

# Research on the Impact of Investor Sentiment on the Stability of Individual Stock Prices

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**Keywords:** Investor sentiment, individual stock volatility, stock price stability, external market trends.

**Abstract:** This article analyzes the impact of investor sentiment on the stability of individual stock prices from the perspective of individual stocks. The research found that: (1) With the help of the fixed-effect model, this paper finds that the higher the investor sentiment, the greater the volatility of individual stocks and the worse the stability of the stock price; (2) With the help of the Chou test, this paper finds that under different external market conditions, The impact of individual sentiment on the stability of individual stock prices is different. Compared with the bull market environment, the increase in investor sentiment levels in a bear market environment has a more significant impact on individual stock volatility, and the stability of individual stock prices is worse. Based on the above conclusions, this article suggests that investors should form a reasonable investment concept, suppress impulsive investment, and reduce abnormal fluctuations in stock prices caused by irrational investment; financial institutions should give full play to the role of information dissemination and objectively evaluate various industries or companies; National authorities should provide reasonable guidance to investors' behavior in terms of regulatory intensity and policy formulation, and strengthen market protection for vulnerable investment groups.

## 1. Introduction

The stock market is known for its high profits and high risks. The "bump" opportunity of the stock price has attracted many investors to participate in the stock market, but at the same time, the "bump" of the stock price also made many investors lose their lives. The fluctuation of stock prices within a reasonable range is a normal phenomenon in the stock market, but excessive fluctuations in stock prices will aggravate the uncertainty of the market. Whether it is for the interests of market participants or the construction and development of the entire financial system, it has a very negative effect. Behavioral finance not only uses the theoretical models of traditional mathematical models, but also combines the impact of subjective factors such as emotion on stock prices. It analyzes the determinants of asset pricing more comprehensively than traditional finance, so it has received more and more academic researchers in recent years.

At present, many classic theoretical models that directly study investor sentiment and asset price fluctuations have been formed in academia, which has confirmed the relationship between the two. Mehra&Sah (2002) [1] found that a slight change in the investor's preference parameters will cause a significant change in the stock price, and that there is some unknown connection between the investor's emotional fluctuations and stock price fluctuations. Yu Yanfu (2011) [2]through a questionnaire survey, empirically analyzed the causes of the stock market plunge and investors' emotional changes before and after the stock market plunge. It was found that whether on the day or after the plunge, the phenomenon of irritability and anxiety has appeared, indicating that the sharp fluctuations in investor sentiment are one of the reasons for the downward development of the stock market. Su Jiang et al.(2013)[3]use the stock market value to subdivide stocks into large-cap stocks and small-cap stocks, and use the five-factor model and principal component analysis to study the correlation between investor sentiment and subdivided stock returns. Irrational sentiment is one of the reasons for price fluctuations in the small and medium-sized stock market. Zhang Zhenqi

(2017)[4]explored the internal relationship between investor sentiment and HS300 by establishing a VAR model, and found that investor sentiment can effectively predict the trend of the HS300 index, and the contribution rate of investor sentiment indicators to the HS300 index exceeds 80%. Wang Daoping(2019)[5]through the forecasted variance decomposition and the recursive forecasted variance decomposition of the fixed sample period, found that investors' emotional changes in economic policies and economic fundamentals are important reasons that affect stock market volatility.

