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The effect of outstanding manager's stock trading ability, fund management ability and tenure on investors' preference base on enhanced full-chain management model

Liu, Bolun ✉
Graduate School, Lyceum of the Philippines University - Batangas, Philippines

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Abstract

This study investigates the influence of fund managers' stock trading ability, fund management ability, and tenure on investor preferences for equity mutual funds. It aims to identify exceptional fund managers and explore company-related factors such as fund size, number of funds managed, employed managers, and establishment duration. The research analyzes the annualized return to assess stock trading ability and the number of funds managed to evaluate fund management ability. The study comprehensively examines the impact of these variables on investor preferences and aims to develop decision-making patterns among mutual fund investors to inform management policies. Drawing on management science perspectives and quantitative tools, the research delves into fund company management methods and personal knowledge management. The anticipated outcome is the presentation of a robust model that will provide valuable insights for fund managers, regulators, and the government, contributing to the efficiency and development of the asset management industry and the advancement of China's economy. Among the seven variables analyzed, six were found to have a positive impact on market preference, except for the number of funds managed by the company, which had a negative influence. This suggests that an excessive number of funds managed by a company may raise concerns among investors regarding the company's ability to effectively manage such a large portfolio. By developing an enhanced full-chain management model for Chinese mutual funds, the study provides valuable insights into fund investor decision-making, leading to improvements in the mutual fund management process, regulatory practices, and investor protection.

Keywords: outstanding fund manager, stock trading ability, fund management ability, tenure, investor preferences, equity mutual fund

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1. Introduction

Under the global monetary easing, the price bubble of financial assets will inevitably increase. Since people realize that holding cash is not the best option when facing inflationary pressures, many households transfer their savings to the stock market, bond market, and other financial derivatives and expect the return rate on investment to offset the inflation rate. Because of the high returns and prosperity of emerging markets, investors have turned their attention to the emerging countries' stock markets represented by China. The development of China's mutual funds industry spans over several decades and has its roots in the early 1990s when the first mutual fund, China Securities Investment Fund, was established by China Southern Securities. This marked a significant milestone in the Chinese financial market, which until then was relatively underdeveloped and lacking in sophisticated investment products.

For the Chinese mutual fund scale (2020), the 2.5352 trillion yuan figure is a historic high, far more than the 1.4 trillion yuan and 1,036 funds for all last year (Chengevelyn, 2020). The scale of Chinese mutual funds is expanding at an unprecedented rate. There are three main types of mutual funds in China, equity (stock) funds, bond funds, and hybrid funds. As the mutual fund with the highest annualized rate of return yield, stock funds are not only affected by the overall volatility of the stock market, but also depend on the operations of the fund managers and their companies. Therefore, equity mutual fund investors will prefer funds and their managers that can provide them with excess returns. During the investment decision-making process of investors of equity mutual funds, they will not only analyze the fund manager's stock trading ability, the number of funds managed, and a series of information related to the fund manager's personal ability, but also pay attention to the manager's company-related background.

The CAPM and Carhart four-factor model verified that fund returns in emerging markets are significantly higher than stock returns. The reason for this unreasonable result is that the efficiency of emerging capital markets is significantly lower than that of developed countries (Rao et al., 2017). In Investor Sentiment and Excess Volatility of Chinese Stock Markets, Wang (2014) also pointed out that the Chinese stock market will have excessive volatility due to individual investor sentiment. Meanwhile, Foreign capital will inevitably become the second reason for the increase in volatility in emerging markets as an incremental transaction fund while pushing asset prices up or down. According to the Shanghai Stock Exchange, institutional investors' total revenue, including mutual funds, far exceeds the individual investors' total revenue.

From January 2016 to June 2019, the total income of institutional investors is 13,447655 yuan, while the total income of all individual investors remained negative. The above data proves that institutional investors in the Chinese stock market have better average returns than individual investors. The main reason is that institutional investors can take advantage of the information gap between individual investors and the market to obtain excess returns. Meanwhile, institutional investors with a large amount of capital not only have a stronger ability to resist risks, but their transactions will also greatly affect the stock price. Mutual funds and their managers as members of institutional investors, it is the only institutional investment vehicle that is open to all individual investors. In other words, individual investors can obtain similar excess returns as institutional investors by participating in mutual fund investments. There is no doubt that more and more individual investors will expect higher returns by participating in mutual funds, and this group also regards whether the fund manager has excellent stock trading ability as an important reference factor for selecting equity mutual fund managers.

