

# The Influence of Individual Characteristics of Fund Managers on Fund Management Performance: A Study Under Different Market Conditions in Shanghai, China

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## Abstract:

This paper firstly compares domestic and international research and results related to fund performance evaluation and fund performance influencing factors, and secondly selects open-end equity funds that remain callable and continue to operate during the period from June 1, 2014 to December 31, 2020 as the research object, screens 134 eligible funds, and adds two new explanatory variables: the length of time fund managers manage existing funds, the number of funds managed by the fund manager at the same time. The selected data are monthly panel data, which are more informative than the previous annual point-in-time data. The five indicators of fund managers of these funds: gender, education, length of time in the profession of fund manager (years in the profession), length of time managing existing funds, and number of funds under management are used as explanatory variables, the number of years of fund establishment, the size of the fund itself, the number of funds owned by the fund company, and the overall size of the fund company are used as control variables, and the Sharpe index of the fund is used as the explanatory variable, in bull market, bear market, shock, and trade war periods were modelled separately with random effects and explained for comparison. The effect of educational background variable on fund performance reflects that good fund managers need to effectively combine theory with practical investment experience. Fund management companies should pay attention to the development of female fund managers and provide more employment opportunities for female fund managers, while focusing on building fund manager teams and establishing effective incentive mechanisms.



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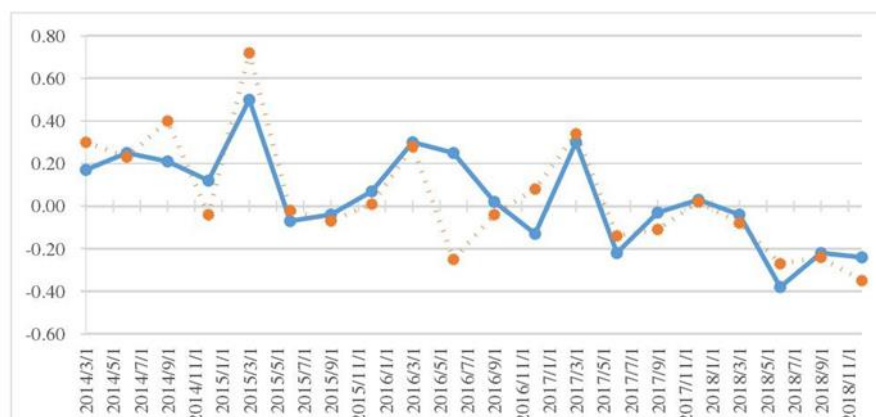
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## INTRODUCTION

There are many fund products, but the return of different fund products varies greatly. Taking the same type of equity fund as an example, in the context of the bear market in 2018, the "Golden Eagle Information Industry A" fund yielded 4.02%, ranking first, while the bottom "Guotai Jinxin" fund yielded -47.95%. If you buy a fund product with a poor yield performance, it will cause huge property losses to fund investors. In the mature secondary markets at home and abroad, the individual characteristics of fund managers (initially academic qualifications) were added to the factors used to judge the performance of a fund in the late 20th century. So, fund management performance is closely related to the individual characteristics of the fund manager, because fund managers have their own characteristics and subjective thinking skills, they are a specific group of people with expertise that ordinary investors do not have, and investors understand the concept that buying a fund is, to a large extent, choosing a fund manager. In other words, what is reflected behind the fund performance is actually the investment decision making ability of the fund manager. Therefore, in this paper, we would like to explore the impact of the individual characteristics of fund managers on fund management performance (Ren 2020; Wang 2019). The number of fund managers in China has shown a consistent and gradually accelerating growth in recent years, suggesting that the fund industry has accelerated and research in this area has gradually increased. By observing and briefly processing the data of equity funds during the decade from 2008-2018, we are able to find that certain individual characteristics of fund managers may have an impact on fund performance. Most of the earlier studies in the country have shown that the impact of the fund manager's gender on fund performance is not significant, but in the last decade, there are some new results for this study and most of the studies have shown that the fund manager's gender can affect the fund performance. Like in equity funds, for example, in 2017, male fund managers were able to maintain a tenure return of 30%-50% and up to 150% during their management period, while female fund managers mostly maintained a tenure return of 15%-30% during their management of a particular fund. The proportion of female fund managers has increased over the years, and their market analysis is biased towards how to make the fund less risky in times of macroeconomic stability. The data shows that most of them manage money and bond funds, with a smaller number choosing to manage equity funds. The vertical coordinate is the Sharpe Index, a measure of fund performance, and the horizontal coordinate is time, and the relationship between the gender of the fund manager and fund performance over the last five years is as follows.

