



温州肯恩大学
WENZHOU-KEAN UNIVERSITY

The analysis of herd behavior in Chinese stock market

In Partial Fulfillment of the Requirements
for the Bachelor of Science in Finance

by

YE Junyi

1025946

May, 2020

THE ANALYSIS OF HERD BEHAVIOR IN CHINESE STOCK MARKET

Ye Junyi

1025946

Abstract

The purpose of this paper is to test the existence of the herding effect in the Chinese stock market by an empirical method and to find out the influence of herding behavior on the Chinese stock market.

Herd behavior of investors is often used to explain excessive volatility in financial markets and short-term price changes, which makes stock prices deviate from their basic values, and has a great impact on investors' trading strategies and capital asset pricing models.

First, the whole stock market is taken as the research object, and the herding behavior of the whole market is judged by regression analysis of index such as stock return dispersion. The other direction is to take institutional investors as the research object and to judge the existence of herding behaviors of institutional investors in the stock market by studying the proportion of institutional investors in unilateral transactions.

In conclusion, the dispersion index and a regression model would be used to verify the existence of herd behavior, and the impact of Shanghai and Shenzhen 300 stock index on herding behavior, and the empirical test of herding behavior in several different industries. Finally, investment and policy recommendations are given according to the empirical results.

Table of contents

ABSTRACT	
1. INTRODUCTION	1
2. LITERATURE REVIEW	4
2.1 Recent explanation of herd behavior	4
2.1.1 Rational herd theory	4
2.1.2 Irrational herd theory	4
2.2 Several methods of testing the existence of herd behavior	5
2.2.1 CCK model	5
2.2.2 MCMC model	5
2.3 Probable outcomes of herd behavior	6
3. METHODOLOGY & DATA	7
3.1 Discussion of methodology	7
3.1.1 Discussion of dispersion index method	8
3.1.2 Discussion of regression method	9
3.2 Discussion of data	9
3.2.1 Discussion and Explanation of dispersion index in both countries' markets	9
4. ANALYSIS & FINDINGS	11
4.1 Discussion of and Explanation of regression results of both countries	12
4.2 The situation of herd behavior	13
4.3 Comparison of both countries' herd behavior	15
5. CONCLUSIONS	17
6. REFERENCES	20

7. TABLES AND FIGURES

Table 1 Descriptive Statistics of construction of Chinese stock market

Table 2 Descriptive Statistics of dispersion index of both countries

Table 3 Descriptive Statistics of regression result in China

Table 4 Descriptive Statistics of regression result in America

Introduction

Herd behavior in the stock market refers to the phenomenon that investors learn and imitate in the process of trading, which leads to their buying and selling the same stocks in a certain period. Keynes has long pointed out that "to engage in stock investment is like participating in beauty contests. If the result of selection is the closest to the average hobby of all the judges, the winner will win the prize; therefore, each participant does not choose the one he thinks is the most beautiful but uses his intelligence to speculate that the general people think is the most beautiful. " It can be seen that herd behavior is due to the consideration of belonging, security and information cost. Small investors will adopt the policy of following the masses and leaders, directly imitating the trading decisions of the masses and leaders. As far as individuals are concerned, economists have not come to a unified conclusion on whether this behavior is rational or irrational. The more extreme rationalists, such as Professor Becker of the University of Chicago, think: "all economic behaviors of human beings are rational. The reason why economists can't explain is that they can't help but use irrational behaviors, carelessness, stupid behaviors, special changes in value and other assumptions to explain the phenomena they can't explain to cover up their lack of knowledge, which Some conjectures reveal exactly the failure that they cover-up." Although Becker's view is extreme, it can make people believe that as long as people don't make speculative analysis, the herd behavior of individual stock market participants is somewhat rational. For example, the controllable experiment of social psychology proves that when the observation reality is very vague, the public becomes the source of information, or the behavior of the public provides information on how to act. In the stock market, due to information asymmetry, individuals cannot make reasonable decisions from the limited stock price information, and conformity is their rational behavior, although this rationality has an inevitable meaning.