With the deepening of research, academia has confirmed that the impact of investor sentiment on stock price volatility is positive. Lee (2002) [6] used a multi-mean CARCH model and found that changes in investor sentiment positively affect excess returns. Higher bullish (bearish) sentiment changes will cause greater market volatility. Brown&Cliff (2005) [7]pointed out through the independent valuation model that the market asset pricing error has a positive correlation with investor sentiment, that is, when the investor sentiment level is high, the market expectations will be optimistic, and the stock market value will gradually deviate. Its intrinsic value pushes the stock price up. Zhang Zongxin et al. (2013) [8] used the logical framework of “belief adjustment → investor sentiment → market volatility” to examine the relationship between investor sentiment and market volatility through impulse response function and multiple regression method, and obtained the investor sentiment pair. The market volatility has a significant positive impact. Chen Mingzhu (2016) [9] found that investor sentiment exacerbates the volatility of the stock market. When investors have good expectations of the future stock market, they will choose to buy a large number of stocks, so the stock price is raised. High profitability raises investor sentiment levels even higher, thus forming a virtuous circle. Deng Jun (2017)[10]based on the "prisoner's dilemma" theory, explained that when the stock market is volatile, investor psychology and decision-making are highly susceptible to others. Investor sentiment indicators rise, exacerbating stock price volatility. Yan Ning (2018) [11] used principal component analysis to subdivide investor sentiment into a comprehensive indicator of institutional investor sentiment and a comprehensive indicator of individual investor sentiment. The study found that in the short term, individual investor sentiment has an impact on market volatility "Boost" role. Zhou Fangzhao et al. (2019) [12]adopted the stepwise regression method and took the Shanghai Composite Index of the downward market from 2015 to 2018 as the research object. It was found that the greater the policy uncertainty, the lower the investor sentiment and the next market. Volatility is suppressed, in which investor sentiment is an intermediary variable. Li Mengyu et al. (2019) [13] found out that there is a positive correlation between the market manipulation and stock price collapse risk. The internal mechanism is that market manipulation affects stock price changes through the impact on investor sentiment.

Based on the existing research at home and abroad, this article studies the relationship between investor sentiment and stock price robustness from the perspective of individual stocks, and conducts further analysis based on different external market trends. The innovations studied in this paper are: (1) based on the perspective of individual stocks. The existing literature mostly chooses the market-oriented indicators such as the first-day IPO return rate, the average turnover rate of the A-share market, the consumer confidence index, and the ratio of new investor account openings for the construction of investor sentiment indicators, but this article starts from the level of individual stocks. The selected investor sentiment indicators and individual stock volatility indicators, that is, the explanatory variables and the measured variables of the explained variables, are constructed based on the Shanghai and Shenzhen 300 stocks perspective. (2)Distinguish between different external market trends. Most of the research results at this stage are focused on the differential analysis of stock markets of different sizes and the differential analysis of institutional and individual investors. In the study of the relationship between investor sentiment and the stability of individual stock prices, the existing results have compared the bull and bear markets there is relatively little research, and this article enriches the research in this field.

## **2. Theoretical analysis and research hypothesis**

### **2.1. Analyze the relationship between investor sentiment and individual stock stability**

In China, most of the participants in the stock market are individual investors, and institutional investors account for a small proportion (Su Jiang, 2013)[3], so the investment behavior of individual investors will have a more important impact on the market. Due to the existence of information asymmetry, individual investors are extremely susceptible to noise and rumors. Taking the long market as an example, individual investors make predictions about the rise in stock prices after discovering that the market's trading volume has risen, and interest drives their buying. Investors' sentiment levels increase when they enter the stock market. Due to the herd effect (Eric Michael Cameron, 2019)[14], other individual investors follow suit to buy, which further promotes the stock price rise (Li Mengyu et al., 2019)[13]. It can be said that investor sentiment amplifies the volatility of stock prices. The above analysis shows that there is a positive correlation between investor sentiment and price volatility. The higher the investor sentiment, the farther the stock deviates from its intrinsic value. The greater the volatility of individual stocks, the worse the stock price stability. Therefore, based on existing research, this paper proposes the following assumptions:

H1: There is a positive correlation between investor sentiment and individual stock volatility. The higher the investor sentiment, the greater the volatility of individual stock prices and the worse the price stability.

### **2.2. Analysis of the impact of different external market trends on investor sentiment and stock price stability**

Existing studies have shown that the return rate of the Chinese stock market is asymmetric under different external market trends (Lu Rong et al., 2004) [15]. According to Xu Chao (2018) [16] research, the negative signal has a more significant impact on the CSI 300 yield than the positive signal. In addition, the number of retail investors in China's stock market accounts for a large proportion. Compared with the optimism brought about, the pessimism of investors caused by the decline in stock prices is more able to cause changes in investor sentiment. The downward market conditions have caused market participants to lose their hearts and feel anxious (Jin Yu, 2016) [17], which has caused a change in investor sentiment in a bear market environment that can cause stock price fluctuations. The research by Yan Wei et al. (2011)[18] has a similar conclusion, namely the phenomenon of "slow rise and fast fall" in financial markets. Therefore, on the basis of drawing on existing research results, this article proposes the following assumptions:

H2: The impact of investor sentiment on the stability of individual stock prices is significantly different between bull and bear markets. Changes in investor sentiment in a bear market environment have a greater impact on individual stock volatility and the stock price is less robust.