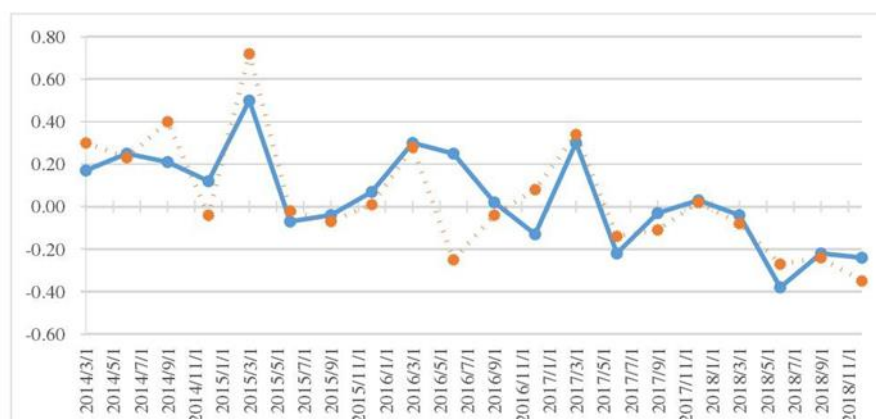


**Figure 1-1** Graph of the relationship between the fund manger's gender and fund performance

As can be seen from Figure 1-1, overall, the funds have been performing worse in the latter 5 years of the 10-year period, i.e. 2014-2018, and the Sharpe Index has been more volatile,



due to the impact of the stock market; funds managed by males have been a bit more volatile. By time period, funds managed by male fund managers performed somewhat better than those managed by females during the bull market from 2014 to the third quarter of 2015; the period from late 2015 to 2018, which was basically a bear market shock, the difference between the performance of funds managed by male and female fund managers was not very significant, but it can still be seen that females performed slightly better than males. Fund managers are largely educated to a master's degree or higher, with very few having a bachelor's degree. Studies in this area over the last 10 years have also shown that there is an impact of education on fund performance, with most agreeing that funds managed by fund managers with a master's degree perform better. The relationship between the fund manager's education and fund performance over the last five years is as follows.



**Figure 1-2** Chart of the relationship between the fund manager's education and fund performance

As can be seen from Figures 1-2, again, the funds have been performing worse and worse from 2014-2018, and the Sharpe Index has been more volatile, due to the impact of the stock market; the volatility of funds managed by Ph.D. masters has been about the same. In the bull market from 2014 to the second quarter of 2015, funds managed by Ph.D. managers were able to largely show outperformance of masters; in the third quarter of 2015 In the bear market from the third quarter of 2015 to the third quarter of 2016, funds managed by Ph.D. fund managers underperformed those managed by M.S. fund managers; then subsequently, the difference

### Problem Statement

Referring to how the current situation of fund managers at home and abroad, this paper compares which individual characteristics of fund managers are positively and benignly related to the management returns of funds through literature and theory. It then examines what are the characteristics of fund managers in the Shanghai region of China. Then verify the correctness and applicability of the findings of these characteristics. Firstly, many research findings and models in the existing literature were summarized and validated in the follow-up process, hoping to find a reasonable explanation of what needs to be studied in this paper through literature combing and theoretical analysis; the daily data of these funds were organized and calculated, and the required quarterly data were computationally processed. The individual characteristics of the fund manager team managing the fund in these quarters were also manually counted as explanatory variables. The specific data used in this thesis are variables such as the physiological characteristics, background characteristics, and job characteristics of the fund managers, and by relating



these data to the fund management performance, the impact of the individual characteristics of the fund managers on the fund management performance is deduced; finally, based on the literature analysis and theoretical analysis, combined with the empirical analysis, the final findings of this thesis are summarized and compiled, and will provide a reference for future researchers who continue to study this issue of researchers to provide certain ideas for reference(Ren 2020; Wang 2019). Investors enter the fund market with the purpose of gaining income, the most intuitive performance of the fund is the fund performance, fund performance is affected by many factors, such as the market environment, the fund company, the fund itself characteristics, the individual characteristics of the fund manager, etc. Among so many influencing factors, the fund manager is absolutely in a dominant position, and the fund manager's investment determines the fund's performance. To a certain extent, the individual characteristics of the fund manager are related to behavioral finance, and the fund manager is equipped with expertise skills that ordinary investors do not have. What is reflected behind the fund performance is actually the investment ability guided by the individual characteristics of the fund manager. Therefore, in this paper, we would like to explore the impact of individual characteristics of fund managers on fund performance. As of the end of 2018, Wind data shows that there are nearly 1,700 fund managers in China. And the Shanghai region, which brings together 70% of China's public fund companies, has absolute representation, which is where our selection comes in. If we can get the relationship between the individual characteristics of fund managers affecting fund management performance through research, especially in the gap of multiple markets (bull, bear, shock, trade) and experience (not only years of work), we can choose when facing many fund managers, clearly solve the "fund selection problem" and get Diversified financial benefits.

### **Research Question**

As the fund manager is the most important subject in the development of the fund industry and the manager and operator of the funds formed by the investments of fund investors, the realization of their interests has a great deal to do with the fund manager. Fund investors also tend to take the characteristics of the fund manager as a major consideration when choosing a fund to purchase. Consider factors such as the fund manager's gender, age, education and experience. So, do fund manager characteristics affect fund management performance? Which characteristics of fund managers affect fund management performance? This forms the core question of this paper's research. First, what are the characteristics of a fund manager? What characteristics do they have? In this paper, we will select selected physical age characteristics, educational background characteristics, and professional experience characteristics to summarize the general characteristics of Chinese fund managers. Second, what is the performance of Chinese securities investment funds? How to measure fund management performance? In this paper, the performance of nearly 150 funds corresponding to equity fund managers are selected according to certain requirements in the Morningstar and WIND databases to calculate their returns.