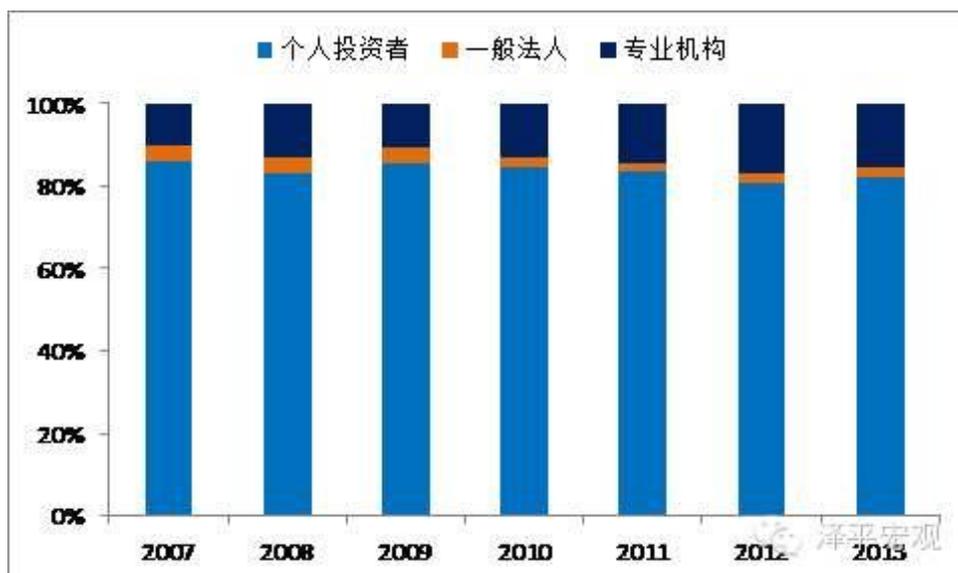


Table 1 Descriptive Statistics of construction of Chinese stock market

Blue represents individual investors, orange represents ordinary legal persons, and dark blue represents professional institutions

Moreover, the chart above is the composition of people in China's stock market. From this picture, we can easily draw a conclusion that the Chinese stock investor group is mainly composed of individual stock investors. Individual stock investors are relative to institutions. The A-share market is a typical "individual stock investor market". Individual stock investors are the protagonists of large A-shares, and the proportion of retail transactions is as high as 85%. They are sheep, destined to be eaten by wolves. Individual stock investors have small capital and scattered power, but they prefer to invest in small, new and concept stocks. They are used to short-term speculation to make fast money. Meanwhile, they are passionate to follow the trend of the expert information, moreover, they are keen to inquire about the gossip but not good at fundamental analysis. The reason why they came to the stock market is not to invest but to speculate, not so much to invest as to gamble. Most individual stock investors dream of becoming rich overnight, but this kind of mentality of quick success and instant profit amplifies their human shortcomings, such as greed, fear, fluke, fickleness, superstition, lack of self-confidence and patience, and blindly following the trend. The unique "gambling culture" of

China's individual stock investors is also an important reason for the sharp rise and fall of A-share market.

In conclusion, I think that herd behavior in the stock market often starts with individual rationality. Through its amplification effect and contagion effect, the followers gradually show an irrational tendency and then achieve the overall irrationality. When the stock market is overhyped, "irrational prosperity" appears. This is like a fertile grassland with only a few sheep. It should be said that they will be very full. But one day attracted a large group of sheep, at this time the grassland will be eaten into a desert.

At the same time, the sheep are becoming more and more hungry, some of them have fallen, some have migrated, but if it is a smart sheep, it should not follow the big army, it should stay here so that when the grass grows, it will become a fat sheep. So sometimes when everyone thinks what something is, the truth may be the opposite.

