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Limited Attention and Stock Returns

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Abstract

Individual investors have limited attention and cannot grasp all valid information in a timely manner, so they tend to buy the stocks they care about. Based on the Baidu Daily Search Index to measure the way investors pay attention, this paper uses the individual fixed effect model to analyze the interaction mechanism between individual investor attention and stock returns. The empirical results show that investor attention has an impact on stock returns, and this effect will reverse in the near future; the increase in investor attention in the next period will also be affected by the changes in investor attention and stock returns in the previous period; investors' attention to stocks on non-trading days will also be significantly reflected in the opening price and yield of stocks in the next week.

Keywords

Limited Attention; Baidu Index; Stock Return.

1. Introduction

Humans have a limitation when dealing with daily information and various tasks, which is manifested in the limited attention to things. The limited attention phenomenon believes that attention is a rare resource. When people make various decisions in the face of a large amount of information, people have to screen the information that appears, so as to make choices, and the limited attention phenomenon will appear. This phenomenon was first proposed by Kahneman (1973), which mainly means that when people are faced with a large amount of information, they will only pay attention to part of the information, while other information will be ignored by themselves. In the information-abundant Internet age, individual investors cannot effectively handle various information. When investors are faced with various investment information in the process, they lack the time to pay attention to these large amounts of information and the ability to process information, which will make it difficult choose. Barber and Odean (2007) found that individual investors tend to choose the stocks they focus on when they are picking stocks. Compared with foreign markets, there are a large number of active individual investors in my country's stock market, so limited research attention is of great significance for explaining the changes in stock prices. Black (1986) regarded individual investors as noise traders in their research, and believed that their trading behaviors were random and could not consider the impact of individual investors' trading on stock prices. But with the gradual maturity of behavioral finance theory, Peng and Xiong (2006) began to notice that individual investors are limited in processing information, they are more likely to pay attention to the stocks that attract their attention, and eventually this limitation will be reflected in on asset prices.For individual investors, once they have paid attention to certain stocks, they will definitely search for information related to the stocks through the Internet. The number of times a keyword is retrieved in a search engine is the search index. Measuring investor attention in this way can more accurately reflect the level of attention to a certain extent. With the introduction of Google search engine abroad, my country also began to launch its own search engine in 2006. At present, the number of individuals who use Baidu to search for the information they want to query is still in a leading position compared with other

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software. Therefore, this paper uses the Baidu search index as the proxy variable of investor attention, which can clearly reflect the degree of individual investors' attention to stocks.

2. Literature Review

Empirical studies at home and abroad have explored the impact of investor concern on stock prices. It was the first time that Gervais et al (2001) found that this impact originated from abroad. By studying the relationship between the daily trading volume and the yield of the New York Stock Exchange, they found that investors tend to pay more attention to stocks with high trading volume, which leads to an increase in the probability of investors' purchase, and eventually the stock will fluctuate. Wu and Seascholes (2007) found that investors in the stock market would pay more attention to those stocks that are easy to rise and fall on the limit, while those stocks with higher attention tend to have higher returns. Da, Engelberg and Gao (2011) used the weekly indicators of Google Trends to study and analyze the Russell 3000 index, and found that the increase of investors' attention will lead to the increase of market indicators such as stock prices. Thomas Dimpfl and Stephan Jank (2011) found that the higher the investor's attention, the greater the volatility of the stock market price.

Later, with the development of behavioral finance theory, Chinese scholars began to pay attention to the impact of investors' attention on stock returns. For example, Yu Qingjin and Zhang Bing (2012) found that investors' attention in the current period would promote the increase of stock prices by studying the relationship between investors' limited attention and stock returns in the entrepreneurship market. Zhao Longkai (2013) also proved this in his subsequent research by analyzing the relationship between attention and stock return. Lu Rong (2019), by studying the impact of limited attention on idiosyncratic volatility pricing, found that the higher the attention, the more significant the negative correlation between idiosyncratic volatility and return. Liu Yilin (2020), based on the trading floor event in China's stock market, analyzed the investors' concerns about the stock ranking to varying degrees due to the penny difference in the stock market. The research showed that the stocks ranked top in the trading floor would have higher returns the next day. Liu Ying (2020) studied the impact of investor concern on market liquidity from the perspective of investor concern, and found that there is an asymmetric relationship between investor concern and stock market liquidity. When the market yield exceeds a certain value, the increase of attention will reduce the market liquidity instead.