## **3. Research Design**

### **3.1. Research samples and data sources**

In this paper, the research sample interval is 2015-2019, and the constituent stocks of the Shanghai and Shenzhen 300 are selected as the research sample, and companies with missing values of control variables exceeding 50% are excluded. The panel data in this article mainly comes from Guotai'an database.

### **3.2. Variable design**

#### **3.2.1. The explained variable: the robustness of individual stock prices**

For the measurement of stock price robustness at the market level, in the more complete stock market, the stock price index and turnover are generally used to determine, but because the Chinese stock market has not yet matured, these two indicators are not accurate. To fully understand the stock market with great changes, it is necessary to use other relevant indicators for auxiliary

research. In the existing research, the turnover rate, price-earnings ratio and stock price amplitude of individual stocks are mostly (Yang Qingchun, 2000) [19]. From the perspective of individual stocks, this article studies the relationship between investor sentiment and the robustness of individual stock prices. Therefore, drawing on the research of Liu Leping (2019) [20], the monthly return fluctuation of individual stocks is calculated by the daily return rate of 300 stocks in Shanghai and Shenzhen Rate (Volat), the greater the value, the greater the volatility of the stock price, the worse the robustness of the stock price.

### 3.2.2. Core explanatory variables: investor sentiment

In terms of market-level research, the definition of investor sentiment in academia has been relatively complete, and scholars at home and abroad have a variety of different measurement methods. According to the different ways of obtaining indicator data and the nature of the indicators, investor sentiment is divided into two categories: (1) direct indicators: friendship index (Solt & Statman, 1988) [21], "CCTV Watch" BSI index (Wang Meijin et al., 2004) [22], Investor Intelligence Index (Brown & Cliff, 2005) [7]; (2) Indirect indicators: closed-end fund discount rate (Brown & Cliff, 2005) [7], number of IPO issuance (Baker, 2006) [24], IPO first-day yield (Baker, 2006) [23], price-earnings ratio (Liang Lizhen, 2010) [24]. Zhang Zongxin et al. (2013) [8] also used the six measurement indicators of closed-end fund discount rate, market turnover rate, the number of new investor accounts opened, the ratio of rising and falling households, the average price-earnings ratio of A shares, and the amplitude of the Shanghai Stock Index. . At the same time, the rapid development of public media communication platforms such as Weibo has provided new ideas for the measurement of investor sentiment. Wang Zeshen (2017) [25] based on the data released by Weibo users and built an investment with the help of the Tencent Wenzhi sentiment analysis system Emotional index. However, regarding investor sentiment at the individual stock level, the above method is not feasible. Combined with China's national conditions, the proportion of retail investors in the Chinese stock market is relatively high. Due to the existence of information asymmetry, retail investors are highly susceptible to asymmetric information and make irrational decisions. Their behavior is reflected in the operation of buying and selling stocks. Therefore, this paper draws on the variable design method of Li Mengyu et al. (2019) [13], and uses the change rate of the monthly turnover rate of each stock of CSI 300 to reflect changes in investor sentiment. In this study, the monthly turnover rate  $Dturn$  is calculated based on the number of outstanding shares as an explanatory variable. The larger the value of this variable, the higher the investor sentiment level.

### 3.2.3. Control variables

Regarding the control variables, this paper refers to Xu Nianxing et al. (2012) [26], Zhao Yinghong (2013) [27], Li Mengyu et al. (2019) [13]. A total of 6 control variables are selected, respectively: roll indicator (Roll), shareholder equity turnover (Share), financial leverage (Lev), net profit growth rate (NPGrate), book market value ratio (BM), enterprise value multiple (EM).

