Research on Impact of Investor Sentiment on Chinese Stock Market: Review and Prospect

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Abstract. Over time, investor behavior has become more complicated due to the unpredictability of the Chinese stock market. Major research has found that investor sentiment swings have a huge impact on the market. Therefore, investors need to observe and understand how investor sentiment affects the market in the right way. Much of the past literature has used textual data mining and event analysis to measure the impact of investor sentiment and its impact on stock market returns, pricing, and volatility. Several articles have concluded that investor sentiment is highly responsive to the Chinese stock market. Another phenomenon that has emerged on various forums and social media is that people's fear of the stock market is spreading. The results of event analysis can prove that the impact of events such as the lifting of the ban on restricted shares and the listing of companies will be very obvious and have an impact on investor sentiment. An important implication of this study is that in addition to the dominant role of Granger causality in the causality that produces negative returns, negative investor sentiment is the main factor determining the overall behavior of the stock market. When bad news breaks, investors release their pent-up emotions for a short period, resulting in a violent reaction. In addition, market sentiment can also affect trading volumes and stock prices. This has put pressure on the market. In the end, this paper expands the future research direction from the two aspects of communication mechanism and quantitative analysis.

Keywords: Investor sentiment; Stock market yield; Asset pricing research; Stock market forecast.

1. Introduction

Sentiment has a significant impact on the trading behavior of investors in the stock market, which often leads to herd effects. Especially in the case of uncertain market conditions, this effect is more prominent. Existing studies have shown that there are obvious differences between the operation rules of China's modern securities market and traditional financial market theories [1]. Because investors have different levels of cognition and literacy, some good or bad news often triggers their overreaction. Stock markets have seen wild swings during the COVID-19 pandemic. As the number of cases increased and economic activity was restricted, investor sentiment turned very pessimistic, causing the stock market to fall sharply. With the progress of vaccine development and the introduction of government stimulus measures, investor sentiment gradually improved, and the stock market began to rebound. In China's securities market, individual investors occupy a large proportion, so their emotions and behaviors have an important impact on the price trend of the stock market. Therefore, an in-depth study of the psychological activity of investors is crucial to understanding market behavior. This paper discusses the relationship between investor sentiment and stock market returns through a literature review.

2. How to Measure Investor Sentiment

2.1. Text Data Mining

Ma et al. showed through research that investor public opinion is closely related to the Chinese stock market, and the introduction of multi-dimensional public opinion factors can significantly improve the accuracy of the forecasting model, which has a good forecasting effect on the Chinese stock market. In the online forums of Chinese investors, investors mainly pay attention to macro information such as the overall situation of the market, the performance of individual stocks, and the flow of funds, while there is generally a pessimistic sentiment of dissatisfaction with the stock market, and pessimistic words dominate public opinion [1]. Yao used a Python crawler to obtain information from Baidu News and built a public opinion scoring system as an investor sentiment indicator. The results show that monetary policy has a significant impact on the return rate of technology stocks and investor sentiment, and investor sentiment plays a moderating role in the process of monetary policy affecting stock return rate [2].

2.2. Event Analysis

Using data from April 2017 to April 2022 and other relevant data, Wang studied 706 unblocking events in the CSI 300 index. The results show that the lifting of the ban on restricted shares has a significant impact on investor sentiment, which is mainly reflected in the panic of investors before the lifting of the ban, and the increase in stock trading volume after the lifting of the ban [3]. Li, through the analysis of the "Ant Group, announced the upcoming listing" event, concluded that investors have short-term speculation to expect high returns. Through the analysis of the "Ant Group announced the suspension of listing" event, it can be inferred that some investors suffered confidence and sold stocks, while other risk-inclined investors bought on dips and expected long-term returns [4]. Liang showed that in China's market, the impact of investor sentiment on the announcement effect of a convertible bond financing plan is mainly reflected in the signal transmission hypothesis, especially when the mood is high, investors are more likely to convert information into positive signals and ignore negative signals, thus exacerbating the impact of the market [5].

3. The Impact of Investor Sentiment on the Stock Market

3.1. The Effect of Investor Sentiment on Stock Market Returns

By using the VAR model, GAO and Liang found that there is Granger causality between FISI and stock market returns. The stock market return rate has a significant impact on FISI, which confirms the validity of FISI's prediction, and the EGARCH model reveals the positive asymmetric interaction between investor sentiment and stock market return rate, emphasizing the sensitivity of the stock market to negative information [6]. Ding constructs the investor sentiment index by using the data of Oriental Fortune Stock Bar and finds that there is a positive Granger causality between investor sentiment and the return rate of the constituent stocks of the SSE 50 Index, but it has nothing to do with the trading volume [7]. Gu and Zhang used evaluation indicators such as the Internet search index, the number of stock bar posts, and the number of financial news to find that investor attention, sentiment, and news sentiment have a significant impact on the return rate, turnover rate and the daily limit probability of the stock market, especially during COVID-19 [8].