Literature review

First of all, the key item "Herding behavior" needs to be clearly defined, and the terminology has different kinds of meaning depending on different fields, as well as it also consists of loads of types. At first, the herding behavior could lead to stock price bubbles which increases stock market risks. Overseas theoretical studies on herding behavior mainly focus on the mechanism of herding behavior. Rational Herding theory holds that information cascade, reputation-based consideration, and compensation structure among investors are the main reasons for herding behavior, while the Irrational Herding theory discusses the irrationality of herding behavior from the psychological point of view of the behavior subject (Chen, 2013). Apart from that, herding behavior of investors is also often used to explain excessive volatility in financial markets and short-term price changes, which makes stock prices deviate from their basic values, and has a great impact on investors' trading strategies and capital asset pricing models (Scharfstein & Stein, 1990).

The existence of herding behavior in the Chinese stock market is also tested in different methods and different fields. Firstly, the whole stock market is taken as the research object, and the herding behavior of the whole market is judged by regression analysis of index such as stock return dispersion. The other direction is to take institutional investors as the research object and to judge the existence of institutional investors in the stock market by studying the proportion of institutional investors in unilateral transactions (Liu, 2005). Moreover, the method of analyzing the behavior also varies. Based on the CCK model, it could test the existence of the herding effect in 13 industries on the market and distinguishes the different situations when the market rises or falls. It considers the herding effect in the case of controlling the price-earnings ratio (PE), the market-net ratio (PB) and the market-sales ratio (PS), respectively. By using daily dynamic grouping, it can be concluded that to a certain extent, the deeper causes of herding effect are analyzed (Demirer & Kutan, 2006). The trigger point of the herding effect was

estimated by the MCMC method, and the CCK model was improved reasonably (Shefrin, 2001). From another view, the CCK model is also used to verify the existence of herding behavior, the impact of the introduction of Shanghai and Shenzhen 300 stock index on Herding Behavior and the empirical test of herding behavior in five industries with different periodicity. At the same time, it compares the changing trend of herding behavior in different years. Finally, it gives investment and policy recommendations according to the empirical results. The empirical results show that there is obvious herding behavior in the information processing process of the A-share market in China (Yuan, 2016).

The result is similar in the general direction, but there are loads of differences in details among different papers. According to one view, the empirical results show that there is obvious herding behavior in the information processing process of the A-share market in China. On this basis, it is found that herding behavior has increased after the introduction of Shanghai and Shenzhen 300 stock index futures. Besides, the empirical results of herding behavior in different industries show that herding behavior in cyclical industries is more obvious than that in non-cyclical industries, and from 2010 to 2014, herding behavior shows a downward trend (Yuan.2016). Another result shows that as long as investors have firm views on the market trend, herding behavior is more serious, regardless of whether the market is in a bull or bear market. When the market falls sharply, investors' behavior is not necessarily the same, but when the market rises sharply, investors' herding behavior is more obvious, which indicates that there is a phenomenon of chasing up in China's stock market (Chen, 2009).

Research Design

This study involves the existence of herd behavior in the Chinese stock market and the different influence of herd behavior in both the Chinese stock market and the American stock market. The existence is measured by the dispersion index and the regression model. The previous studies have some inconsistent results, generating both positive and irrelative relationships between herd behavior and the Chinese stock market, and those inconsistent outcomes are believed to result from different methodologies, different sample sizes, and different variables.

Based on the previous description, the study proposes the following hypothesis:

Hypothesis: The herd behavior exists in the Chinese stock market and influences more in the Chinese stock market than the American stock market

