ISSN: 2688-9323

Does Investor Confidence Affect Stock Price Volatility?

-- Based on Empirical Evidence of the SSE Composite Index from 2010 to 2020

Xianglong Li

School of Accounting, Anhui University of Finance and Economics, Bengbu Anhui, 233000, China

14792908883@qq.com

Abstract

China's stock market experienced a "roller coaster" in 2015, and the circuit breaker mechanism was triggered twice in 2016. In 2020, the outbreak of Epidemic situation of novel coronavirus pneumonia once again impacted the stock market. Behind the huge rise and fall of the stock market is the lack of established and sound relevant mechanism in China's capital market, which also reflects the limited rationality of investors. This paper will take investor confidence index as an explanatory variable to explore whether it will have any impact on China's stock market, whether it will have a differential impact on the stock prices of enterprises of different sizes and different property rights.

Keywords

The Investor Composite Sentiment Index in Chinese Stock Market; SSE Exchange Rate; SSE Super large Cap Index; SSE Small and Mid Cap Index; SSE Private Enterprises Index; SSE State-Owned Enterprises Index.

1. Introduction

1.1. Research Background

The Investor Composite Sentiment Index in Chinese Stock Market is an index that can reflect the future volatility of the whole market, and The Investor Composite Sentiment Index in Chinese Stock Market studied in this paper refers to the fluctuation of stock price and the change of investors' confidence in the future trend of the stock in the process of buying and selling stocks in the stock market.

In behavioral finance, investors are bounded rational. Due to the existence of psychological and cognitive biases, they can only take bounded rational actions, which will lead to the inefficiency of the market and the deviation of asset prices from the intrinsic value, and then lead to the overall system deviation of the market. This bias, in turn, will affect investors' rational judgment on asset prices, leading to self-reinforcing cognitive bias and psychological bias, and eventually forming a feedback mechanism to make assets deviate from their intrinsic value in the long run.

In economics, the meaning of supply and demand relationship is that supply and demand affect the final price of goods. Price is positively correlated with demand and negatively correlated with supply and demand. The stock transaction needs to have the buyer and the seller, and we can regard the buyer as the demand, the seller as the supply, so every stock transaction needs both demand and supply factors to be successful. When investors are pessimistic about the future trend of the stock and believe that the stock price will decline, investors will reduce the number of holdings and sell the stock to reduce losses. When supply exceeds demand, the stock price will decline. On the contrary, when investors are optimistic about the future trend of the

ISSN: 2688-9323

stock and believe that the price of the stock will rise in the future, they will increase the number of their holdings and buy a large number of stocks to increase their future earnings. In this case, the demand exceeds supply and the price of the stock will rise.

1.2. Literature Review

In an Empirical Study on the Correlation between Investor Sentiment and Stock Market Returns, Liu Jiawei proposed that the change of investor confidence index can have a great impact on the change of stock market returns, that is, with the rise of investor sentiment in the current period, the return rate in the market also grows. Second, with investor sentiment down, the yield in the market at the same time to fall. In the Influence of Investor Sentiment Based on Stock Comments on The Stock Market, Bu Hui and other four scholars believe that, from the market as a whole, the higher investor sentiment in the market, the higher the demand for stocks, the higher the stock price. In research on the Impact of Investor Sentiment on China's Stock Market Based on Text Mining, Pu Enkai believed that the ups and downs of investor sentiment indicators were roughly consistent with the ups and downs of stock indexes. By comparing the comprehensive investor sentiment indicators and the trend of SSE Composite Index in the same period, investors were optimistic when the market index was high. Investors are pessimistic when market indices are low. In an Empirical Study on The Impact of Individual Investor Sentiment on Stock Returns -- Based on a-Share Market, Hu Yating and other scholars believe that stock returns can have an impact on positive investor sentiment, positive investor sentiment can also affect stock returns, and stock returns can also have an impact on university-level investors. But it is not true that negative investor sentiment can have an impact on stock returns. In his research on the Impact of Investor Sentiment on China's Stock Return rate, Xu Dandan proposed that investor sentiment has a positive impact on China's stock return rate. When investors are highly motivated, stock return rate increases. On the contrary, stock yield tends to decrease.

