact on the market, leading to market reversals.

4. Framing Effect

Framing theory in finance focuses on the effect of the way information is presented on investors' decisions. Specifically, framing theory explores how investors make judgements and decisions under different ways of presenting information, and how this presentation of information affects their risk perceptions, preferences and behavior [8].

Framing theory states that different ways of presenting information affect people's decisions. When information is presented in a way that creates cognitive biases in people, they may make non-optimal decisions. For example, when investors focus too much on one aspect, they may overlook other important information, leading to poor investment decisions. Framing theory also emphasizes the role of emotions in decision making. An investor's emotional state may be affected by the way information is presented when making a decision [9]. When negative information is presented in a way that may trigger anxiety and panic in investors, which may affect their investment decisions. When the return on an investment is depicted as a relatively high percentage, investors may perceive the investment as less risky, thus altering their investment decisions.

Framing theory also states that people tend to think heuristically when dealing with complex information, i.e. making quick decisions based on limited information. This way of thinking may cause investors to overlook important details or background information and thus make less informed decisions. Investors may lose sight of their long-term investment objectives by focusing too much on short-term returns, or they may ignore the overall risk level of the market when adjusting their investment portfolios.

In making investment decisions, investors usually construct an investment decision framework based on factors such as their investment objectives, risk tolerance and investment horizon. This framework determines investors' investment strategies and behaviors in different market environments, such as investment choices and allocations in markets such as stocks, bonds and commodities [10]. Framework theory also plays an important role in financial risk management. Investors or financial institutions will construct a risk management framework based on their own risk tolerance and business characteristics, including risk identification, assessment, monitoring and response. This framework helps the investor or financial institution to effectively manage risks and reduce potential losses.

By understanding and applying the framework theory, investors and financial institutions can better formulate strategies and manage risks to promote the stability and development of financial markets.

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5. Endowment Effect

The endowment effect refers to the fact that once an individual owns a good, then he values that good much higher than he did before he owned it. It was proposed by Richard Thaler in 1980. This phenomenon can be explained by the theory of "loss aversion" in behavioural finance, which suggests that a certain amount of loss reduces people's utility more than the same amount of gain increases their utility [11].

Due to the endowment effect, people want to avoid losing what they have, and are prone to develop a "status quo complex". Fear of possible losses due to change. When the social system changes, those who may be harmed in order to avoid the pain of loss, will pay a great deal of money to maintain the original system, and social progress must overcome this inertia. Being very fearful of losses, owners of stocks tend to become risk-averse when they suffer a fall in stock prices. In order to avoid losses they are willing to risk a further fall in price by continuing to hold shares in the hope that one day they will rise again, as is the case in the property market. This results in a strange phenomenon: the lower the price of a stock or a property, the lower its turnover instead, which is contrary to the traditional demand curve of economics [12].

In the field of psychology, research has focused on the cognitive and neural mechanisms of the endowment effect. Several studies have shown that when people own something, they positively evaluate the perceived value of the item, which may be influenced by factors such as emotion, memory and experience. Meanwhile, neuroimaging studies have suggested that the endowment effect may be linked to the reward system and decision-related areas of the brain.

In the field of marketing, researchers have explored how the endowment effect can be used to influence consumers' purchasing decisions. For example, some studies have shown that when consumers own a product, they are more likely to have a positive evaluation of that product, and this evaluation may influence their purchase decisions. In addition, it has also been shown that consumers exhibit higher valuations of items they own, which may be related to their aversion to loss.

In the field of behavioural economics, researchers have explored the impact of endowment effects on market transactions and financial decisions. Some studies have shown that due to the endowment effect, buyers and sellers in the market may value the same item differently, thus affecting market transactions and price formation. In addition, it has also been shown that the endowment effect may lead to overly conservative or overly risky behavior on the part of investors, thus affecting their investment decisions.

The cause of the endowment effect can be attributed to people's sense of "ownership", i.e. the psychological state of perceived ownership of something. Once people own an object or asset, they perceive it as their own and develop an emotional attachment and identification with it. As a result, the owner is more reluctant to give up or lose the good or asset than the non-owner because of the emotional loss and loss it would bring.

In financial markets, the endowment effect may lead investors to have an overly optimistic view of their holdings and be reluctant to sell or change positions, thus affecting their investment decisions and investment returns. In addition, the endowment effect may lead to distortions in market prices as investors have overly optimistic expectations about their holdings or assets and ignore other potential risks and opportunities.

6. Conclusion

In summary, the application of these behavioural finance theories can help investors better understand the market and their own behavioural characteristics and make more rational decisions, thus reducing unnecessary losses and risks. These phenomena also reveal the important role of human psychology and behavior in financial markets. Understanding these phenomena helps investors to better cope

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with market fluctuations, develop more effective investment strategies, and avoid common investment traps. At the same time, these theories also remind investors to remain calm, objective and consistent to avoid making wrong decisions due to psychological and behavioural biases. With the continuous development of the financial market and the changing behavioural patterns of investors, the research and application of behavioural finance will become more and more extensive. Through in-depth study of behavioural finance, it is better understand the psychological and behavioural factors behind market prices and investor behavior, and provide investors with more effective investment strategies and risk management methods.

At the same time, it should also be aware that behavioural finance is not an effective theory that completely replaces traditional financial theories, but complements and improves them. In practice, investors need to combine traditional financial theories and behavioural finance to develop investment strategies and risk management methods suitable for themselves. Finally, it should continue to strengthen the research and application of behavioural finance, and dig deeper into the psychological and behavioural factors behind market prices and investor behavior, so as to provide strong support for the healthy development of the financial market and the growth of investors' wealth.

References

[1] *Hirshleifer D. (2015). Behavioral finance. Annual Review of Financial Economics, 7, 133-159.*

[2] *Ritter, J. R. (2003). Behavioral finance. Pacific-Basin finance journal, 11(4), 429-437.*

[3] *Gal, D., Rucker, D. D. (2018). The loss of loss aversion: Will it loom larger than its gain?. Journal of Consumer Psychology, 28(3), 497-516.*

[4] *Bouteska A, Regaieg B. (2018). Loss aversion, overconfidence of investors and their impact on market performance evidence from the US stock markets. Journal of Economics, Finance and Administrative Science, 25(50), 451-478.*

[5] *Khan, M. Z. U. (2017). Impact of availability bias and loss aversion bias on investment decision making, moderating role of risk perception. Management & Administration (IMPACT: JMDGMA), 1(1), 17-28.*

[6] *Rossi, M. (2015). The efficient market hypothesis and calendar anomalies: a literature review. International Journal of Managerial and Financial Accounting, 7(3-4), 285-296.*

[7] *Akhter, T., Yong, O. (2019). Adaptive market hypothesis and momentum effect: Evidence from Dhaka Stock Exchange. Cogent Economics & Finance, 7(1), 1650441.*

[8] *Framing effect. (2023). The Decision Lab. https://thedecisionlab.com/biases/framing-effect*

[9] *Cassotti, M., Habib, M., Poirel, N., et al. (2012). Positive emotional context eliminates the framing effect in decision-making. Emotion, 12(5), 926.*

[10] *Takemura, K. (2021). Behavioral Decision Theory: Psychological and Mathematical Descriptions of Human Choice Behavior, 131-143.*

[11] *Marzilli, K. M., Fuster, A. (2014). The endowment effect. Annu. Rev. Econ, 6(1), 555-579.*

[12] *Dean, M., Ortoleva, P. (2015). Is it all connected? A testing ground for unified theories of behavioral economics phenomena.*