However, in the research on the impact of investors' attention on stock returns, another important problem is that investors' attention is difficult to measure. Quan Xiaofeng and Yin Hongying (2014) [14] divided proxy variables of investor concern into direct indicators and indirect indicators. Indirect indicators refer to variables that can be extracted from the daily trading process of investors in the daily research of scholars, and can be used to reflect the impact of investors' attention on stock prices, such as trading volume, turnover rate, etc. However, Da, Engelberg and Gao (2011) pointed out that such indicators all have an obvious limitation, that is, the phenomenon reflected by these proxy variables must be generated by the investor's attention. The trading volume, turnover rate and trading limit are the characteristics of the stock itself, which cannot directly reflect the changes of investors' attention, and these phenomena may also be caused by things unrelated to investors' attention. The direct indicators are generally used to describe investors' attention by collecting Internet data. For example, Google search volume, Baidu search index, etc. Compared with indirect indicators, such indicators can more clearly reflect investors' concerns. Based on the above analysis, this paper will use Baidu search index as the proxy variable of investor attention.

Compared with the previous literature, this paper mainly makes the following contributions. First of all, the previous literature used Baidu Index as the proxy variable of investor concern

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only to study whether the concern has an impact on the yield. On this basis, this paper also studies whether investors' attention, yield and trading volume in the previous period will affect the current attention. That is, whether there will be some feedback mechanism to make investors' attention and stock returns establish a certain relationship. Secondly, this paper innovatively studies whether investors' attention will have an impact on the next week's stock opening price and yield during the non trading day, and makes a comparison with the trading day. The study found that investors collected relevant stock information over the weekend, and their attention was better reflected in the next week's stock returns. This discovery has certain application value for investors to study the changes of stock returns.

3. Theoretical Analysis and Research Hypothesis

Due to the incompleteness of market information, individual investors can only rely on the market information they have mastered to make investment decisions. According to the theory of financial behavior, these investors will over-invest when they have fully mastered the information. They tend to pay attention to the information they are more willing to pay attention to and ignore the information that is more useful to investors, thus resulting in the overall cognitive bias of investors in the process of investing, which can easily lead to overreaction of investors. Stocks that investors pay a lot of attention to in the short term will appear "attention-driven buying behavior" (Baber and Odean, 2008), which will make the stock rise. However, individual investors are often irrational, and it is easy to cause a lot of stock trading due to factors such as "overconfidence" and "herd mentality". With the progress of market transactions and the increase of information disclosure and investors gradually becoming rational, the increase in stock prices caused by the "overreaction" of investors in the past will reverse in the later stage. The research of Da et all (2011) found that stocks whose stock prices have risen due to increased investor attention will have a reversal phenomenon in the future. Compared with foreign stock markets, my country's stock market is still an immature and imperfect market. In order to examine whether this phenomenon will appear in the domestic stock market, this paper proposes the first hypothesis:

Hypothesis 1: The increase in attention will promote the increase in stock prices, and this phenomenon will reverse in the near future.

In the previous analysis, we analyzed the impact of changes in attention on stock prices. So will changes in stock prices have an impact on attention? Is there such a feedback mechanism as price-attention-price? Feedback theory is one of the more common theories in finance. For example, Hong and Stein (1999) studied the feedback effect between emotions and stock prices. Therefore, this article puts forward the second hypothesis here:

Hypothesis 2: The increase in the attention, trading volume and stock price of the previous issue will also increase the attention of the next issue.