Method

The test method of herd behavior 1. The dispersion index assumes that portfolio S has n stocks in total, R_I is the return of stock I and is the average return of N stocks. The dispersion degree of S 's return is defined as: (1) This index describes the key characteristics of herd behavior by quantifying the consistency degree of individual stock return and portfolio return. When the whole market behavior is completely determined by herd behavior, the price should move uniformly with a dispersion of 0. If the yield of one stock deviates from the market yield, the degree of decentralization will increase. The biggest advantage of using dispersion to measure herding behavior is that the data it needs is easy to obtain and the calculation method is simple, which is not available in other herding behavior measures. But it also has a defect, that is, it is a very conservative measure of investors' herd behavior and underestimates the degree of herd behavior. Only when most investors show strong herding behavior for all stocks, can the returns of most stocks show convergence. William (1995) thinks that when the regression coefficient is positive, the rational asset pricing model is established and there is no herd behavior. But he did not fully consider the conservatism of the measure of dispersion. This paper holds that a positive regression coefficient cannot directly reject the existence of herd behavior. The absolute value of dispersion is not significant, but the relative value of dispersion is significant. Therefore, in the analysis of test results, we should fully consider the existence of the deviation, and focus on the comparison of relative values. The comparison can be divided into two parts: one is to compare the Chinese market data with the American market data and to find out the differences of herding behavior between China and the United States; the other is to compare the herding behavior when the market returns are very low and very high and to find out the differences of investors' behavior models in the two extreme cases. 2. When there is market pressure (the price fluctuates violently), the difference between the rational asset pricing model and herd behavior model is most obvious. According to the rational asset pricing model,

due to the different sensitivity of individual stock yield to market yield, market pressure will lead to an increase of decentralization. The herd behavior model considers that the degree of decentralization decreases under market pressure. In this paper, the daily rate of return is used to calculate the dispersion index. The following regression equations are used to test whether there is a difference between the dispersion under extreme return and that under general return: (2)

CLT and CHT are dummy variables indicating whether the market is extreme volatility. The coefficient α represents the average dispersion index outside the region of the dumb element in the sample. Since there is no uniform standard for market pressure, we use two standards (1% and 5%) to define extreme market changes. The 1% (5%) criterion limits CLT and CHT to the lowest and highest regions of 1% and 5% of the yield distribution function. CLT and CHT are defined as follows: $R_{M,t}$ is used to represent the market return at time t , and $R_{M(PL)}$ and $R_{M(PH)}$ are used to represent the p -quantile of the market return distribution. In 1% standard, $PL = 0.01$, $pH = 0.99$; in 5% standard, $PL = 0.05$, $pH = 0.95$, if $R_{M,t} \leq R_{M(PL)}$, $CLT = 1$; otherwise, $CLT = 0$. $R_{M,t} > R_{M(PH)}$, $CHT = 1$; otherwise, $CHT = 0$. If $\beta_1 < 0$, and $\beta_2 < 0$, the conclusion supports the hypothesis of herding behavior. But, $\beta_2 > \beta_1$, it indicates that herding behavior is lower when the market return is very high than when the market return is very low. When $\beta_2 < \beta_1$ indicates that herding behavior is lower when the market return is very low than when the market return is very high.

Data

China Securities Market and accounting research (CSMAR) is jointly developed by China Accounting and financial research center of Hong Kong University of science and technology and Shenzhen Taian Information Technology Co., Ltd. It is the individual stock and market return data of Chinese listed companies adjusted according to CRSP and Comurstat. In order to make the income data comparable and reliable, we adjust the dividend distribution and share structure of listed companies. The sampling range is from January 2, 1992 to December 31, 2000, including the daily return and monthly return of all listed companies in Shanghai and Shenzhen Stock Markets (excluding the return on reinvestment). The return rate of portfolio is calculated by the average weighting method, and the dispersion index is calculated by formula (1). In order to test herd behavior in industry, the dispersion coefficient of industry portfolio is calculated. According to the classification standard of CSRC, all listed companies are divided into six categories (financial, public utilities, real estate, comprehensive and industrial and commercial).

Chinese Market Data			American Market Data		
Industry	D(%)	Average number of company	Industry	D(%)	Average number of company
All industry	2.43	466	All industry	1.71	500
Public utility	2.2	37	Industry	1.39	70
Real estate	2.19	23	Service	1.68	85
Overall	2.26	68	Retail	1.13	36
Industry	2.44	282	Health care	1.72	41
Commerce	2.24	56	Information technology	2.78	78
Finance	1.66	5	Public utility	1.06	39
			Energy	1.26	26
			Finance	1.33	71

Table 2 Descriptive Statistics of dispersion index of both countries

The average dispersion index of daily yield in China market is 2.43%. From the perspective of industry distribution, the dispersion of the financial industry is the lowest, at only 1.66%; the dispersion index of the industry is the highest, with an average dispersion of 2.45%. In the U.S. market, the average dispersion of the daily yield of the whole market is 1.71%. From the

perspective of the industry, the dispersion index of information technology is the largest, and that of public utilities is the smallest.