In addition to stock trading ability, the management ability of a mutual fund manager will also influence investor preferences. Chinese equity mutual funds are divided into hybrid funds that hold bonds and stocks,

stock funds that hold more than 90% of stocks, and QDII funds that participate in overseas investments. Although fund managers typically manage multiple funds, the China Securities Regulatory Bureau does not allow fund managers to fully reproduce the operation strategies they are using in other funds, which means that fund managers need to have sufficient management capabilities to properly manage funds that use different strategies. For different operating strategies, Fund managers not only need to research the investment industry but also need to have a deep understanding of the overall economic development of the country, to dynamically adjust the operation strategy of the funds under management to ensure that the investment strategy remains efficient. Therefore, the management ability of fund managers is also one of the focuses of mutual fund investors.

Since investor preference is an anthropological behavior that is difficult to observe and quantify, few researchers have studied the development of the equity mutual fund industry from the perspective of investor preference. Thus, based on the above research gap, this research will explore to find out the quantitative indicators to measure the preference of Chinese equity mutual fund investors, and the indicator is used as a dependent variable to analyze the independent variables that affect investors' preference for fund managers, thereby helping relevant industries and regulatory authorities to formulate relevant strategies.

For regulators, knowing what fund economy the market prefers is formulating more appropriate policies to control financial bubbles caused by monetary easing. If the fund's return has a more significant impact on the scale, the regulator should monitor the fund on a larger scale to avoid a stampede sell-off (stabilizing the stock market) when the bubble bursts. If the manager's management ability has a more significant impact on the scale, the regulator should reduce the approval of new fund issuances (to protect investors). If the company's background factors have a more significant impact on the scale, the regulator should supervise the transactions and operations of these fund companies (avoid abnormal behavior). Therefore, this study will try to establish a prediction model of the investors' preference for excellent equity fund managers (earn return rate exceeds stock market cycle annualized return) based on the excellent equity fund managers' attributes and their company's background as independent variables and then find out the key variables that affect market preferences. Personal attributes include experience, stock selection ability, timing ability, and management ability.

This study investigates the influence of outstanding fund manager attributes, including stock trading ability, fund management ability, and tenure, on investors' preference for equity mutual funds in the Chinese context. The study aims to provide insights into investor decision-making processes and preferences, offering practical implications for investors, fund managers, and policymakers. The findings have the potential to guide investors in evaluating managerial attributes, assist fund managers in improving their performance, and inform policymakers in shaping regulations for a more efficient and investor-friendly mutual fund industry in China. This study will analyze the management methods of fund companies and personal knowledge management in depth based on the perspective of management science combined with quantitative tools. so, the outcome of this research is to provide a model to improve the management efficiency of fund companies, and to provide the industry with a new management path based on a profit-oriented perspective. It can help fund managers and regulators to better understand the decision-making patterns of mutual fund investors and help government formulates more appropriate management policies. The improved model will not only help the asset management industry improve efficiency but also clarify the industry's development direction to serve customers and society and promote the rise of China's economy.

The study aimed to examine the effect of a Manager's stock trading ability, fund management ability and tenure on investor's preference of Equity Mutual Funds. The study aims to establish an enhanced full-chain management model of Chinese mutual funds to provide valuable insights into the decision-making patterns of mutual fund investors. Specifically, it determined the outstanding equity fund managers; described the manager's stock trading ability as to the fund manager's annualized return; determined the fund management ability as to the number of funds managed by the fund manager, determined tenure as to the number of the day the managers employed; determined the company-related background which includes the size of funds managed by the

company, the number of funds managed, the number of managers employed and the number of years, the company has been established; determined the effect of managers' stock trading ability, fund management ability, tenure, and company-related background on investor's preference of equity mutual fund and developed an enhanced full-chain management model of Chinese mutual funds to support the government in formulating appropriate management policies.

2. Methods

Research Design **-** The study uses quantitative analysis using logistic regression to build a model of mutual fund investor preferences. The logistic regression model is a powerful forecasting tool, and it can show the influence of multiple independent variables on a single dependent variable through analysis and fitting. As Sperandei (2014) point out, researchers with professional knowledge can reduce the confounding factors' influence of the model when using logistic regression.

Participants of the Study **-** The research's participants are 2387 Chinese bond and stock fund managers (153 companies) which were obtained from Fund Eastmoney (as of May 2021). Fund Eastmoney is China's largest mutual fund trading platform and is regulated by the Chinese government. Fund Eastmoney uses automated scraping technology to obtain data on all managers from mutual fund managers' government-audited operational reports, it is worth mentioning that the government requires that the funds of Chinese mutual funds must be stored in state-owned banks. Fund managers only have the right to buy and sell financial assets, which means that the report is based on the statistics of bank assets, and there is no possibility for fund managers to modify them artificially. The data collection of this website comes from the China Securities Regulatory Bureau and the China Banking and Insurance Regulatory Commission. In addition to real-time government monitoring of whether the data is reliable, the platform allows its 240 million users to always scrutinize the data for falsification or errors. There is no doubt that with hundreds of millions of transactions and real-time supervision, the reliability of this data is unquestionable. The data source of this research belongs to documentary type analysis and the model will be based on quantitative analysis. All fund managers have passed the China Securities Regulatory Commission review, and the performance and information of all mutual fund managers are required to be published on the website.