## 3.3. Model design

### 3.3.1. Model designed to verify hypothesis H1

In this paper, with the help of a fixed-effect model, the econometric model (1) is used to verify that there is a positive correlation between investor sentiment and individual stock volatility, namely hypothesis H1. Among them, Cont is the control variable group, and Comp is the individual fixed effect of the company. The model is shown below. If the  $\beta$  value is significantly positive, it means that investor sentiment has a positive effect on the volatility of individual stocks. That is, the higher the investor sentiment, the greater the volatility of individual stocks and the worse the robustness of stock prices.

$$Volat_{i,t} = \alpha + \beta Dturn_{i,t} + \gamma Comp + \varepsilon_{i,t} \quad (1)$$

### 3.3.2. Model designed to verify hypothesis H2

This paper draws on the division method of Xu Nianxing et al. (2012) [27], and uses the market average return judgment method as the distinguishing standard of bull market and bear market. For the market average rate of return  $R_m$  and the risk-free interest rate  $R_f$ , this article collected the "A-share market rate of return" and "one-year bank deposit rate of return" from 2015 to 2019, and calculated the "market excess return" ( $R_m - R_f$ ), and use this as a measurement indicator, when the market excess return is greater than zero, it is a "bull market"; when the market excess return is less than zero, it is a "bear market." After calculation, it is found that the market excess returns for each year are: 2015 = 67.54%, 2016 = -10.1%, 2017 = -12.987%, 2018 = -30.73%, 2019 = 22.54%. It can be seen from the results that the excess market returns in 2015 and 2019 are greater than zero, so it is considered a "bull market", and the excess market returns in 2016, 2017, and 2018 are less than zero, so it is considered a "bear market."

This article uses the Chou test and uses the econometric model (2) to test the impact of different external market trends on investor sentiment and the stability of individual stock prices, namely hypothesis H2. Among them, Cont is the control variable group. First, this article introduces a dummy variable  $D$ ,

$$t = \begin{cases} 0 & t \text{ belongs to bear market} \\ 1 & t \text{ belongs to buff marktet} \end{cases} \quad (2)$$

When the market situation is a bear market, the coefficient of the explanatory variable is  $\beta_1$ . When the market situation is a bull market, the coefficient of the explanatory variable will change, and the result is  $\beta_1 + \beta_2 * D_{i,t}$ . Therefore, comparing the coefficient of the two coefficients can determine the different effects of investor sentiment on the stability of individual stock prices under different external market conditions. The larger the coefficient, the greater the impact of changes in unit investor sentiment under the external market situation. The greater the degree of stock volatility, the less robust the stock price. In this study, if  $\beta_2$  is significantly positive, it means that the relationship between the two is more prominent in the bull market environment; if  $\beta_2$  is significantly negative, it means that the relationship between the two is more prominent in the bear market environment.

$$\text{Volat}_{i,t} = \alpha_1 + \alpha_2 * D_{i,t} + \beta_1 * D_{\text{turn}}_{i,t} + \beta_2 * D_{i,t} * D_{\text{turn}}_{i,t} + \gamma_1 * \text{Cont}_{i,t} + \gamma_2 * D_{i,t} * \text{Cont}_{i,t} + \varepsilon_{i,t} \quad (2)$$

## 4. Empirical analysis

### 4.1. Descriptive statistics

The descriptive statistical results of the explanatory variables, explanatory variables and control variables in this paper are shown in Table 1. The average monthly volatility rate of individual stocks measured by the explanatory variable is 10.195, and the average change rate of the monthly turnover rate of individual stocks measured by the explanatory variable is 3.0928. The standard deviation of some variables is large, indicating that for the same variable, there are large differences between different stock sample data.

Table 1 Descriptive statistics of each variable

Variable	Mean	Standard deviation	Maximum	Minimum	Sample Size
Volat	10.1905	161.3820	18990.8800	0	16161
Dturn	3.0928	127.0915	9467.4700	-0.9761	15776
Roll	0.0457	0.0272	0.5520	0	16127
Share	1.3894	1.1754	8.2640	0	14122
Lev	1.3256	1.8236	38.9525	0	11825
NPGrate	36.6046	1191.1790	40867.2300	-41.81637	14122
BM	0.6556	0.3243	1.4063	0.0546	13993
EM	20.1320	21.5981	327.4347	0	13993

## 4.2. Analysis of regression results

### 4.2.1. Verify hypothesis H1

The test results of investor sentiment on the stability of individual stock prices in this paper are shown in Table 2. Volat, as a measure of stock price robustness, after controlling the firm's individual fixed effects, the regression coefficient of Dturn is 0.0034 and the significance level is 10%, indicating that investor sentiment has a significant positive effect on stock volatility, investor sentiment As the level increases, the volatility of individual stocks increases and the robustness of stock prices will deteriorate.