Analysis & findings

	1% Standard			5% Standard		
	α	β_1	β_2	α	β_1	β_2
All industry	2.31E-2	-3.50E-3 (-1.54)	3.25E-2** (3.59)	2.24E-2	6.73E-3** (6.58)	1.81E-2** (2.51)
Finance	1.62E-2	1.32E-3** (4.11)	4.66E-2*** (4.25)	1.52E-2	1.22E-2** (8.53)	1.95E-2** (3.71)
Public utility	2.13E-2	6.57E-2 (1.93)	2.78E-2*** (3.26)	2.00E-2	5.71E-3** (4.95)	1.63E-2** (4.88)
Real estate	2.15E-2	2.11E-2 (0.79)	2.81E-2*** (3.94)	2.10E-2	5.11E-3** (4.168)	1.46E-2** (4.14)
Overall	2.22E-2	6.90E-3** (2.52)	2.95E-2*** (4.46)	2.14E-2	6.44E-3** (4.98)	1.91E-2** (4.73)
Industry	2.28E-2	-2.97E-3 (-1.24)	3.22E-2*** (4.05)	2.26E-2	6.61E-3** (6.26)	1.79E-2** (5.87)
Commerce	2.24E-2	-2.02E-3 (-0.08)	3.11E-2*** (4.32)	2.18E-2	5.62E-3** (4.82)	1.56E-2** (5.61)

Table 3 Descriptive Statistics of regression result in China

* means significant at 10% confidence level, ** means significant at 5% confidence level, *** means significant at 1% confidence level.

On the 5% level, the regression coefficients β_1 and β_2 of all industries are significantly positive, and the regression coefficients of subsamples grouped by industries are also significantly positive. That is to say when the market yield is 5%, the individual stock yield shows obvious dispersion; when the market yield is 5%, the individual stock yield also shows obvious dispersion. At the 1% standard, the regression coefficient β_1 (0.01) of all industries is significantly positive, and the size is about twice of β_2 (0.05). In other words, if the market yield is extremely high at 1%, the individual stock yield shows more obvious dispersion. This shows that when the market is extremely rising, individual stocks tend to be decentralized and herd behavior is reduced. This is consistent with the phenomenon that all industries and plates in China's market rise in turn and lead the rise in turn. β_1 (0.01) is negative (not statistically significant), and the regression coefficient β_1 (0.01) of subsamples grouped by industry is negative in two and positive in four. That is to say, when the market yield is at an extremely low level of 1%, the individual stock yield shows a certain concentration. This shows that when the market falls sharply, individual stocks may tend to be scattered at the beginning, but with the further deepening of the bear market, individual stock returns show a consistent downward trend. This result supports the widespread herd behavior in the bear market of China. Comparing the relative size of β_1 and β_2 , we found that β_2 in all industries is about three times of β_1 under the standard of 5%, and β_2 in the samples grouped by industries is also greater than β_1 ; under the standard of 1%, β_1 in all industries is negative while β_2 is significantly positive, and β_2 in the subsamples grouped by industries is also greater than β_1 . Therefore, the herding behavior when the market is extremely high is lower than that when the market is extremely low.

As a preliminary result, it can be inferred that the selling pressure brought to investors when the market falls sharply is significantly greater than the buying impulse brought to investors when the market rises. When the market falls sharply, the decline of the market makes most

investors careful that their stock prices will also fall sharply, so they have to sell shares, which in turn makes many stock prices fall at the same time. In this way, there is positive feedback between price decline and herd selling. But when the market rises sharply, although some investors are optimistic about the market and increase their positions substantially, some investors may be careful that the price is too high to follow others. Therefore, at this time, the behavior of investors is relatively scattered, and the following behavior is lower than the herd behavior in the bear market.