### **Research Objectives**

This paper prepares to sort out the relevant studies and results on fund management performance evaluation and fund performance influencing factors at home and abroad, based on firstly describing the basic characteristics of fund managers such as gender and education, and summarizing their changing characteristics in recent years; secondly data selection starts from January 2008 to December 2018, and a sample of open-end equity funds meeting the requirements are screened by certain conditions. The data are



processed to measure the relevant indicators of fund management performance, which are used as the explanatory variables; lastly is to conduct an empirical analysis to find the relationship between fund manager characteristics and fund performance. It is worth noting that in the early hours of 23 March 2018, US President Donald Trump announced that he would potentially impose tariffs on \$60 billion of goods imported from China, thus kicking off the US-China trade war, and subsequently the Chinese stock market showed anomalies that affected the open-end equity funds, especially this paper wants to compare the 16-year bear market with the 18-year bear market under the trade war.

### **Significance of the Research**

First, it provides suggestions for the fund regulator to regulate the development of the fund industry and foster a healthy and orderly development of the fund market. Through specific research on fund managers, we help fund regulators improve fund management-related regulations to protect the legitimate rights and interests of investors. Secondly, it provides a theoretical basis for fund companies to select fund managers. At present, China's fund companies are still lacking in talent cultivation, especially in the market downturn when fund companies rarely reserve talents for fund manager teams; and when the market boom rises, a large number of fund managers spring up, many of whom are very inexperienced, which seriously damages the interests of investors and the company's reputation. This paper hopes to help fund companies provide a reference basis for selecting fund managers and help them reduce the unnecessary cost of training fund managers, so that they can prepare a talent pool to meet various market challenges. Finally, this paper hopes that this research will help investors to choose the right fund managers and fund products and avoid investors to suffer a lot of losses in the fund market.

## **LITERATURE REVIEW**

### **Fund management performance**

The reason for studying the impact of individual characteristics of fund managers on fund performance is to understand what kind of fund managers are more appropriate to choose in different quotes, and which characteristics are actually more worthy of investors' in-depth understanding and attention. Choose the right fund manager, you may be able to get yourself more return, this return needs an indicator to evaluate, which, in 1966, the American economist William Sharpe proposed to standard deviation measure the total risk taken by the fund, using the premium per unit of total risk as an indicator to evaluate the performance of the fund, than the fund cumulative net value of these indicators to take more risk factors into account, and also without the need for the Traynor index and other. The Sharpe index is based on the assumption that "unsystematic risk can be completely eliminated". The evaluation metrics of a fund are the prerequisite for us to judge how well a fund performs. That is why some predecessors have analyzed and summarized the metrics for evaluating funds for subsequent researchers to use. As these indicators are used, they are constantly being improved and supplemented by scholars. Since the development of the domestic fund industry, researchers in China have mainly explored this aspect of fund performance in depth in two aspects, the first will be the introduction of foreign fund performance evaluation methods into the country and make a note of it, Wang (2001), Hu (2001) and others have achieved something for this area; the second is based on the recognition of fund evaluation, furthermore, China's fund as the object of research, to develop empirical evidence and analysis(Ren 2020; Wang 2019) . There are many measures of fund performance, the most commonly used being the Sharpe Index. After Sharp (1965) indicated that investment risk included systematic risk, this was used as a cornerstone to propose the Sharpe index. Traynor (1966) and Jensen (1968) basically



at the same time also proposed the Traynor index, Jensen index, which they considered superior for evaluating securities investment funds. Subsequently, Treynor and Black (1973) proposed a new indicator which is the Appraisal Ratio (AR), based on the premise of Jensen's index. After a few decades, behavioral finance came into the view of researchers, . (Sortino & meer, 1991) used this as a background to propose the Sortino Index. They argue that according to behavioral finance, equal losses bring much more pain to investors than equal gains bring pleasure, so the denominator of the Sharpe index is modified to be the lower variance of losses. Malkiel (1995), in contrast to his predecessors, takes 1971 as a starting point and uses the following 20 years of open-end stock funds as a sample for his study, adjusts the CAPM model, and then chooses  $\alpha$  as a measure of fund performance.

### **Physiological Characteristics**

Physiological characteristics are divided into two main aspects: gender and age characteristics. According to existing research in behavioral finance, an individual's investment behavior will be influenced by his or her age and gender status (Barber et al., 1999). There are gender differences in investment behavior such as investment style and degree of risk appetite, and many scholars have concluded in their studies that gender differences lead to differences in investment risk appetite and other differences, and that gender factors affect fund managers' decisions (Atkinson, Baird, 2003), and some scholars have shown that female fund managers have better cost control and risk management than male managers (Hu, 2012). An individual's age can reflect a lot of information about his or her status, including his or her work experience, education, and personality energy, which can measure a fund manager's experience and stamina in his or her work tasks, and Maciejovsky et al. (2001) argue that a person's richness of experience will somehow affect his or her level of confidence, which in turn affects his or her investment behavior. The gender variable in this paper will be set as a dummy variable and will be 1 if the fund manager is female and 0 if he is male, while the age variable is a discrete variable and refers to the age of the fund manager.

