

Study on the Dynamic Relationship between Investor Sentiment and Market Fluctuation from the Perspective of Behavioral Finance

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Abstract. This paper studies the influence of investor sentiment on market volatility and management strategy, including the definition and classification of investor sentiment, analyze the characteristics and influencing factors, discusses the correlation of mood and market volatility, the emotional infectious effect and the influence of market volatility and apply investor sentiment index, summarize the advantages and limitations, and puts forward the investor sentiment management strategy, the influence of investor sentiment on market volatility, and provides a new idea for the management of investor sentiment.

Keywords: Investor Sentiment; Behavioral Finance; Emotional Contagion Effect.

1. Introduction

Investor sentiment is one of the important drivers of market volatility, which can affect investors' decision-making behavior and market price movements. Behavioral finance studies the behavior patterns and psychological factors in financial decisions, and finds that the effect of emotional contagion plays an important role in the market. Investor sentiment is contagious in the market, and if it swings, it can trigger wild swings in the market. In order to better understand and predict the behavior of the market, the researchers developed various investor sentiment indicators and prediction models, and proposed a series of management strategies to cope with the uncertainty and volatility of the market.

2. Investor Sentiment from a Behavioral Financial Perspective

2.1. Definition and Classification of Investor Sentiment

2.1.1. Definition

Investor sentiment refers to the emotional state and emotional experience shown by investors when making investment decisions. It contains investors' expectations and attitudes about market movements, asset prices, and perceptions of risk and returns. Investor sentiment can be expressed in different emotional states such as optimism, pessimism, panic and greed, which can affect investors' judgment and decision-making on the market, and then have an important impact on market fluctuations. In the field of behavioral finance, investor sentiment is considered as an important driver of investment behavior, and it plays an important role in the short-term market fluctuations and long-term market trends.

2.1.2. Classification

Optimism and pessimism: Optimism refers to the mood state that investors hold positive expectations of market trends and asset prices, believing that the market will be in an upward trend; pessimism refers to the mood state of investors holding negative expectations of market movements and asset prices, believing that the market will be in a downward trend.

Short-term sentiment and long-term sentiment: Short-term sentiment refers to investor's expectations and responses to recent market trends and asset prices, such as emotional response to recent news, events, etc.; long-term sentiment refers to investors' expectations and attitudes towards long-term

market trends and asset prices, such as emotional response to economic development and policy changes.

Panic and greed: Panic refers to the mood of panic and fear in the face of severe market volatility or increased uncertainty, which may lead to mass selling; greed refers to the emotional state of greed and chasing when investors see the market rising and make money, which may lead to excessive speculation.

Social emotion and individual emotion: Social emotion refers to the emotional expression of investors affected by group behavior and market atmosphere, such as the contagion effect of market enthusiasm and panic; individual emotion refers to the emotional expression formed by investors according to their own experience, judgment and beliefs, such as individual expectations and attitudes towards the market.

2.2. Characteristics of Investor Sentiment from the Perspective of Behavioral Finance

2.2.1. Overconfidence

Investors often have a tendency to overconfidence, they will overestimate their ability and the ability to obtain information, leading to too optimistic or pessimistic judgment of the market.

2.2.2. Loss Aversion

Investors are more aversion to losses than the desire for the same amount of returns, and this psychology makes investors more likely to be affected by losses and make irrational decisions.

2.2.3. Feopfear

Investors often delay the fear of losses, hoping that the market will reverse, leading to bigger losses.

2.2.4. Herding Effect

Investors are vulnerable to the influence of the market atmosphere and the behavior of others, and follow the group behavior, leading to excessive buying or excessive selling in the market.

2.2.5. Anchoring Effect

Investors have a strong dependence and reference on a specific price or index, leading to the neglect of other information and making unreasonable decisions.

2.2.6. Overreaction

Investors overreact to short-term volatility and noise in the market, leading to frequent trading and overtrading, increasing transaction costs and investment risks.

2.2.7. Information Asymmetry

Investors have differences in their ability to obtain and interpret information, leading to information asymmetry in the market, which further affects investor sentiment and decision-making.

2.3. Factors Affecting Investor Sentiment

2.3.1. Market Environment

The volatility and uncertainty of market conditions will have a direct impact on investor sentiment. Investor sentiment is often optimistic when markets are in a stable, positive state, and it tends to be pessimistic when market volatility or uncertainty increases.