A more in-depth consideration of this behavior mode can be found that investors' behavior differences when the market falls sharply and when the market rises sharply come from investors' different attitudes towards losses and gains. Kahneman, Tversky (1979) put forward the famous prospect theory. One of the most important findings is that there are obvious differences in investors' attitudes towards losses and gains. The negative effects of a certain amount of losses are greater than the positive effects of the same amount of gains. That is to say, the risk aversion degree of investors in the loss area is greater than that in the income area. The result of this paper can be explained from the perspective of expectation theory: in the sharp decline of the market, the degree of loss aversion of investors increases greatly, which leads to the above-mentioned group selling behavior. When the market rises sharply, the degree of return preference of investors does not increase correspondingly, so it leads to the above-mentioned relatively scattered investment behavior (both buying and selling).

The American result is shown as below:

	1% Standard			5% Standard		
	α	β_1	β_2	α	β_1	β_2
All industry	1.16E-2	1.39E-2 *** (4.39)	3.72E-2 *** (12.34)	1.14E-2	5.56E-3 *** (3.79)	9.94E-3 *** (6.78)
Energy	8.00E-3	8.64E-3 *** (6.26)	1.12E-2 *** (8.26)	7.92E-3	2.62E-3 *** (4.17)	2.79E-3 *** (4.48)
Material	8.76E-3	8.92E-3 *** (5.36)	1.16E-2 *** (9.96)	8.60E-3	3.89E-3 *** (5.15)	4.22E-3 *** (5.58)
Industry	1.00E-2	1.20E-2 *** (4.67)	3.31E-2 *** (13.56)	9.82E-3	3.93E-3 *** (3.29)	9.51E-3 *** (7.94)
Service	1.03E-2	1.34E-2 *** (3.84)	3.79E-2 *** (11.38)	1.01E-2	4.44E-3 *** (2.75)	8.90E-3 *** (5.50)
Retail	8.12E-3	1.08E-2 *** (5.94)	1.84E-2 *** (10.66)	7.98E-3	3.46E-3 *** (4.14)	5.02E-3 *** (6.01)
Health care	1.11E-2	1.19E-2 *** (3.49)	3.26E-2 *** (10.11)	1.10E-2	5.26E-3 *** (3.39)	7.75E-3 *** (5.00)
Finance	8.14E-3	1.11E-2 *** (5.44)	2.19E-2 *** (11.27)	7.96E-3	3.81E-3 *** (4.05)	6.26E-3 *** (6.66)
Information technology	1.56E-2	1.48E-2 *** (3.36)	4.32E-2 *** (10.37)	1.53E-2	6.73E-3 *** (3.36)	1.08E-2 *** (5.39)
Telematics service	1.04E-2	1.82E-2 *** (7.85)	1.81E-2 *** (8.18)	1.02E-2	6.03E-3 *** (5.71)	4.90E-3 *** (4.64)
Public utility	6.49E-3	8.96E-3 *** (4.73)	1.85E-2 *** (10.28)	6.42E-3	2.87E-3 *** (3.29)	4.04E-3 *** (4.64)

Table 4 Descriptive Statistics of regression result in America

* means significant at 10% confidence level, ** means significant at 5% confidence level, *** means significant at 1% confidence level.

To compare the characteristics of herding behavior between the Chinese market and the western market, we take 500 stocks that constitute the S & P 500 index as the research object. Table 3 shows the daily return regression results of S & P 500 stock dispersion. At the extreme 10% and 5% levels, the regression coefficients β_1 and β_2 of all industry and sub-industry samples are significantly positive (at the level of 1% confidence). That is to say, the degree of herding behavior is relatively low in the big bull market and the big bear market. This result is different from that of the Chinese market. Comparing Table 4 and Table 3, it can be found that most of the T statistics in China are smaller than those in the U.S. securities market, and the test using China's data shows that β_1 is negative (although not statistically significant). Therefore, it can be considered that the herding behavior of China's stock returns to market returns is high. This conclusion shows that compared with the mature investment concept of Western investors, the rational consciousness of Chinese investors is not perfect, and various irrational behaviors such as following the trend are more prominent. This conclusion is consistent with the results of the herding behavior of Chinese securities investment funds (Song Jun, Wu Chongfeng, 2001). Under the two standards, β_1 & β_2 is established, which is consistent with the results of China's market. This shows that risk aversion is the common psychological characteristic of all investors, which leads to this phenomenon in both the Chinese market and the American market. Besides, we also calculate and test the monthly yield data of the China market and the US market, and the results are roughly the same as those of their respective daily yields.