### **Educational Background**

The education level of a fund manager indicates the overall level of professional competence and the educational background factors include the level of education, professional background, overseas study or work experience and MBA education. Better education implies a better intellectual and knowledge base, while a good background of educational experience will help fund managers to build a high-level social network, which will help to enhance their advantage in terms of information acquisition (Chevalier, 1999; Jin 2019). Educational level refers to the level of education in this study, usually a bachelor's, master's or doctoral degree, and since most fund managers in our sample will have a bachelor's degree, we focus our analysis on the effect of having a master's or doctoral degree on fund performance to enhance the comparability of our findings. In addition, MBA education is highly valued by Chinese and foreign scholars, and some studies show that some fund managers with MBA outperform those without MBA education experience in their work, while some scholars argue that fund managers who receive MBA education have more fund exposure, so we will introduce a special master's degree, namely Master of Business Administration (MBA), in our model. A fund manager's academic specialization, i.e., whether he or she majored in economics or a business-related field, is likely to affect the fund manager's fund management ability. Professionally trained fund managers have a better body of expertise and can be more proficient in using tools to manage funds, and Zhou (2010) shows that fund managers' investment risk preferences are influenced by academic specialization.



### **Professional Experience**

Professional experience is a very important influencing factor for fund managers when making investment decisions, and for fund managers, professional experience will have a significant impact on their investment behavior and style, which in turn will affect fund performance. And how longer work experience has an impact on fund manager's work attitude and investment ability is also one of the determinants of its impact on fund performance. The abstract concept of work experience is usually quantified by foreign scholars in terms of the number of years in the job and the number of funds that have been served. At the same time, it has been shown that the frequency of turnover has a significant effect on fund performance (McEvoy, 1987), and the effect of this influence on performance may be twofold: on the one hand, a high turnover rate may indicate a lack of loyalty to the firm, which may lead to poorer fund performance due to low loyalty affecting work status; secondly, a high turnover rate can simultaneously be a sign of intensive competition, which may lead to better fund performance. which may lead to better effectiveness of fund managers. Therefore, without empirical testing this paper does not predict the possible relationship between manager departures and fund performance. Based on existing research, we use the number of firms in which the fund manager is employed to portray this variable (Lee, 2008). In the empirical analysis, the number of years of employment and, the number of funds employed and the number of firms employed by the fund manager are discrete variables.

### **Market Conditions**

Information on the actual state, characteristics and changes in the situation, trends and related conditions of the supply of goods, demand for goods, channels of distribution, purchase and sale of goods and prices in the market and in commercial transactions. The sources of information that form the market situation are extensive and multifaceted. It involves not only the whole area of distribution, but also the whole of social reproduction in all its aspects. The information on many individual and partial market quotations, when analyzed in a comprehensive manner, can lead to market reports that can make characteristic judgements on the situation of supply and demand for certain types of goods and on the supply and demand situation in a particular market (Cui 2019). The Need for Market Intelligence Where there are markets and businesses, there are market conditions. In ancient times, merchants paid attention to the collection and analysis of information about market conditions, but the real investigation and study of market conditions began in capitalist society. The capitalist economy is a highly developed commodity economy in which not only merchants but also producers have to keep a close watch on the changes in market supply and demand. The effectiveness of the economic activity of commodity producers and operators can only be tested by the movement of commodities in the market. In order to gain an advantageous position in competition, it is necessary to conduct serious research into the market situation, to analyze carefully the changes in supply, demand and prices and their causes, and to make forecasts of the trends of change, so as to draw lessons from commodity business. In a socialist society, there still exists a commodity economy and a market, and there exist independent commodity operators and commodity producers. In order to organize production and business and consciously rely on and apply the law of value, it is also necessary to master the market situation. In a commodity economy, the contradiction between social production and social consumption must be reflected in the market through the contradiction between supply and demand, and the process of social reproduction must be reflected in the market quotations. Market quotations are in essence the external expression of the inner development process of social reproduction on the market. This is the same in both capitalist and socialist societies,



except that the nature and characteristics of social reproduction and the role of economic laws are different, so that the market situation in different societies has different characteristics and features. In capitalist societies, capitalists attach great importance to the investigation and study of market conditions in order to gain an active position in the rapidly changing market environment, but they cannot change the spontaneous and cyclical nature of the operation of the capitalist economy as a whole. In a socialist society, although a planned economy is practiced, it cannot in any way exclude the investigation and study of market conditions. Planning must be based on market demand, which requires detailed knowledge of market supply, demand and prices, and corresponding adjustments to adapt to market changes. A good survey of market conditions will enable us to understand how the needs of the people are being met, provide a basis for decision-making by commodity producers and operators and strengthen the planning of production and operation; it will also provide them with timely and effective information for carrying out their business and enhance their flexibility and initiative in operation, so as to improve economic efficiency.