During non-stock trading, investors' attention to stocks has not stopped. Especially after the close on Friday, all kinds of information in the stock market may have changed a lot. However, traditional proxy variables cannot be used to measure investor attention because there is no transaction on weekends. However, on non-trading days, investors can still use search engines to retrieve the stocks they are interested in, which brings this kind of attention. The change in the stock price will naturally be reflected in the opening price of the stock next week. Therefore, will changes in investors' attention to stocks during non-trading periods affect the price of stocks in the next trading day? Based on the above analysis, this paper proposes the third hypothesis:

Hypothesis 3: Individual investors' attention to stocks during non-trading periods will affect the price of stocks on the next trading day.

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4. Sample Selection and Variable Definition

4.1. Variable Selection and Data Sources

This paper selects the 100 stocks with the largest weights in the CSI 300 sector, and then excludes trading suspensions and ST stocks that have been suspended for more than a week, and finally obtains 89 valid stock data. The constituent stocks in the CSI 300 are selected as samples because the CSI 300 sector is representative and the Shanghai and Shenzhen stock markets can reflect the overall situation of the Chinese market. In addition, this article studies the impact of individual investors' attention on stock prices, while the CSI 300 sector is often the preferred choice for individual investors, and individual investors are more likely to search for the information they need through the Internet , which can reflect the attention of investors. Finally, in terms of time, this article uses the time range from January 6, 2020 to December 31, 2020. After excluding weekends and normal holidays, there are a total of 241 trading days left.

4.2. Variable Description

4.2.1. Individual Investors' Attention Index - Baidu Index Search Volume

After the Google search engine was launched abroad, China also began to launch its own search engine in 2006. At present, Baidu is still in an absolute dominant position in the Chinese market. According to the iResearch database, as of 2016, the number of requests for daily search using Baidu has accounted for 85% of the entire domestic market. Therefore, this article uses Baidu Index. As an alternative investor attention has a certain degree of representation. Compared with other proxy variables, the indicators selected in this paper have less noise. When an individual investor begins to pay attention to a stock, no matter where the investor sees the relevant information of the stock or the recommendation of others, the network will be carried out. Therefore, choosing Baidu Index search volume as the proxy variable of investor attention can clearly reflect the actual situation. In addition, institutional investors are different from individual investors. Because institutional investors have relatively complete information, they do not need to obtain more information about a stock through Baidu's website. On the contrary, for individual investors, individual investors are investing in stocks When choosing, you will often look for relevant information through the Internet. Therefore, Baidu search volume is a better proxy for individual investors' attention to stocks. Here we denote the proxy variable of investor attention index as AT.

4.2.2. Stock Market Trading Indicators - Daily Trading Volume of Individual Stocks, Daily Return of Individual Stocks

Table 1. Descriptive statistics

Variable	Mean	Standard Deviation	Min	Max
Lnvol	8.172	1.171	4.734	12.399
rt	7.236	0.272	-0.200	0.2000
PE	15.835	0.796	0.476	116.183
LnSCA	15.835	0.796	13.717	18.432
LnAT	8.061	0.909	5.649	11.307
MRE	0.001	0.014	-0.082	0.055

This paper chooses the following three indicators to study the CSI 300 sector: (1) lnvol (the logarithm of the daily trading volume of individual stocks) (2) rt (the daily value of individual stocks) rate of return). Referring to the article of Yu Qingjin (2012), this paper uses the daily return MRE, price-to-book ratio (PE) and company market value (LnSCA) of the Shanghai and Shenzhen 300 sector market portfolios as control variables to establish a panel regression with investor attention as an explanatory variable Model. The data here are all from the Oriental

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Fortune Choice financial terminal database. The descriptive statistics of the main variables are shown in Table 1.

4.2.3. Measures Concerned by Investors on Non Trading days

Since the market closes on Friday and before the opening of the next trading day, there can be a lot of changes in the stock market. Investors are better able to collect relevant stock information during non-trading days. Therefore, this paper mainly uses the following three variables to study whether investor attention during non-trading days has an impact on the stock opening price and yield of the next trading day.

$$LP_{i,t} = LnOppmon_{i,t}$$

$$Lret_{i,t} = \frac{Clpfri_{i,t} - Oppmon_{i,t}}{Oppmon_{i,t}}$$

$$AbsLret_{i,t} = \left|\frac{Clpfri_{i,t} - Oppmon_{i,t}}{Oppmon_{i,t}}\right|$$

$Oppmon_{i,t}$epresents the opening price on Monday in period t, and $Clpfri_{i,t}$ represents the closing price of the stock on Monday in period t.$LP_{i,t}$represents the logarithmic value of the opening price of stock i in period t on Monday, which $AbsP_{i,t}$ represents the rate of return of the stock on Monday in period t, and the introduction of the absolute value of rate of return $AbsLret_{i,t}$ is to better reflect the fluctuation of the rate of return in different directions.