For control variables, Roll, Share, Lev, and EM have a significant positive effect on stock volatility. The larger the value of Roll indicator, shareholder equity turnover rate, financial leverage, and corporate value multiple, when investor sentiment changes, individual stocks The more violent the volatility, the worse the stability of the stock price; NPGrate and BM have a significant negative impact on the volatility of the stock. The greater the value of the net profit growth rate and the book-to-market ratio, the more the stocks fluctuate when investor sentiment changes The smaller, the more stable the stock price.

In summary, there is a positive correlation between investor sentiment and individual stock volatility. The higher the investor sentiment, the greater the volatility of individual stocks and the worse the price stability. That is, hypothesis H1 is verified. This conclusion is basically consistent with the conclusions of the existing research in academia.

Table 2 Investor sentiment test results on the stability of individual stock prices

Variable	coefficient	Standard deviation	t value	P> t
Dturn	0.0034	0.0019	1.79	0.074
Roll	176.5426	5.1212	34.47	0.000
Share	1.3499	0.5923	2.28	0.023
Lev	0.2357	0.0481	4.90	0.000
NPGrate	-0.000127	0.000028	-4.56	0.000
BM	-12.4632	1.6292	-7.56	0.000
EM	0.0735	0.0223	3.30	0.001
Comp	YES			
Adj R2	0.3066			

### 4.2.2. Test hypothesis H2

After considering the impact of different external market trends on the research in this paper, the test results of the impact of investor sentiment on the stability of individual stock prices are shown in Table 3. From the table, in the bear market environment, the coefficient of Dturn is 0.00535, the significance level is 1%; the coefficient of D \* Dturn is -0.0026, the significance level is 5%, that is, in the bull market environment, the coefficient of Dturn = 0.0054- 0.0026 = 0.0028 <0.0054, therefore, in a bear market state, changes in investor sentiment can more significantly cause positive changes in individual stock volatility, and the worse the robustness of individual stock prices, that is, hypothesis H2 is verified.

Table 3 Test results of the impact of different market trends on investor sentiment and the stability of individual stock prices

Variable	coefficient	Standard deviation	t value	P> t
Dturn	0.0054	0.00087	6.18	0.000
Roll	137.5539	3.3278	41.33	0.000
Lev	0.0743	0.1127	0.66	0.510
BM	-1.2544	0.2712	-4.63	0.000
D*Dturn	-0.0026	0.0012	-2.27	0.023
D*Roll	88.7955	5.5741	15.93	0.000
D*Lev	0.0262	0.1204	0.22	0.827
D*BM	-3.0844	0.4746	-6.50	0.000

### 4.3. Robustness test

#### 4.3.1. Investor sentiment robustness test

For the Dturn, a measure of investor sentiment in the explanatory variable, the previous study used the number of shares outstanding as the basis for calculating the turnover rate. The rate of change in the monthly turnover rate of individual stocks is calculated. As a basis for calculating the change rate of the monthly stock turnover rate, Aturn is used as an explanatory variable to replace Dturn to verify that this conclusion is still true when the explanatory variable is replaced by the calculation method.

The test results of the proxy variables for investor sentiment robustness are shown in Table 4. The selected control variables are the same as the fixed-effect model, and the regression coefficient of Aturn is 0.0071, and the significance level is 10%. The conclusion of the aforementioned research.

For the influence of control variables on stock volatility, the conclusion is similar to the result of the hypothesis H1. Roll, Share, Lev, and EM have a significant positive effect on stock volatility, while NPGrate and BM have a significant Negative impact.