## **METHODOLOGY**

### **Research Design**

The conclusion that the individual characteristics of fund managers have an impact on investment behavior has gradually been widely accepted and supported by a large number of quantitative studies and empirical tests. However, there is still no definite answer to the question of how the personal characteristics of fund managers affect fund performance and which aspects of fund managers' investment behavior are manifested in fund managers' investment behavior. In this paper, a multi-layer framework is developed to assess fund manager characteristics based on existing finance theory and research. At the same time, this paper will combine existing research to capture the individual characteristics of fund managers from three perspectives: physical characteristics, educational background, and career background, in order to study the impact of fund manager characteristics on fund performance as comprehensively as possible. Fund performance is the primary metric used to reflect the performance achievements of a fund manager in operating the fund. The framework for measuring fund performance can be divided into three levels: the first level is the fund risk and return indicator, a good overall performance evaluation indicator should include both return and risk to capture the benefits and costs of the portfolio; the second level is the risk-adjusted fund performance indicator, the evaluation of fund performance considering only return or only risk is not enough, only the risk-adjusted return can make the evaluation. The results are truly comparable across funds, so on the basis of the first level, we select the risk-adjusted fund performance indicators. The third level measures the fund manager's investment ability, decomposing fund performance into the fund manager's timing skills and stock selection ability. In this paper, an evaluation system of fund performance is set up in an attempt to evaluate the performance of equity funds and simultaneously collect data corresponding to eligible information related to fund managers, such as age, gender, education level, and professional skills. Based on the existing domestic and international studies, the impact of fund manager characteristics on fund performance is analyzed and the path analysis that produces the main impact is conducted.

### **Population/Sampling/Unit of Analysis**

Securities investment funds can be distinguished from public and private equity funds in terms of fund-raising. Public equity funds are subject to very strict regulatory requirements, have a sound investment and research system, and have a lower fund-



raising threshold and a wider investor base. Private equity funds are subject to a lower degree of regulation, the overall management is sloppier, and the companies are uneven, with a higher threshold for investors, who need to meet the requirements of qualified investors, generally starting at 1 million yuan before the introduction of the new regulations on capital management. It is generally believed that the incentive mechanism of public funds is not in place, and many public fund personnel are running private, so the investment performance of private funds may be better than that of public funds. From the statistics, although some private equity funds have very outstanding investment performance, however, overall, in terms of equity investment, public funds on average have better performance than private equity funds, reflecting greater investment stability. This also suggests that where private equity managers cannot be evaluated, the choice of public funds to invest in will be more robust. It has been 20 years since the inception of public funds. During this period, the fund size has grown from 10.760 billion yuan in 1998 to 13.84 trillion yuan in December 2018, an increase of 1,284.75 times, with an annualized growth rate of 43%, almost every year half of the previous year's size in growth, highlighting the rapid rise of the public fund business in China. In addition to index-based public funds, more public funds are relying on active management to achieve excess returns for investors, i.e., to outperform the market - after all, if you can't outperform the market, you might as well just buy index funds. Instead of paying higher management fees while failing to achieve even a basic market average return. Public funds do have the advantage of outperforming the market in terms of active management, and thus capturing excess returns, an advantage that can be summarized as asset allocation in terms of risk reduction.

### **Data Collection Process**

This paper selects open-ended equity funds established before March 1, 2014 and continuously operating and callable from June 1, 2014 to December 31, 2018 for the study, and excludes funds that are too small and too large, and finally selects 350 eligible funds out of 454 funds, covering 45 fund companies. In order to make the results of the study more consistent with the market situation, this paper is divided into four parts. The first part is based on a sample of funds from June 1, 2014 to May 31, 2015, representing a bull market; the second part is based on a sample of funds from June 1, 2015 to May 31, 2016, representing a bear market; the third part is based on a sample of funds from June 1, 2016 to May 31, 2017, representing a shock market. The fourth part of the study is based on a sample of funds from March 1, 2018 to December 31, 2020, representing fund quotes under trade wars. The main sources of data are Wind database, Guotaian database, and Daily Fund website (<http://fund.eastmoney.com/>). Stata14.0 software was used to do the analysis.

### **Data Analysis Methods**

First, the classical fund management performance evaluation index is used to evaluate the performance of open-end equity funds every six months, and the fund returns (including Sharpe, Treynor and Jensen indices, and information ratio) are calculated as explanatory variables; second, multiple linear regressions, instrumental variables regressions and other econometric methods are used to empirically test the effect of fund manager characteristics on fund management performance and test the hypothesis. Regarding the relationship between the individual characteristics of private fund managers and fund performance, this paper qualitatively analyzes the correlation that exists between the individual characteristics of private fund managers and fund performance from the perspective of the role played by fund managers in the investment decision system of



private fund companies. The correlation is then quantitatively analyzed by collecting data on the characteristics of private equity fund managers and building a model.