For example, in 2015, the Chinese stock market experienced violent volatility, which demonstrated the important impact of investor sentiment on stock market returns. During this period, the Chinese stock market experienced a wild bull market, with the prices of many stocks soaring and investor sentiment briefly reaching a high state. Late in the summer, however, there were wild swings in the stock market that triggered a stock market crash. Investor sentiment turned from optimism to panic, causing a sharp drop in stock prices that rippled through the economy. The move shows how investor sentiment can directly affect stock market returns. Optimism drives the wild rise in the stock market, while fear causes the stock market to plummet.

3.2. The Effect of Investor Sentiment on Stock Market Pricing

Wu studied the impact of investor sentiment divergence on asset pricing by establishing the asset pricing model of investor sentiment divergence and found that the impact of investor sentiment on stock price is related to average investor sentiment. The effect of optimism is relatively small, while the effect of pessimism is larger [9]. Li found that the introduction of investor sentiment and consumption factors can improve the existing asset pricing model and improve the efficiency of asset pricing. This is because investor sentiment and manager overconfidence have a significant effect on stock returns: optimism pushes up stock returns, while overconfident managers lower stock returns. This influence is further strengthened by investor sentiment [10]. Fu found that institutional investors are influenced by investor sentiment, which influences their mispricing of stocks. When investor sentiment is high, temporary institutional investors will increase mispricing, while focused institutional investors will reduce mispricing [11].

In the early days of the coronavirus pandemic, investor sentiment was severely affected and panic selling occurred, leading to a sharp fall in the stock market. Stock prices are severely undervalued because of the panic. However, as time went on and the government took steps to stabilize the market, investor sentiment gradually recovered and stock market pricing was repaired accordingly. This process highlights how investor sentiment can directly affect the price level of a stock.

3.3. The Impact of Investor Sentiment on Stock Market Volatility

Wu's research shows that investor emotional divergence increases stock price volatility, but with the increase of emotional divergence, its impact gradually decreases. In addition, diverging investor sentiment will also lead to increased trading volumes. In bull markets, the impact may be muted; in a bear market, its effects may intensify [9]. Tian et al. used the VAR model and impulse response to verify that the investor sentiment index can predict the volatility of stock market prices to a certain extent, but it is more significantly affected by the volatility of stock market returns, and the impact of investor sentiment on stock market volatility is lagging. Stock market return rate is the Granger reason for investor sentiment, but the reverse is not true, and investor sentiment has a relatively weak explanation for stock market return fluctuations [12].

For instance, in 2018, the escalation of Sino-U.S. trade frictions led to fluctuations in global stock markets, and the Chinese stock market was also greatly affected. Amid uncertainty over trade frictions and volatility in investor sentiment, China's stock markets have seen wild swings. The rise and fall of stock prices are relatively large, and the instability of market sentiment plays an important role in stock market volatility. The episode is a clear demonstration of how investor sentiment affects the volatility of the stock market. The uncertainty of sentiment has led investors to react more aggressively to the market, which in turn has exacerbated stock market volatility.

4. Future Research Trends

4.1. Mechanism of Transmission

Research in this area could entail investigating the channels of information through which investors get to express their sentiments. For instance, with the widespread use of new media such as social media and the internet, investor sentiment is likely to reach its peak and spread among investors rapidly through these mediums of expression. Scientists can look into the rate of sentiment absorption from various social mediums and news sites that are being targeted and their impact on the stock market. As an example, some researchers may determine that negative sentiment evidence on Twitter is more rapidly processed by the market than neutral or positive content that is ranked on news websites. Contrasting the sentiment propagation process via other possible channels helps to fathom the outcome's effects on the stock market. Additionally, they can discover the peculiar national particulars of emotions as well as the ways emotions are aroused in humans. They may delve into such issues as why fear is one of the factors that cause a fall in some stocks on social media and why optimism in news websites is one of the factors that lead to the rise in stock prices. One can not only understand all the truthfulness, understand how investor sentiment is transmitted as a natural function, but also seek the reasons and ways of investor sentiment transmission. Data analysts apply the deep cultural logic of big data and machine learning to demonstrate the delivery path of emotional information. The route of emotional information will be presented through investor groups and their structures that influence emotional interaction. This knowledge can help investors reduce some market risks through more effective market participation intending to distinguish powerful figures that move the market via their social media accounts and posts. Also, the researchers might want to delve into the effect of emotional characteristics in various market circumstances. For example, in different stock market situations as a bull and bear market, and a volatile market, the influence of sentiment on the stock market is not similar at all. Through the comparison of explanatory power between sentiment indicators and market fluctuations across different market conditions, they can investigate the relative influence of sentiment in different market states, therefore, providing investors with much more detailed and accurate market analysis & decision assistance. Instead, future research has to be aimed at developing better quantitative models, moreover, focused on evaluating the effect of investor sentiment on the stock market from different perspectives, and coming up with more precise and effective decision-support aids for investors.