Table 4 Test results of investor sentiment robustness proxy variables

Variable	coefficient	Standard deviation	t value	P> t
Aturn	0.0071	0.0042	1.7	0.091
Roll	172.0856	7.2962	23.59	0.000
Share	1.5289	0.8082	1.89	0.060
Lev	0.2274	0.0544	4.18	0.000
NPGrate	-0.000130	0.000034	-3.85	0.000
BM	-11.2495	2.1878	-5.14	0.000
EM	0.0710	0.0248	2.86	0.005
Comp	YES			
Adj R2	0.2884			

#### 4.3.2. Robustness test of endogenous problems

This article studies the impact of investor sentiment on the stability of individual stock prices. It has been confirmed that investor sentiment has a positive effect on individual stock volatility. In order to eliminate the impact of endogenous problems caused by two-way causality on this study, that is, the stability of individual stock prices Whether sex will affect investor sentiment, so this article uses the differential GMM method to regress formula (1) again, and the explanatory variable Dturn lags one period as an instrumental variable.

The robustness test results of endogenous problems are shown in Table 5. The coefficient of Dturn is 0.0162, and the significance level is 5%. Once again, investor sentiment has a positive effect on individual stock volatility. The higher the investor sentiment level, the greater the stock volatility and the lower the stock price stability.

Table 5 Robustness test results for endogenous problems

Variable	coefficient	Standard deviation	t value	P> t
Dturn	0.0162	0.0070	2.46	0.014
Roll	131.6659	4.1605	31.65	0.000
Lev	1.0760	0.6236	1.73	0.087
BM	-12.7675	2.5132	-5.08	0.000
Share	3.0606	1.1273	2.71	0.007
AR (1)	0.000			
AR (2)	0.4905			
Sargan	1.0000			

Note: AR (1) shows that the difference of the disturbance terms has first-order autocorrelation, AR (2) shows that the difference of the disturbance terms does not have second-order autocorrelation; Sargan's measurement

results show that the instrument variable Dturn is effective for one period of lag.

## 5. Conclusions and policy recommendations

This paper studies the relationship between investor sentiment and the stability of individual stock prices. Empirical results show that the higher the investor sentiment, the more violent the individual stock volatility and the worse the robustness of individual stock prices. Moreover, the stability of investor sentiment on individual stock prices is significantly different under different external market trends in the bull and bear markets. When the market situation is in a downward phase and the market trend is a bear market, changes in investor sentiment have a greater impact on individual stock volatility the robustness is even worse. At the same time, this paper uses the methods of replacing core explanatory variables and differential GMM to control endogenousness, and finally can reach the same conclusion as the previous research.

Based on the above research conclusions, this article puts forward relevant policy recommendations. From the perspective of individual micro investors, irrational sentiment increases the volatility of stock prices and reduces the robustness of stock prices. Therefore, investors should collect as much information as possible when investing in stocks when making decisions. Combining face analysis and technical analysis to make rational decisions; from the perspective of the financial industry, banks, securities companies and other financial institutions as an effective disseminator of information, one of its functions is to overcome the adverse selection and morality caused by information asymmetry For risk issues, financial institutions should disclose the information of listed companies in a timely manner. They should not deliberately guide investors 'emotional changes in pursuit of interests and mislead their investment behaviors. For macro-national governments, regulators can pay due attention to changes in investor sentiment and invest in behaviors. For reasonable guidance, the policy-making department should further improve the corresponding laws and regulations, and take corresponding warning or disciplinary measures for market participants who do not abide by market rules and conduct malicious guidance. Especially in a bear market environment, individual investors should avoid blindly following the trend, financial institutions should also make objective analysis, and state departments should guide investors to make reasonable investments. The three complement each other and jointly promote the continuous improvement of China's system construction and promote the financial market. Prosperity and development.