5. Empirical Model and Result Analysis

5.1. Stability Test

As shown in the table above, this paper includes a total of 6 indicators during the research, namely trading volume (Lnvol), yield (rt), individual investor attention (LnAT), CSI 3000 sector market portfolio return (MRE), price-to-book ratio (PE), and market capitalization (LnSCA). This paper firstly conducts unit root test on each variable of the panel data series composed of 89 stocks, the purpose of which is to prevent the occurrence of spurious regression. As shown in the test results in Table 2, only PE and LnSCA failed the unit root test, and the rest of the variables passed the LLC test, rejecting the hypothesis of having a unit root at the 1% significance level. Then, this paper adopts the method of Pedroni test to test the cointegration of PE and LnSCA. As shown in Table 3, the results reject the null hypothesis at the 1% significance level, so we can think that there is an equilibrium relationship between Pe and LnSCA in the long-term state.

Table 2. Unit root test

Variable	statistic	P value
TURN	-56.7486^{***}	0.0000
LNVOL	-64.8142^{***}	0.0000
LNP	-19.8647^{***}	0.0034
MRE	$-1.4e+02^{***}$	0.0000
PE	-14.1098	1.0000
LnSCA	-17.8309	0.4238
LnAT	-46.2050^{***}	0.0000

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Table 3. Cointegration test

Pedroni test	statistic	P value
corrected PP	-4.6458^{***}	0.0000
PP	6.4962^{***}	0.0000
ADF	6.4113^{***}	0.0000

5.2. Influence Test of Individual Investor's Attention on Stock Price

In order to test whether there is some influence between individual investor's attention and stock price, this paper selects the daily return index of individual stock to test whether investor's attention will have an impact on it.

According to the above, this paper selects price-to-book ratio (PE), market capitalization (LnSCA) and market portfolio return (MRE) as control variables, investor attention as explanatory variable, and return as explained variable. Since the control variable CSI 300 market portfolio return (MRE) selected in this paper is a variable that does not change with individual changes, this paper only considers the individual effect when establishing the following panel model.

$$Lnrt_{i,t} = C_i + \beta_1 \mathrm{MRE}_t + \beta_2 LnSCA_{i,t} + \beta_3 PE_{i,t} + \beta_4 LnAT_{i,t-k} + \varepsilon_{i,t} \quad (1)$$

Among them, refers to the rate of return of the ith stock at time t, refers to the rate of return of the CSI 300 sector market portfolio, and represents the price-to-book ratio and market value of the ith stock at time t, respectively, refers to the The proxy variable of investor attention corresponding to the lag k period of i stock at time t, represents the intercept term of the deviation of the cross section from the overall mean, and represents the residual. This paper selects nearly 100 stocks in the model for research, and there are great differences between different stocks, so choosing to use a fixed effect model rather than a random effect model will be more suitable for the subsequent analysis of this paper. Model (1) Hausman test also proves the analysis in this paper, and the test results of the model are shown in Table 4. The panel regression results of model (1) are shown in Table 5.

Table 4. Hausman test results Table

Hausman test	Chi-sq.Statistic	Prob
LNP	162.61	0.0000

Table 5. The impact of increased attention on stock returns

y	rt					
	LnAT	LnAT(-1)	LnAT(-2)	LnAT(-3)	LnAT(-4)	LnAT(-5)
x	0.005^{***} (8.17)	-0.005^{***} (-8.60)	-0.006^{***} (-9.96)	-0.006^{***} (-9.82)	-0.006^{***} (-10.18)	-0.006^{***} (-10.83)
C	-0.059^{***}	-0.066^{***}	-0.065^{***}	-0.065^{***}	-0.068^{***}	-0.700^{***}
R^2	0.28	0.27	0.27	0.27	0.27	0.27
F	2.58	2.71	2.95	2.91	3.03	3.19

Note: *, **, *** significant at 1%, 5% and 10% levels, respectively; t-values in parentheses; the same for other regression result tables.