## FINDINGS AND DISCUSSIONS

### Profile of Respondents

By putting forward the hypothesis related to the relationship between fund managers' individual characteristics and fund performance, the sample range and time interval are established, the Sharpe index (sharpe) is used as the explanatory variable, the five indicators of fund managers' gender, education, years of experience as a fund manager, length of time as the current fund manager and the number of funds managed at the same time are used as explanatory variables, and the years of establishment of the fund, the fund's own size, the fund The four indicators of the fund, the fund's own size, the number of funds under the fund company, and the overall size of the fund company are used as control variables to complete the empirical research design and prepare for the analysis in the later section.

Securities investment funds can be distinguished from public and private equity funds in terms of fund-raising. Public equity funds are subject to very strict regulatory requirements, have a sound investment and research system, and have a lower fund-raising threshold and a wider investor base. Private equity funds are subject to a lower degree of regulation, and the overall management is sloppier, and the companies are uneven, with a higher threshold for investors, who need to meet the requirements of qualified investors, generally starting at 1 million yuan before the introduction of the new regulations on capital management. It is generally believed that the incentive mechanism of public funds is not in place, and many public fund personnel are running private, so the investment performance of private funds may be better than that of public funds. From the statistics, although some private equity funds have very outstanding investment performance, however, overall, in terms of equity investment, public funds on average have better performance than private equity funds, reflecting greater investment stability. This also suggests that where private equity managers cannot be evaluated, the choice of public funds to invest in will be more robust. It has been 20 years since the inception of public funds. During this period, the fund size has grown from 10.760 billion yuan in 1998 to 13.84 trillion yuan in December 2018, an increase of 1,284.75 times, with an annualized growth rate of 43%, almost every year half of the previous year's size in growth, highlighting the rapid rise of the public fund business in China. In addition to index-based public funds, more public funds are relying on active management to achieve excess returns for investors, i.e., to outperform the market - after all, if you can't outperform the market, you might as well just buy index funds. Instead of paying higher management fees while failing to achieve even a basic market average return. Public funds do have the advantage of outperforming the market in terms of active management, and thus earning excess returns, an advantage that can be summarized as asset allocation in terms of risk reduction. Domestic listed funds are divided into two main segments: open-end funds and closed-end funds. Closed-end fund shares cannot be redeemed; the amount of capital required to invest in closed-end funds is large, and generally speaking, the fees required in the process of buying and selling closed-end funds are also higher. Open-end funds can be purchased at will during the life of the fund, with transparent rules and a low investment threshold, which can meet the needs of small and medium-sized investors. By comparison, it is easy to see that far more people will invest in open-end funds than in closed-end funds. From the statistics since 2010, the probability of equity-based public funds beating the market is 67%. Combining the above factors, this paper selects open-end equity funds as



the sample. During the period from 2014 to 2018, China's stock market saw a large volatility reversal, from the upswing all the way up to the roller coaster, can be described as thrilling, there is no shortage of people who have seen the good to earn a lot of money, but also no shortage of stubbornness not to retreat finally full of people lost. In this period, open-end stock funds also experienced the same situation, the fund performance in this five-year period is also divided into a "bull market and bear market". June 2014 to May 2015, this is China's financial market people recognized as a "bull market"; June 2015 From June 2015 to May 2016, the stock market fell from 5,200 points to 3,200 points and was in a bear market; from June 2016 to May 2017, it was basically in a shock; from February to December 2018, our stock market was in a slump due to the trade war between China and the U.S. If possible, this article would like to compare the impact of fund managers on fund performance in the two bear markets. In a market in turmoil, it is not always possible for the so-called "winning generals" to come out of it with a clean slate, but no one wants to lose money and everyone wants to gain. They need to keep their heads above water and provide sound insights so as not to be left far behind by the market. This paper selects open-end equity funds established before March 1, 2014 and continuously operating and available for subscription from June 1, 2014 to December 31, 2018 as the study population, and excludes funds that are too small and too large, and finally selects 350 eligible funds out of 454 funds, covering 45 fund companies. In order to make the results of the study more consistent with the market situation, this paper is divided into four parts. The first part is based on a sample of funds from June 1, 2014 to May 31, 2015, representing a bull market; the second part is based on a sample of funds from June 1, 2015 to May 31, 2016, representing a bear market; the third part is based on a sample of funds from June 1, 2016 to May 31, 2017, representing an oscillator market. The fourth part of the study is based on a sample of funds from March 1, 2018 to December 31, 2020, representing fund quotes under trade wars. The main sources of data are Wind database, Guotaian database, and Daily Fund website (<http://fund.eastmoney.com/>). Stata14.0 software was used to do the analysis

#### 4-1 Descriptive Statistics for Fund Performance Scalars

	Sharpe	Excess	Timing	Stock-	Total		Non-
Mean	0.17	47.2502	-3.6602	0.0049	0.0323	0.7882	0.0214
Max	0.51	159.5312	3.9834	0.0199	0.0589	1.2603	0.0486
Min	-0.1	-11.8289	-22.3469	-0.0022	0.0000	0.0000	0.0071
Standard	0.16	48.0842	4.708	0.0033	0.0094	0.1567	0.0085
Skewness	0.19	0.5382	-1.5473	0.7784	0.1781	-	0.5426

**Research Objective 1: The impact of fund manager characteristics on the performance of equity funds in a bull market:** The first sample group: the bull market. The time interval under this market is from June 2014 to May 2015. Using the screening criteria described previously, the total sample size is 1608.