2.3.2. Economic Indicators

The release of economic indicators has a big impact on investor sentiment. The quality of some important economic indicators such as GDP, inflation and employment data can trigger volatility in investor sentiment. Good economic data usually boost investor confidence and optimism, while bad economic data can trigger investor concern and pessimism.

2.3.3. Media Coverage

Media coverage and public opinion also have an important impact on investor sentiment. Positive reporting and optimistic public opinion can help to boost investor confidence and market sentiment, while negative reporting and pessimistic public opinion may cause investor panic and pessimism.

2.3.4. Investor's Personal Experience and Knowledge

The investor's personal experience and knowledge level can also have an impact on sentiment. Experienced investors may be more responsive to market volatility and relatively stable, while inexperienced investors may be more susceptible to market volatility and emotional volatility.

2.3.5. Psychosocial Factors

Investor sentiment is also influenced by some social psychological factors, such as herd effect, anchor effect, etc. Investors are often influenced by the actions and opinions of others, and are vulnerable to previous decisions and reference prices, which affecting their emotions and decisions.

3. Definition and Characteristics of Market Fluctuations

3.1. Definition and Classification of Market Fluctuations

3.1.1. Definition

Market volatility refers to the drastic fluctuations and changes in market prices or indexes over a certain period of time, usually measured by price volatility. High market volatility means high price volatility, unstable market sentiment, and increased investment risk; while low market volatility means relatively stable prices, relatively calm market sentiment, and low investment risk. The causes of market fluctuations can be various, including economic factors, political factors, market sentiment and investor behavior, which will have an important impact on investors' decision-making and investment strategies.

3.1.2. Classification

Time classification: According to the time span of volatility, market fluctuations can be divided into short-term fluctuations and long-term fluctuations. Short-term fluctuations usually refer to price fluctuations over a shorter period of time, such as within days or within several days, while long-term fluctuations refer to price fluctuations over a longer period of time, such as fluctuations over several months or years.

Intensity classification: According to the intensity of fluctuations, market fluctuations can be divided into large fluctuations and small fluctuations. Large fluctuations usually refers to the large price rise or fall, large fluctuation; while small fluctuations refers to the small price fluctuation, relatively small range.

Direction classification: according to the direction of fluctuation, market fluctuation can be divided into rising fluctuation and falling fluctuation. Rising fluctuation refers to the fluctuation of a continuous rising price, while falling fluctuation refers to the fluctuation of a continuous price decline.

Periodicity classification: According to the periodicity of fluctuations, market fluctuations can be divided into cyclical fluctuations and non-cyclical fluctuations. Periodic fluctuation refers to the cyclic price to rise and fall in a certain period, such as seasonal fluctuation or economic cyclical fluctuation; noncyclical fluctuation refers to the price fluctuation without obvious regularity.

Reason classification: According to the cause of the volatility, market fluctuations can be divided into fundamental volatility and technical volatility. Fundamental fluctuations are usually caused by the market response to fundamental factors such as macro economy, corporate financial position, and policy changes; technical fluctuations are caused by technical indicators and behaviors of market participants.

3.2. Characteristics and Influencing Factors of Market Fluctuations

3.2.1. Feature

Uncertainty: Market volatility is often uncertain and difficult to predict accurately. The market is influenced by various factors, including economic data, corporate performance, policy changes, and geopolitical risks, which are often complex and volatile, and are difficult to fully predict and control.

Nonlinearity: Market fluctuations are often nonlinear. The change of market price is often not simply linear growth or decline, but presents a peak and trough fluctuation pattern.

High frequency: Market fluctuations tend to occur at a high frequency. Market prices can fluctuate multiple times in a short period of time, especially in highly liquid markets, where prices move more frequently.

3.2.2. Influencing Factors

Internal factors: company performance, financial status, product competitiveness are important internal factors affecting market fluctuations. The performance of the company, the stability of the financial situation directly affect the performance of the stock price.

External factors: economic data, policy changes, geopolitical risks and other important external factors affecting market fluctuations. Economic data, policy stability, and geopolitical turmoil can all have an impact on markets and trigger price fluctuations.