From Table 5, we can see that after controlling the three market factors of market portfolio yield, market value and P/B ratio, the increase of attention is very significant for the regression coefficient of stock price. We can see that the impact of the day's attention on stock returns is positive, reaching 0.005. That is, when the attention is increased by one unit, the stock return

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will change by 0.005 units. This also validates the hypothesis 1 of this paper that the increase of the attention of the day will promote the increase of stock returns. From Table 5, we can also see that there was a reversal effect in the following days. If the investor's attention on the next day increases by one unit, the stock return will decrease by 0.005 units instead. That is, the increase of attention will exert adverse pressure on stock returns.

Through an empirical study on the Shanghai Shenzhen 300 stock market, this paper finds that the current investor's attention and lagging investor's attention have opposite effects on stock returns, which also shows the rationality of the limited attention theory. Due to the rapid spread of the Internet, once investors search for relevant information on the Internet, they will have trading behavior in the near future. According to the overreaction behavior, a large number of investors will trade the stocks they pay attention to. With the more complete disclosure of market information, investors can obtain more comprehensive information, rational investors will start to adjust their investment strategies to sell stocks to obtain relevant income, which means that the current investors' attention has a positive impact on the stock price, The lag period has a negative impact on stock returns. The emergence of this phenomenon is also in line with the characteristics that individual investors in China are more inclined to short-term transactions and frequent transactions.

5.3. The Impact of the Change of Attention, Stock Price and Stock Trading Volume on the Attention in the Previous Period

In the above analysis, we have studied the impact of individual investors' attention on stock returns. What factors will affect investors' attention? This paper believes that investors' attention, trading volume and stock price fluctuation in the previous period will also affect the attention of individual investors. In order to test hypothesis 2 in this paper, the following models (models 2-5) are designed to test this conjecture.

$$LnAT_{i,t} = C_i + \beta_1 LnAT_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

$$LnAT_{i,t} = C_i + \beta_1 LnVOL_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

$$LnAT_{i,t} = C_i + \beta_1 rt_{i,t-1} + \varepsilon_{i,t} \quad (4)$$

$$LnAT_{i,t} = C_i \beta_1 LnAT_{i,t-1} + \beta_2 LnVOL_{i,t-1} + \beta_3 rt_{i,t-1} + \varepsilon_{i,t} \quad (5)$$

Model (2) tests whether the attention of individual investors in the previous period has an impact on the current period, and models (3-4) respectively study whether the trading volume and stock price of the previous period have an impact on the attention. Model (2) examines whether stock market liquidity has an impact on individual investors' attention. The model (3-4) can test whether the fluctuation of the stock and the change of the trading volume have an impact on the attention of individual investors. The final model (6) examines the impact of the previous issue's attention, trading volume and stock price as a whole on the current issue's attention. According to the results of the Hausman test (the test results here are consistent with the above), the fixed effects model is still used here.

According to the results in Table 6, the F-statistics of models (2-4) indicate that all models are significant. Among them, the panel regression coefficient in model (2) is significant and greater than zero, which indicates that the increase in the attention of the previous period will have a whole-box impact on the attention of the current period. The regression variable coefficient of model (3-4) shows that when the stock price or trading volume of the previous period increases, it will attract more attention of current investors, and vice versa. In addition, this paper notes

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that, compared with Model 2 and Model 3, the variable regression coefficient of Model 4 is larger than those of these two models, which indicates that the stock return index is more attractive to individual investors than the number of family members and attention. focus on. Finally, in the model (5), this paper examines the impact of the previous period's stock return, trading volume and attention on the current attention degree, but the results show that the coefficient of the variable family size is not significant. This shows that after considering the stock returns, the trading volume of the previous period has little effect on the attention of the current period. Finally, from the perspective of model regression, the biggest difference is model (1) and model (5), which shows that the attention and stock returns of the previous period have the strongest ability to explain the changes in the current attention after considering the overall market factors.