1.3. Research Content

This paper takes The Investor Composite Sentiment Index in Chinese Stock Market as an explanatory variable and divides it into three parts to explore its impact on China's stock market. First of all, SSE Exchange rate is taken as an explanatory variable to explore whether The Investor Composite Sentiment Index in Chinese Stock Market will have any impact on China's stock market. Secondly, the SSE Super large cap Index and SSE Small and Mid cap Index are used to study whether The Investor Composite Sentiment Index in Chinese Stock Market will have a differential impact on the stock price of enterprises of different sizes. Finally, using SSE Private Enterprises Index and SSE State-Owned Enterprises Index respectively, this paper explores whether The Investor Composite Sentiment Index in Chinese Stock Market will have a differential impact on the stock prices of enterprises with different property rights.

In the process of studying the above three problems, monthly data of the variables involved from 2010 to 2020 are adopted, and linear regression models are established for explanatory variables and explained variables by using Eviews software. T-statistic (hereinafter referred to as T value) and F-statistic (hereinafter referred to as F value) of the regression model are used to judge whether explanatory variables have a significant impact on the explained variables.

After obtaining the results of the relevant model, it is analyzed and the relevant conclusions are drawn. Combined with the conclusion, China's stock market, macro environment and national policies and other relevant factors, in-depth research is conducted to find a relative balance between investors' irrationality and the uncertainty of the capital market, hoping that China's capital market can flourish and have a stable situation.

ISSN: 2688-9323

2. Research Design

2.1. Description of Variables

2.1.1. Explained Variables

SSE Exchange rate: the rise and fall of SSE Stock Exchange index in a period of time, the daily rate of return is (today's closing price - yesterday's closing price)/yesterday's closing price. This paper uses monthly data, that is, the weighted average of daily data, to judge whether The Investor Composite Sentiment Index in Chinese Stock Market will have any impact on China's stock market.

SSE Super large cap Index: 20 large and liquid super large cap stocks listed in SSE Stock Exchange are selected as the sample of the index to comprehensively reflect the overall performance of the stocks of large listed companies in SSE Stock Exchange. This index is used to judge whether The Investor Composite Sentiment Index in Chinese Stock Market will have a differential impact on enterprises of different sizes.

SSE Small and Mid cap Index : SSE Small and Mid cap Index is composed of the SSE Mid cap index and the components of the SSE Small-cap Index. It is used to comprehensively reflect the overall situation of small and medium-sized listed companies in the Sse Exchange. This index is used to judge whether The Investor Composite Sentiment Index in Chinese Stock Market will have a differential impact on enterprises of different sizes.

SSE Private Enterprises Index: 50 representative private enterprises listed in SSE Stock Exchange with large scale, good liquidity are selected as samples to comprehensively reflect the overall performance of large private listed companies in SSE. This index is used to judge whether The Investor Composite Sentiment Index in Chinese Stock Market will have a differential impact on enterprises with different property rights.

SSE State-Owned Enterprises Index: SSE State-Owned Enterprises Index is a combination of the SSE 50 Index of Central Soes and the SSE 50 Index of Local soes, reflecting the overall performance of large state-owned enterprises listed on the SSE Stock Exchange. This index is used to judge whether The Investor Composite Sentiment Index in Chinese Stock Market will have a differential impact on enterprises with different property rights.

2.1.2. Explanatory Variables

The Investor Composite Sentiment Index in Chinese Stock Market: mainly including confidence index, bear market index and bull market index these three indexes. Among them, the bull market index is that the stock market in the future is good, optimistic prospects; Bear market is that the stock market is bearish in the future, the outlook is pessimistic; The confidence index reflects the future volatility of the whole market. When the investor's confidence index is lower than 50, the stock may fall in the future. On the contrary, when The Investor Composite Sentiment Index in Chinese Stock Market is higher than 50, it is believed that the stock may rise in the future.

2.2. Time Interval and Source of Data

2.2.1. Time Interval of Data

The time range of explanatory and explained variables was from January 2010 to December 2020, and the data used were all monthly data.

2.2.2. Data Sources

Data sources are Wind database and Resset database.