**Table 4-2 Descriptive Statistics for Bull Markets**

Variable	Mean	P50	Min	Max	Sd	N
fyear	6.49	7.22	0.38	13.46	3.17	1608.00
fsize	22.16	13.93	0.15	201.10	25.76	1608.00
cgs	40.24	44.00	4.00	83.00	18.96	1608.00
csize	1112.76	759.72	4.17	7317.62	1008.42	1608.00
gen	0.82	1.00	0.00	1.00	0.38	1608.00
degree	0.16	0.00	0.00	1.00	0.36	1608.00
myear	1.75	0.35	0.00	8.95	2.34	1608.00
min	236.85	0.00	0.00	2687.00	493.85	1608.00
mnumber	5.32	5.00	1.00	17.00	3.09	1608.00
sharpe	0.24	0.24	-1.31	0.94	0.20	1608.00



As can be seen in Table 4-2, the Sharpe Index has a maximum value of 0.94 and a minimum value of -1.31 in a bull market, with an average value of 0.24, so the overall performance is still relatively good. Among the explanatory variables, 82.1% of fund managers are male; 17.9% are female. In terms of education, 84.36% of fund managers have a master's degree and 15.64% have a PhD, indicating that the entry barrier for fund managers in China is high. In terms of length of time as a fund manager, the smallest is 0 years (this is because there are cases in the sample where the fund manager has just started managing the fund), the longest is 8.95 years, and the average is 1.75 years, which is shorter. In terms of length of time as an active fund manager, the shortest is 0 days, the longest is 2,687 days (i.e. 7.36 years) and the average length of tenure is 236.85 days. The minimum number of funds managed by a manager is 1 and the maximum is 17, with an average of 5.32 funds and a median of 5.32 funds, indicating that the number of funds managed by more managers is not very large and is at a normal level.

**Research Objective 2: The impact of fund manager characteristics on the performance of equity funds in a bear market:** The second sample group: bear market quotes. The time period under this ticker is from June 2015 to May 2016, with a total sample size of 1,608 through the screening criteria described previously.

**Table 4-6** Descriptive Statistics for Bear Markets

Variable	Mean	P50	Min	Max	Sd	N
fyear	7.49	8.23	1.38	14.46	3.17	1608.00
fsize	14.50	10.34	0.26	157.01	16.23	1608.00
cgs	53.26	55.00	5.00	118.00	25.73	1608.00
csize	1667.76	1044.04	25.05	8505.20	1506.25	1608.00
gen	0.82	1.00	0.00	1.00	0.38	1608.00
degree	0.16	0.00	0.00	1.00	0.36	1608.00
myear	2.45	1.33	0.00	9.93	2.58	1608.00
min	412.24	175.50	0.00	3047.00	599.06	1608.00
mnumber	5.46	5.00	1.00	17.00	3.26	1608.00
sharpe	0.00	-0.02	-0.56	0.58	0.22	1608.00

From Table 4-6, we are able to see that in a bear market, the Sharpe Index reaches a maximum value of 0.58 and a minimum value of -0.56, with a mean value of 0.00, which is indeed a bit worse compared to a bull market. Among the explanatory variables, 82.1% of the fund managers are male; 17.9% are female. In terms of education, 84.36% of fund managers have a master's degree and 15.64% have a PhD, indicating the generally high level of knowledge of fund managers in China. In terms of length of time as a fund manager, the smallest is 0 years (this is because there are cases in the sample where the fund manager is changed and a new fund manager comes in and takes over the management of the fund), the longest is 9.93 years and the average is 2.45 years, which is shorter. The shortest length of time as the current fund manager is 0 days, the longest is 3047 days and the average length of tenure is 412.24 days. The minimum number of funds managed by a manager is 1 and the maximum is 17, with an average of 5.46 funds and a median of 5.00 funds, indicating that the number of funds managed by more managers is not very large and is at a normal level. Correlation analysis of the bear data in Stata software, at a significance level of 0.01, yielded the results shown below.

As can be seen from Tables 4-7, the correlation coefficient between fund size and fund size is 0.1943, between fund size and fund company size is 0.1348, between fund size and number of funds under fund company is 0.1483, between fund size and fund company size is 0.2131, between fund size and manager gender is 0.1185, and between fund size and number of funds under fund company is 0.1684.