## References

- [1] Rajnish Mehra, Raaj Sah. Mood fluctuations, projection bias, and volatility of equity prices. *Journal of Economic Dynamics and Control*, 2002, 26 (5).
- [2] Yu Yanfu. Research on the Phenomenon of China's Stock Market Rapid Drop]. Fudan University, 2011.
- [3] Su Jiang. Investor sentiment and the abnormal volatility of small and medium-sized stocks in the Chinese stock market. Information Engineering Research Institute, USA. Proceedings of 2013 3rd International Conference on Applied Social Science (ICASS 2013) Volume 3. Information Engineering Research Institute, USA: Information Engineering Research Institute, 2013: 134-139.
- [4] Zhang Zhenqi. Investigating the abnormal fluctuation of China's stock market from the perspective of investor sentiment. Xidian University, 2017.
- [5] Wang Daoping, Jia Yuning. Investor sentiment and excessive volatility in China's stock market. *Financial Forum*, 2019, 24 (07): 46-59.
- [6] Yin-Hua Yeh, Tsun-siou Lee, Jen-fu Pen. Stock Returns and Volatility under Market Segmentation: The Case of Chinese A and B Shares. *Review of Quantitative Finance and Accounting*, 2002, 18 (3).



- [7] Gregory W. Brown, Michael T. Cliff. Investor Sentiment and Asset Valuation. 2005, 78 (2): 405-440.
- [8] Zhang Zongxin, Wang Hailiang. Investor sentiment, subjective belief adjustment and market volatility. Financial Research, 2013 (04): 142-155.
- [9] Chen Mingzhu. Research on the impact of investor sentiment on stock market returns and volatility in China. East China Normal University, 2016.
- [10] Deng Jun. Analysis of stock price fluctuation based on GARCH-SVM model. Journal of Economic Research, 2017 (06): 56-57.
- [11] Yan Ning. Research on the interaction between Chinese stock market volatility and investor sentiment. Liaoning University, 2018.
- [12] Zhou Fangzhao, Jia Shaoqing. Economic policy uncertainty, investor sentiment and China's stock market volatility. Financial Supervision Research, 2019 (08): 101-114.
- [13] Li Mengyu, Li Zhihui. Market manipulation and the risk of stock price crash—a path analysis based on investor sentiment. International Finance Research, 2019 (04): 87-96.
- [14] Eric Michael Cameron. An empirical study of the herd effect in China's stock market. Zhejiang University, 2019.
- [15] Lu Rong, Xu Longbing. Research on the unbalanced response of "bull market" and "bear market" to information [J]. Economic Research, 2004 (03): 65-72.
- [16] Xu Chao. Investor sentiment index construction and empirical analysis based on PLS method [D]. Northeast University of Finance and Economics, 2018.
- [17] Jin Yu. Empirical research on the prediction model of the Shanghai Stock Index that introduces investor sentiment. Guizhou University of Finance and Economics, 2016.
- [18] Yan Wei, Yang Chunpeng. Empirical Research on Stock Return-Risk at Different Stages of Market State—Emotional Shock and Investment Strategies. Current Finance, 2011 (12): 54-6
- [19] Yang Qingchun. Instability analysis and countermeasures of China's stock market. Southwestern University of Finance and Economics, 2000.
- [20] Liu Leping, Lu Min. The "Matthew Effect" of the Impact of Financing and Securities Margining System on the Stability of Individual Stock Prices. Research in Financial Economics, 2019 (06): 120-129] .<http://kns.cnki.net/kcms/detail/44.1696.f.20200110.1107.020.html>.
- [21] Michael E. Solt, Meir Statman. How Useful Is the Sentiment Index? 1988, 44 (5): 45-55.
- [22] Wang Meijin, Sun Jianjun. Chinese stock market earnings, earnings volatility and investor sentiment. Economic Research, 2004 (10): 75-83.
- [23] Shmuel Hauser, Uzi Yaari, Yael Tanchuma, et al. Initial Public Offering Discount and Competition. 2006, 49 (1): 331-351.
- [24] Liang Lizhen. A survey on the profitability of investment strategies based on sentiment indicators. Journal of Putian University, 2010, 17 (03): 35-41.
- [25] Wang Zeshen. Research on investor sentiment and stock market performance based on Weibo [D]. Northeastern University, 2017.
- [26] Xu Nianxing, Jiang Xuanyu, Yi Zhihong, Xu Xinzhong. Conflicts of analysts 'interests, optimistic deviations and stock price collapse risks. Economic Research, 2012, 47 (07): 127-140.
- [27] Zhao Yinghong. Statistical analysis of the relationship between the accounting profitability of Chinese listed companies and the changes in stock prices. Liaoning University, 2013.