2.3. Model Design

$$\text{Model 1: } SER_t = CICSI_t + \mu_t$$
$$\text{Model 2: } SSI_t = CICSI_t + \mu_t$$

ISSN: 2688-9323

$$\text{Model 3: } SSMI_t = CICSI_t + \mu_t$$
$$\text{Model 4: } SPEI_t = CICSI_t + \mu_t$$
$$\text{Model 5: } SSOEI_t = CICSI_t + \mu_t$$

Where, the subscript T represents the period, SER represents SSE Exchange rate, and represents the overall return rate of the stock. SSI stands for SSE Super large cap Index, reflecting the stock price fluctuations of large enterprises; SSMI stands for SSE Small and Mid cap Index, reflecting the stock price fluctuations of smes; SPEI stands for SSE Private Enterprises Index; SSOEI stands for SSE State-Owned Enterprises index; CICSI stands for The Investor Composite Sentiment Index in Chinese Stock Market; μ_t is the random error term.

Among the above models, Model 1 is used to study the impact of The Investor Composite Sentiment Index in Chinese Stock Market. Model 2 and Model 3 are used to compare the differential influence of The Investor Composite Sentiment Index in Chinese Stock Market on the stock prices of large enterprises and small and medium-sized enterprises. Models 4 and 5 are used to compare the influence of The Investor Composite Sentiment Index in Chinese Stock Market on enterprises with heterogeneous property rights

3. Empirical Analysis

3.1. Model Regression Results of the Investor Composite Sentiment Index and Stock Price Volatility

Table 1. Statistical analysis results1

SER	t-Statistic	Prob	F-Statistic	Prob
	6.9724	0.0000	48.6143	0.0000

The probability value of T value and F value in the table is 0.0000, which is far less than the significance level of 5%. Therefore, it is proved that The Investor Composite Sentiment Index in Chinese Stock Market has a significant impact on stock price fluctuations and has a strong trend of change in the same direction.

3.2. Grouping Regression

3.2.1. Regression Results of the Investor Composite Sentiment Index and Enterprise Models of Different Sizes

Table 2. Statistical analysis results2

	t-Statistic	Prob	F-Statistic	Prob
SSI	3.2119	0.0017	10.3165	0.0017
SSMI	3.53544	0.0006	12.4993	0.0006

As can be seen from the data in the table, the probability values of T value and F value of SSE Super Large Cap Index and SSE Small and Mid cap Index are both less than the significance level of 5%, which proves that The Investor Composite Sentiment Index in Chinese Stock Market has a significant impact on the stock prices of companies of different sizes. However, by comparing the t value and F value of the two, it can be found that there is a large gap.

ISSN: 2688-9323

3.2.2. Regression Results of the Investor Composite Sentiment Index and Enterprise Models with Different Property Rights

Table 3. Statistical analysis results3

	t-Statistic	Prob	F-Statistic	Prob
SGEI	3.5976	0.0005	12.9429	0.0005
SSOEI	3.6335	0.0004	13.2020	0.0004

According to the data in the table, the probability values of T value and F value of SSE Private Enterprises Index and SSE State-Owned Enterprises Index are both less than the significant level of 5%, which proves that The Investor Composite Sentiment Index in Chinese Stock Market has a significant impact on the stock prices of companies with different property rights. At the same time, by comparing the size of t value and F value of the two, there is no significant difference.

4. Conclusion and Deficiencies

4.1. Conclusion

First of all, it can be seen from the regression results in Table 1 that The Investor Composite Sentiment Index in Chinese Stock Market will have an impact on China's stock market. When investor confidence becomes stronger, stock prices will rise accordingly. When investor confidence is weak, share prices tend to fall. Secondly, it can be seen from the regression results in Table 2 that The Investor Composite Sentiment Index in Chinese Stock Market has a differentiated impact on enterprises of different sizes. Finally, it can be seen from the regression results in Table 3 that The Investor Composite Sentiment Index in Chinese Stock Market will not have a differential impact on enterprises with different property rights.

4.2. Deficiencies

After writing this paper, I learned a lot of useful things: how to collect data. To build a model for the data, but due to the lack of knowledge, coupled with limited time and energy, I feel there are still some shortcomings.

There are some deficiencies in the expression and argumentation of many contents.Relevant control variables, such as macro environment and national policies, were not taken into account when establishing the model. Although the regression results of the model are good and explanatory variables can significantly affect the explained variables, the goodness of fit of the model is not very good, which may be due to the lack of relevant control variables.