4. The Impact Mechanism of Investor Sentiment on Market Volatility

4.1. The Correlation between Investor Sentiment and Market Volatility

Investor sentiment and market fluctuations have a certain correlation. When investor sentiment is optimistic, they tend to be more willing to buy stocks or other assets, drive up market prices; When investor sentiment is pessimistic, they tend to prefer to sell assets, causing market prices to fall. Investor sentiment can affect their decision-making behavior, thus fluctuating the market. Research shows that there is a positive relationship between investor sentiment and market volatility. When investor sentiment is high, they are more likely to generate overoptimistic expectations, making the market overbuy, leading to overbought markets, resulting in a market correction or correction. Conversely, when investors are depressed, they are more vulnerable to panic and worry and may sell assets in large quantities, causing overselling in the market and triggering oversold markets. In addition, investor sentiment can also have a sustained impact on market volatility through emotional feedback mechanisms. When the market is more volatile, investor sentiment may be affected, further exacerbating the market volatility. For example, when markets fall, investor sentiment tends to turn pessimistic, leading more investors to sell assets, thus exacerbating the market's downtrend.

4.2. Emotional Contagion Effect and Market Fluctuations

The emotional contagion effect refers to the mutual transmission and influence of emotions between investors. When some investor emotions change, their emotions are often transmitted to other investors through various channels, thus leading to more investors' emotional changes. This emotional contagion effect will spread rapidly in the market, exacerbating market volatility. The emotional contagion effect can be achieved through multiple channels. First, media reporting and the dissemination of information on social media platforms can quickly convey investor sentiment. In the media, and these reports affect investor sentiment. At the same time, social media platforms have also become an important channel for investors to share and spread their emotions. Secondly, the communication and interaction between investors is also an important way of emotional contagion. In investor communities, investment forums and offline investor gatherings, investors can convey their emotions through communication and sharing of experiences. When some investors express specific emotions, other investors may be affected and change their emotions.

When there is heavy selling in the market, it can cause panic among other investors, further driving the market down. At the same time, when there is so much buying in the market, it triggers optimism from other investors, driving the market up. The emotional contagion effect can accelerate market price fluctuations and make the market more volatile. It is very important for investors and market regulation to understand the impact of emotional contagion effects on market volatility. Investors need to recognize that emotional contagion can lead to excessive market volatility and be cautious about other people's emotional contagion. Market regulators can draw on the research results of emotional contagion effect, and take corresponding measures to reduce the unreasonable spread of emotions, and maintain the stable operation of the market.

4.3. Mood-driven Investment Behavior and Market Volatility

Emotional-driven investment behavior refers to the behavior of investors influenced by emotional factors when making decisions. For example, investors tend to buy higher in an optimistic mood, but tend to sell in a pessimistic mood. This sentiment-driven investment behavior can lead to fluctuations in market prices. When a large number of investors are influenced by the same sentiment, changes in buying and selling forces in the market can trigger market price fluctuations.

Emotional-driven investment behavior can be reflected in many ways. First, the impact of investor sentiment may change their perceptions of risk and returns. Under optimism, investors may be more likely to overestimate returns and underestimate risk, and thus be willing to take greater investment risk, while under pessimism, investors may be more concerned about risk and choose conservative strategies. Secondly, emotion-driven investment behavior can also be manifested as investors' herd behavior. When the market fluctuates or major events, some investors may be affected by sentiment and take similar investment actions, forming the concentrated behavior of investors. This herding can trigger overbuying or selling, thus exacerbating market volatility.

5. Market Volatility Prediction Model from the Perspective of Behavioral Finance

5.1. Market Volatility Prediction Model from the Perspective of Behavioral Finance

The market volatility prediction model from the perspective of behavioral finance is based on the influence of investor behavior and emotional factors. The model argues that investor sentiment and behavioral decisions can have an impact on market volatility. Based on this perspective, researchers construct a prediction model to predict market fluctuations by analyzing investors' emotional indicators, behavioral preferences, trading volume and other variables. The model is able to capture the dynamic changes in investor sentiment and behavior, thus providing a new perspective to explain the causes and trends of market fluctuations, and to provide investors with targeted volatility prediction information.

5.2. Application of Investor Sentiment Indicators in Market Volatility Prediction

The application of investor sentiment indicators in market volatility prediction is based on the view of behavioral finance, believing that investor sentiment changes will affect market volatility. By analyzing investors' emotional indicators, such as fear index and greed index, we can help predict the volatility of the market. Market volatility may increase when investor sentiment moves towards fear because investors are more likely to sell stocks to avoid risk; and when investor sentiment is biased towards greed, market volatility may decrease because investors are more inclined to buy stocks. Therefore, investor sentiment indicators can serve as an indicator to predict market fluctuations and help investors make more accurate investment decisions.