**Table 4-7** Correlation Analysis of Bear Market Variables

	fyear	fsize	cgs	csize	gen	degree	myear	min	mnumber	sharpe
fyear	1.0000									
fsize	0.1943	1.0000								
cgs	0.0780	0.1483	1.0000							
csize	0.1348	0.2131	0.1682	1.0000						
gen	0.0742	0.1185	0.0877	0.1048	1.0000					
degree	0.0832	0.0308	0.0793	0.1118	0.0408	1.0000				
myear	0.0818	0.0601	0.0828	0.1163	0.1118	0.0543	1.0000			
min	0.0557	0.0633	0.1200	0.1237	0.2176	0.0922	0.2156	1.0000		
mnumber	0.0748	0.1684	0.0373	0.0649	0.0062	0.0011	0.3072	0.0882	1.0000	
sharpe	0.0124	0.0399	0.0220	0.0340	0.0153	0.0116	0.0220	0.0271	0.0119	1.0000

The correlation coefficient between fund size and the number of funds managed by fund managers is -0.1684, the correlation coefficient between the number of funds of a fund company and the size of a fund company is 0.1682, the correlation coefficient between the number of funds of a fund company and the number of years a fund manager has been a current manager is 0.1200, the correlation coefficient between fund company size and the gender of a fund manager is 0.1048, and the correlation coefficient between fund company size and the education level of a fund manager is 0.1483. The correlation coefficient between fund company size and the fund manager's gender is 0.1048, the correlation coefficient between fund company size and the fund manager's education is -0.1118, the correlation coefficients between fund company size and fund manager years of experience and current fund manager length are 0.1163 and 0.1237 respectively, the correlation coefficients between the fund manager's gender and fund manager years of experience and current fund manager length are 0.1118 and 0.2176 respectively, and the correlation coefficients between fund manager years of experience and fund manager length of current fund are 0.1118 and 0.2176 respectively. The correlation coefficient between the fund manager's years in that occupation and the number of funds managed by the fund manager is 0.2156, and the correlation coefficient between the fund manager's years in that occupation and the number of funds managed by the fund manager is 0.3072. Although there is some weak correlation between the above variables, the overall degree of correlation between the explanatory variables is not high, so they are not treated here and proceeded to the next step.

## CONCLUSION

This paper firstly compares domestic and foreign research and results on fund performance evaluation and fund performance influencing factors, and secondly selects open-end equity funds that have been available for subscription and in continuous operation during the period from June 1, 2014 to December 31, 2020 as the research object, screens 134 eligible funds, and takes the five indicators of fund managers' gender, education, length of time in the profession of fund manager, length of time managing existing funds, and number of funds under management of these funds as explanatory variables (Li 2020). A random effects model was developed and explained by comparing the five indicators of these funds - gender, education, length of career as a fund manager, length of time managing existing funds, and number of funds under management - as explanatory variables, the number of years of fund establishment, fund own size, number of funds currently owned by the fund company, and overall fund company size as control variables, and the Sharpe Index as explanatory variable, during bull market, bear market, shock, and trade war periods, respectively (Ren 2020; Wang 2019). First, the gender aspect: bull market, bear market, shock market, male fund managers managed by the fund performance is not better than female fund managers, so reject hypothesis one; although



in China's fund market, male fund managers accounted for a higher proportion, but there is no shortage of outstanding women, some female fund managers' returns perennial high, not all areas in " After all, both male and female fund managers are professionally educated and may have a slightly different way of thinking and entry point, but this reason does not explain the proof that men are better than women at managing funds. Generally speaking, it seems that male fund managers may be riskier, preferring to invest actively or to follow the rapid changes in the market, while female fund managers are more cautious and may be more inclined to observe the market based on their own experience and a little before striking. The trade war is different from the first three situations, male fund managers perform better, which should be related to the trade war is raging and unpredictable, male fund managers still choose to react quickly, female fund managers' observation speed and own inertia may have a certain hindering effect on their strain on the market, especially in the past year, the stock market changes fluctuating and irregular, more increased female fund managers The volatility and irregularity of the stock market in the past year, in particular, has made it more difficult for women fund managers to operate their funds. Second, education: at the significance level of 5%, the higher the education of the bull market, the higher the Sharpe Index, the bear market, shock, trade war market all show that there is no significant positive relationship between education and Sharpe Index, but rather the higher the education of the fund manager fund performance is worse. In people's fixed thinking, they may think that a high education means that the person is smart and well-educated and has the ability to learn quickly and efficiently, and a high education may mean that he can do everything better than others, but the results of this paper show that it is not necessarily the case that funds managed by PhD fund managers outperform funds under master fund managers. There is no doubt that highly educated fund managers get more attention, but don't forget that practice is also important, and that "paper is the best way to learn". The more experience a fund manager accumulates, the more his or her analytical skills will be substantially enhanced. A hands-on master's degree can judge the trend of fund returns through past practical experience, and they have three or four years more experience than a PhD student. So, in a volatile market, those with strong practical skills will be able to react quickly to the market and adjust their direction faster. Just a little slower action brings a big loss of hate (Fu 2020).

Although in all four cases, except for the bull market, bear market, shock, and trade war market show that there is no significant positive relationship between education and Sharpe Index, but this does not mean that the study is not meaningful. On the contrary, it is more important to see the reality that the fund industry is not yet mature in our country, and if there were more relevant research in the fund industry, practical courses in schools, and relevant practical competitions held, then the results of the impact of education on fund performance might be reversed. The fund industry is a knowledge-intensive industry, and through a combination of internal training and external introduction, we will vigorously train and introduce modern and high-quality fund management personnel, establish the concept of value investment, and at the same time change the incentive mechanism linking fund managers to net asset value, using performance as a benchmark to examine work performance and management capabilities.

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