5. Policy Suggestions

5.1. Investors Should Actively Learn and be Rational

Investors are irrational. When the market is in a downturn and stock prices fall, investors will choose to sell their stocks and exit at a loss, which will lead to further decline in stock prices and decrease in investors' confidence. There is an interactive relationship between the two. And vice versa. Therefore, in order to keep the capital market in a benign state of development, investors need to actively learn relevant stock knowledge, learn to analyze the causes of stock price fluctuations, keep themselves in a rational state, conduct rational analysis, and make the right choice.

ISSN: 2688-9323

5.2. Listed Companies Strengthen Corporate Construction

On the one hand, the company should adhere to the initial intention of protecting investors, strengthen the construction of corporate professional ethics, and do not release false and incorrect information to mislead investors to make wrong investment decisions; On the other hand, the company should establish corresponding public relations department, and carry out in-depth cooperation with the third-party network public opinion monitoring platform. In case of negative news unfavorable to the company, the company should take corresponding measures quickly to reduce the loss of the company.

5.3. The State has Promulgated Relevant Laws and Policies

China's securities market develops rapidly, and the transaction scale has been in the forefront of the world, but there is still a certain gap with the international market. China's securities market for investors lack of corresponding protection measures, the valuation of the company's market value is too high, speculation and bookmakers holding garbage stocks "cut leek" is still very serious. Only by introducing relevant laws and regulations at the national level and policies at the local level can investors and listed companies keep the law as the bottom line, so that China's capital market can flourish and develop forward.

6. Concluding Remarks

In this paper, the monthly data of The Investor Composite Sentiment Index in Chinese Stock Market, SSE Exchange rate, SSE Super large cap Index, SSE Small and Mid cap Index, SSE Private Enterprises Index, SSE State-Owned Enterprises Index obtained from Wind database and Resset database from 2010 to 2020 are used to establish a model, and data analysis is conducted based on the model results. Explore The Investor Composite Sentiment Index in Chinese Stock Market for the impact of stock price, on the different scale of the enterprise differentiation effect and will differentiation effect of different nature of property rights of enterprises, on the results of the model analysis, we put forward some relevant suggestions in the hope to establish a dynamic stock market.

References

[1] Liu Jiawei. Empirical research on the correlation between investor sentiment and stock market returns [D]. Lanzhou University,2017.

[2] Guo Feng. Asymmetric Influence of investor sentiment on stock market price [D]. Central China Normal University,2017.

[3] Liu Wenting. Empirical analysis of the impact of individual investor sentiment on stock returns [D]. Anhui Agricultural University,2017.

[4] Wu Huali. Institutional Investors, Investor confidence and Stock returns and their volatility [D]. Fuzhou University,2017.

[5] Chen Rongze. Investor sentiment and stock index return -- Based on the research of China's A-share market [J]. Gansu Finance,2018(08):39-44.

[6] Bu Hui, XIE Zheng, Li Jiahong, Wu Junjie. Journal of management science,2018,21(04):86-101.

[7] Liu Yamei. Research on Investor Sentiment and Stock Market Returns in China [D]. Shenzhen University,2018.

[8] Qian Yiwen. The impact of investor sentiment on stock returns [J]. Anhui University of Finance and Economics,2018.

[9] Chen Yiming. Empirical research on the impact of investor sentiment on stock price [D]. Central China Normal University,2018.

[10] Zhou Bin. Study on the relationship between the investor sentiment and stock returns [D]. Guangdong university of finance and economics, 2019.

ISSN: 2688-9323

[11] Peng Shuang. Empirical research on the impact of investor sentiment on the return rate of blue chip stocks [D]. Central China Normal University,2019.

[12] Pu Enkai. Investor sentiment influence on China's stock market based on text mining research [D]. Nankai university, 2019.

[13] Hu Yating, Wang Luxiu, Zhao Yue. An empirical study on the impact of individual investor sentiment on stock returns: Based on a-share market [J]. Panzhihua university journal, 2020, 5 (6) : 64-70.

[14] Xu Dangdang. Research on the impact of investor sentiment on Chinese stock returns [J]. Times Finance,2020(28):58-60.