5.3. Advantages and Limitations of the Sentiment-based Market Volatility Model

The advantage of the sentiment-based market volatility model is the ability to consider the impact of investor sentiment on market volatility to provide a more comprehensive market forecast. Mood

indicators can provide a complementary perspective to help investors identify turning points in market sentiment or increased risk of volatility for better asset allocation and risk management. Moreover, the application of mood indicators is relatively simple and intuitive, which can provide rapid prediction of market fluctuations.

However, sentiment-based market volatility models also have some limitations. First, investor sentiment may be disturbed by other factors, such as media reports, economic data, etc., so the sentiment indicators do not fully and accurately reflect the emotional situation of investors. Second, sentiment indicators are usually lagging indicators that take some time to collect and calculate, and therefore may not capture changes in market fluctuations in time. Finally, the application of emotional indicators still depends on investors' interpretation and judgment of emotional indicators, and there is a risk of subjectivity and misjudgment.

6. Investor Sentiment Management Strategy from the Perspective of Behavioral Finance

6.1. Emotional Monitoring

Investors should pay close attention to market sentiment indicators and psychological indicators, such as investor confidence index and panic index, as well as market news, public opinion and emotional feedback from social media. By monitoring the emotional indicators, we can timely understand the emotional changes in the market, so as to make corresponding investment adjustments. For example, when the investor confidence index is high, investors should be vigilant and avoid blindly chasing up, and when the market is panic, investors should keep calm and not follow the flow.

6.2. Emotional Separation

Investors should try to cut away from their own emotional factors to avoid emotional interference with investment decisions. For example, don't be swayed by short-term fluctuations in the market, avoid excessive greed and fear, and keep a rational and calm investment thinking. Investors can develop clear investment plans and strategies, and strictly implement them, not influenced by emotions. In addition, investors can also seek advice and advice from others to obtain more objective market analysis and investment advice.

6.3. Diversified Investment Portfolios

Investors can reduce their portfolios by diversifying their portfolios. Diversification across different industries, different regions and different asset classes can reduce the risk of a single investment while reducing the impact of mood swings on the overall portfolio. For example, investors can allocate different types of assets, such as stocks, bonds and real estate, to achieve balanced growth of assets and better cope with market fluctuations.

6.4. Long-term Investment Strategy

Long-term investment strategies can reduce the excessive focus on short-term market sentiment, thus avoiding the emotional risk of frequent buying and selling behavior. Investors should stick to their long-term investment goals and avoid interference from short-term market volatility and mood. For example, adopting a fixed investment strategy with regular and fixed investment rates will lengthen the investment time to help smooth the investment and avoid overreaction to market sentiment.

6.5. Seek Professional Advice

Investors can seek advice from professional investment advisers or financial experts to help them better manage their emotions and make investment decisions. Professional advice can provide objective market analysis and rational investment advice to help investors avoid emotional misdirection. Investors can attend investment training courses, seminars, etc., to acquire professional

knowledge and the opportunity to communicate with professionals, so as to improve their investment ability.

7. Conclusion

In investment markets, the importance of sentiment cannot be ignored. The impact of investor sentiment on the market can be either positive or negative, and often contagious. Understanding and predicting changes in investor sentiment can help us better grasp market trends and make informed investment decisions. At the same time, investors should also learn to manage their emotions, avoid emotional decisions, and remain calm and rational. Only through scientific analysis and rational thinking, can we achieve long-term and stable returns in the investment market.

References

- [1] Xin Yue. Analysis of the impact of investor sentiment on stock returns [D]. Hebei University of Finance, 2023.
- [2] Yang Linyu. Investor sentiment, capital market volatility, and systemic financial risk [D]. Shanxi University of Finance and Economics, 2023.
- [3] Tian Yunzhu, Li Yawen, Wang Xinyue. Relationship between investor sentiment and in-market earnings [J]. National Circulation economy, 2023, (10): 156-159.
- [4] Yao Hongxin, Liu Minghui. Research on the relationship between media reports, investor sentiment and stock index volatility [J]. Price Theory and Practice, 2022, (09): 150-153 + 207.
- [5] You Xin. Margin trading, investor sentiment and stock market volatility [D]. Nankai University, 2023.
- [6] Li Siyu. Research on the dynamic relationship between uncertainty, investor sentiment and stock market volatility [J]. Jiangsu Business Theory, 2020, (10): 84-88.
- [7] Li Wei. Study on the influence of monetary policy on stock price synchrony [D]. Shanghai University, 2019.