Table 6. The influence of the attention, turnover rate, trading volume and stock price of the previous issue on the attention of the current period

y	LnAT			
x	Model (2)	Model (3)	Model (4)	Model (5)
LnAT(-1)	0.852*** (237.22)			0.849*** (201.47)
LnVOL(-1)		0.262*** (66.66)		0.00004 (0.02)
rt(-1)			1.080*** (14.00)	0.302*** (7.36)
C	1.187***	5.923***	0.767***	1.218***
R^2	0.97	0.21	0.05	0.97
F	17.05***	1783.12***	1900.36***	17.65***

From the perspective of investor behavior patterns, it is not random for investors to pay attention to a certain stock. Combined with the previous analysis, investors tend to pay attention to a stock because the stock has performed well in the previous stock market, which is manifested in higher attention and stock returns, larger trading volume, and stronger liquidity. Features. Under the background of limited attention, individual investors cannot pay attention to every stock, and the change of stock returns in the previous period is relatively easy to measure for individual investors. This also explains that, among all factors, the stock returns of the previous period have the greatest impact on the attention of investors in the current period. Secondly, it has a greater impact on current investors and the attention of previous investors. This is mainly because individual investors are irrational, and often have a herd and follower mentality. In stock selection, they will choose stocks that most investors pay attention to.

5.4. The Impact of Investor Attention on Non-Trading Days on the Opening of the Stock Market Next Week

Because this article is to study whether investors' attention to stocks on non-trading days will affect the opening of the stock market in the next week, the explanatory variable attention here is different from the above. The investor attention on non-trading days here represents the logarithm of the sum of the search volume of stock i on Saturday and Sunday for stock i in period t. The difference from the above in the selection model is that since no transactions are generated on other variables on non-trading days, here we only consider investor attention and do single-variable regression. According to the results of the Hausman test (the test results here

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are also consistent with the above), this paper still chooses a fixed-effect model for regression, where the explanatory variable is investor attention, and the explained variables are the price jump index and, and the following model is designed (6) and model (7). As before, all variables passed the unit root test, and the model regression results are shown in Table 7.

$$Gapret_{i,t} = C_i + \beta_1 \mathrm{LnLAT}_{i.t} + \varepsilon_{i,t} \quad (6)$$

$$AbsGapret_{i.t} = C_i + \beta_2 \mathrm{LnLAT}_{i.t} + \varepsilon_{i,t} \quad (7)$$

From Table 7, we can see that investor attention on non-trading days has a certain impact on stock returns. From the empirical results, if investor attention increases by one unit, the stock price will increase by 0.1745, corresponding to the stock yield also had a 0.0056-unit increase. And this empirical result also shows that the hypothesis 3 of this paper is that the attention of individual investors to stocks during non-trading period affects the price of stocks on the next trading day. When the stock market is at the weekend, although there is no trading phenomenon, investors will not stop searching for relevant stock information, and such a series of activities will eventually be reflected in the stock price returns of the next trading day. And no matter what news the stock information brings on a non-trading day, investors will notice the volatility. This is also consistent with the fact that the absolute value of the yield index is more explanatory in this paper.

And by contrasting with the previous trading day, if the attention during the trading day increases by one unit, the yield will increase by 0.005 unit, and during the non-trading day period, it will increase by 0.006 unit. Therefore, it can be found that investors' attention to stocks during non-trading days will affect the returns of stocks to a certain extent. This result is also consistent with the frequent occurrence of heavy news on weekends in recent years. Some companies often choose to announce more important information on weekends, which attracts a large number of individual investors' attention. Ultimately, the increase in this attention will be reflected in the opening price of the stock this week. This conclusion is of high value to investors, especially individual investors. Investors can roughly estimate the increase or decrease in the opening price of stocks next week and the fluctuation of yield by analyzing the attention index of the previous day. size, and the flaw of this study is that it cannot accurately judge the direction of stock returns.