Another research direction worthy of attention is to explore the propagation path and mechanism of investor sentiment. People can use big data and machine learning technology to analyze the transmission path of emotional information between different investor groups and reveal the network structure of emotional transmission and the transmission mechanism of influence. For example, they can study how emotional messages travel from the media to individual investors, and how they are transmitted and influence decisions within investor groups. Through the research of the emotional transmission path and mechanism, it can help investors better understand the driving force behind the market fluctuations, to formulate investment strategies more effectively. For instance, researchers may find that certain influential individuals or groups on social media can influence the mood and behavior of large numbers of investors by sharing emotional content. Such findings could help investors better identify and understand the mechanisms of sentiment transmission on social media, and thus respond more effectively to market volatility.

4.2. Quantitative Analysis

In the future, the research will establish a more complex time series quantitative model to study the relationship between investor sentiment and the stock market. The highlight of this research direction is to conduct an underground emotional data process based on the high frequency and the existing quantitative trading models that have the functioning of emotional factors. Through the use of natural language processing, scientists gather numerous text data from different sources, such as social media sites and news websites, and they apply sentiment analysis techniques to extract sentiment and emotion from these texts. They could next develop sentiment indicators and get this data on the quantitative trading models they follow so that to forecast changes in the market and its volatility. This model provides investors with additional insight on how market sentiment measures up in the stock market, and also increases the accuracy and precision of their strategies.

In addition, the sense is directed towards an analysis of the link between the emotional factors and the classical indicators of financial instruments. A large amount of work that concerns in-depth research on emotions and stock market features (volatility, turnover, liquidity, etc.) is to be done. Such research helps people reveal the mechanism of emotional impact on the stock market. Moreover, emotional factor indicators help in making better and more accurate predictions of the market movement and risk management strategies. Researchers will develop models, incorporating dynamic transitions, to analyze the links between sentiment indicators of the market and volatility in the stock market. They could figure out that there is a higher chance of stock market high volatility if the market sentiment is in a bullish state than the opposite. Deep diving into this issue will make the creation of a high-efficacy risk management strategy more possible and enable investors to deal with market instability better.

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5. Conclusion

Firstly, the text mining research finds the on-spot relation of sentiment to the Chinese stock market and the incorporation of multi-dimensional opinion factors boosts the predictive power of the model, which can generate a good prediction result for the Chinese stock market. Indicators from Internet forums reveal that people are more pessimistic about the stock market, but the facts cannot be ignored; this has led to the market being severely hit by pessimism. It was explored that two different factors, the lifting of the ban on the restricted joint-stock enterprises and the listing of the enterprises can highly affect the mood of the investors as well as the rate of the fluctuation.

On the other hand, investor sentiment can be expressed in the stock market by changing the return rate of the market as confirmed by the research. With the aid of the VAR model and various types of analysis, it is postulated that investor sentiment is a large cause of the deviation of stock returns from their expected values, as a result of particularly negative information from the investors. Besides that, investor sentiment also influences the stock market's pricing in a covert manner where asset pricing models and institutional investors' mispricing come into play. Despite this, the feelings of investors can also increase the volatility of stock prices and lead to the growth in trading volume as a response to these feelings.

By and large, the deep analysis of market sentiment facilitates a better understanding of what goes on in the market and, in the course, helps in improving the precision of investment strategies. On the other hand, the identification of the exact sources of the investor sentiment, the transmission mechanisms, and the effects of various factors on the operations of the market should continue and be branded around some known and unknown dimensions to have a clear understanding of how it operates the rest of the economic system as a comprehensive part.

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