Conclusion

This paper makes an empirical study of herd behavior in China's stock market by using the dispersion index of individual stock returns and open price data. The advantage of this measure is that the data it needs is easy to obtain and the calculation method is simple, but there is also a problem, that is, it is a very conservative measure for the herd behavior of investors. In this paper, we fully consider the characteristics of the dispersion measure and focus on the comparison of the relative size of the dispersion. On the one hand, comparing the empirical results of Chinese and American stock markets, we find that the degree of herd behavior in the Chinese stock market is higher than that in the American stock market. On the other hand, we compare the dispersion regression coefficient of market return at very high and very low levels. The results show that there is a phenomenon that herding behavior is higher when the market return is very low in China or the United States than when the market return is very high. This result can be seen from the different attitudes of decision-makers in expectation theory towards loss and return

Limitations and contributions

This paper makes an empirical study of herd behavior in China's stock market by using the dispersion index of individual stock returns and open price data. The advantage of this measure is that the data it needs is easy to obtain and the calculation method is simple, but there is also a problem, that is, it is a very conservative measure for the herd behavior of investors. In this paper, we fully consider the characteristics of the dispersion measure and focus on the comparison of the relative size of the dispersion. On the one hand, comparing the empirical results of Chinese and American stock markets, we find that the degree of herd behavior in the Chinese stock market is higher than that in the American stock market. On the other hand, we compare the dispersion regression coefficient of market return at very high and very low levels. The results show that there is a phenomenon that herding behavior is higher when the market return is very low in China or the United States than when the market return is very high. This result can be seen from the different attitudes of decision-makers in expectation theory towards loss and return.

Reference

- Bikhchandani, S., & Sharma, S. (2000). Herd behavior in financial markets. *IMF Staff papers*, 47(3), 279-310.
- Chen, T. (2013). Do investors herd in global stock markets?. *Journal of Behavioral Finance*, 14(3), 230-239.
- Chiang, T. C., & Zheng, D. (2010). An empirical analysis of herd behavior in global stock markets. *Journal of Banking & Finance*, 34(8), 1911-1921.
- Demirer, R., & Kutan, A. M. (2006). Does herding behavior exist in Chinese stock markets?. *Journal of international Financial markets, institutions and money*, 16(2), 123-142.
- Kahneman, D. and A. Tversky (1979), 'Prospect Theory :An Analysis of Decision Under Risk', *Econometrica*, 47:263—291.
- Olsen, R. A. (1996). Implications of herding behavior for earnings estimation, risk assessment, and stock returns. *Financial Analysts Journal*, 52(4), 37-41.
- Peiyuan, S., & Donghui, S. (2002). CAPM Based Study of Herd Behavior: Evidence from Chinese Stock Market and Discussion with Song Jun and Wu Chongfent [J]. *Economic Research Journal*, 2, 64-70.
- Scharfstein, D. S., & Stein, J. C. (1990). Herd behavior and investment. *American Economic Review*, 80(3), 465-479.
- Shefrin, H. (2001). Behavioral corporate finance. *Journal of applied corporate finance*, 14(3), 113-126.
- Tan, L., Chiang, T. C., Mason, J. R., & Nelling, E. (2008). Herding behavior in Chinese stock markets: An examination of A and B shares. *Pacific-Basin Finance Journal*, 16(1-2), 61-77.
- Yao, J., Ma, C., & He, W. P. (2014). Investor herding behaviour of Chinese stock market. *International Review of Economics & Finance*, 29, 12-29.