Table 7. The impact of investor attention on non-trading days on the stock market returns next Monday

Indicators	Stock	Price	Related
y	$LP_{i,t}$	$Lret_{i,t}$	$AbsLret_{i,t}$
LnLAT	0.175^{***} (17.62)	0.006^{***} (2.66)	0.008^{***} (5.38)
C	1.854^{***}	-0.039^{**}	-0.041^{***}
R^2	0.05	0.004	0.08
F	2041.32^{***}	7.07^{***}	4.60^{***}

5.5. Robustness Test

This article uses the daily data of the top 100 stocks in Shanghai and Shenzhen A shares (only 89 after excluding the one-week suspension and ST stocks) from January 6, 2020 to December 31, 2020 It can be seen from the empirical results that it conforms to the hypothesis proposed in this paper. In order to test the robustness of the above results, the data of the two quarters of Shanghai and Shenzhen A shares are used for the test. The empirical results are shown in

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Table 8. From Table 8 we can see that all model parameters are still significant here. That is, the increase in investor attention will indeed have an impact on stock prices, and this impact will reverse in the near future. The increase in attention, stock returns and trading volume will also bring changes to investor attention. The robustness test during non-trading days is also significant, and this article will not repeat it here. To sum up, the results tested in this paper are consistent with the above, so the research in this paper has a robust effect.

Table 8. Robustness test regression table

y	rt					
	LnAT	LnAT(-1)	LnAT(-2)	LnAT(-3)	LnAT(-4)	LnAT(-5)
x	0.005*** (6.92)	−0.006*** (-7.72)	−0.006*** (-8.35)	−0.006*** (-8.17)	−0.007*** (-9.18)	−0.007*** (-9.77)
C	-0.089	-0.146	-0.145	-0.143	-0.150	-0.153
R^2	0.33	0.26	0.28	0.29	0.28	0.26
F	2.10	2.28	2.35	2.33	2.56	2.70

y	LnAT			
x	Model (2)	Model (3)	Model (4)	Model (5)
LnAT (-1)	0.856*** (187.45)			0.845*** (155.41)
LnVOL (-1)		0.310*** (62.01)		0.114*** (3.23)
Rt (-1)			1.125*** (11.59)	0.213*** (4.17)
C	1.157***	5.489***	8.019***	1.154***
R^2	0.97	0.237	0.048	0.967
F	9.99***	1111.61***	1131.37***	10.33***

6. Conclusion

This paper uses the Baidu search index of stocks as the proxy variable of limited attention of individual investors. This variable has the advantages of low noise and small sample deviation, and is an ideal proxy variable for investors' attention. This paper collects the investors' attention and stock transaction data of the top 100 heavyweight stocks in Shanghai and Shenzhen 300 stocks in a year, and uses the fixed panel model to analyze.

The empirical results of this paper show that due to the insufficient ability of individual investors to obtain information, they cannot respond to all market information in a timely manner, that is, due to the limited attention of individual investors and incomplete access to information, the change of investors' attention will have an impact on stock income. That is, the limited attention of individual investors will have an impact on stock returns, but this impact will reverse in the near future. In addition, investors' attention and stock returns in the previous period will also have an impact on the stock returns in the next period, which indicates that there is a feedback effect between investors' attention and stock returns - stock returns - attention. That is to say, investors' attention can lead to the improvement of stock returns, which will further attract a large number of investors to pay attention. The test of investor's attention and stock returns on non-trading days also confirms that the investor's attention on non-trading days in China's stock market will also be reflected in the stock returns starting next week.

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To sum up, this paper mainly puts forward the following suggestions: The previous research shows that investors' attention can affect stock returns. Therefore, the regulatory authorities mainly pay attention to preventing some institutional investors from creating hot spots and retail news through the Internet, causing some stocks to receive a lot of attention, thus resulting in profit selling behavior. This requires the government to strengthen the supervision and control of the market, clarify some false news in a timely manner or carry out self-inspection on listed companies to prevent individual investors from suffering losses due to wrong judgments due to incorrect information.

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