Data Gathering Instrument **-** In this study, eight variables selected as the research data: the number of funds managed by each manager (number) is the performance of fund managers in fund management. The best return of the fund manager (return) represents the stock selection and timing performance of fund managers, the higher, the better. The number of days the manager is employed (day) indicates the number of days a fund manager has worked. Generally, the larger the number, the more experienced the fund manager is. As Yu (2020) pointed out, the more experienced the fund manager is the stronger the risk control ability and the lower the risk level of its representative funds. The management scale of the manager (scale) represents the performance of fund managers in scale management. The total number of funds in the company where the manager belongs (c_number) reflects the number of funds the fund company manages. The management scale of the company where the manager belongs (c_scale): demonstrates the ability of the entire company to collect funds, the bigger, the better. Unlike "c_number," the management number does not mean a larger scale, and a larger scale does not mean that the manager manages a more significant number of funds. The number of managers in the company where the manager belongs (c_manager) reflects the number of talents in the company. The larger the fund company, the more managers it has. The establishment time of the company where the manager belongs (c_year) means the length of time (history) the company manages the fund. The longer the company is, the more experienced the company is.

Data Gathering Procedure **-** The model excludes fund managers' data with less than 360 days of employment (approximately one year) because every mutual fund in China has a 180-day (6 months) opening period. After the position opening, the fund managers often have an adjustment period, so this strategy effectively eliminates inexperienced fund managers. Manager's adjustment period, so this strategy is relatively

effective in eliminating inexperienced fund managers.

By adding up the scales of all remaining excellent equity managers, model can get the total scale and calculate the proportion of each manager's scale (p_scale). As shown in the formula (9), the scale market share of the i-th individual in the assumed period is equal to the scale of the i-th individual in the assumed period divided by the total management scale of n individuals in the assumed period, that is, the sum of p_j which j=1+2+3…+n.

$$p\_scale_i = \frac{scale_i}{\sum p_j} \quad (9)$$

The model needs to find the judgment value to establish a binary value "pref." It shows that the proportion of scale is a positive skew distribution through the distribution chart, so this research uses the median as the scale benchmark (0.043%) for comparing similar fund managers. Because the fund scale depends on the investors when a manager's scale is larger than the benchmark can be regarded as investors favor. The manager's scale is lower than the benchmark is viewed as lower than the scale of similar fund managers, that is, less investor preference. Then model set “pref” as the logistic regression's dependent variable, “pref” shows market investor preferences, when “pref” equal to 1 means the investors more prefer this manager than market average level, when pref equal to 0 investors less prefer. While model uses number, day, return, c_scale, c_number, c_manager, and c_year as the Logistic regression's independent value. The model randomly set 80% data for training the model and put 20% data for testing. And model can be written as,

$$Properbility(pref = 1) = \frac{e^{\beta_0+\beta_1 x_{number}+\beta_2 x_{day}+\beta_3 x_{c\_scale}+\beta_4 x_{c\_number}+\beta_5 x_{return}+\beta_6 x_{c\_manager}+\beta_7 x_{c\_year}}}{1+e^{\beta_0+\beta_1 x_{number}+\beta_2 x_{day}+\beta_3 x_{c\_scale}+\beta_4 x_{c\_number}+\beta_5 x_{return}+\beta_6 x_{c\_manager}+\beta_7 x_{c\_year}}} \quad (10)$$

Ethical Considerations - The data source of this research collects open data from mutual fund trading websites, which is supervised by the China Securities Regulatory Commission and is open to the public. At the same time, the data set does not involve personal user and company privacy data, and this research does not need to sign an information confidentiality agreement with the research subjects. Therefore, the data source complies with Chinese law, and there is no concern about data privacy leakage.

Data Analysis - Data analysis is vital for logistic regression models for several reasons. Firstly, it helps in identifying relevant predictors or independent variables that have a significant impact on the outcome variable. Through exploratory data analysis techniques such as descriptive statistics, visualizations, and correlation analysis, researchers can gain insights into the relationships between variables and select the most influential ones for the model. Additionally, data analysis assists in handling missing data, which is a common occurrence in real-world datasets. By identifying and addressing missing values through techniques like imputation or exclusion, researchers can ensure that the model is based on complete and reliable data. This improves the accuracy and integrity of the logistic regression analysis. Furthermore, data analysis enables researchers to preprocess and transform the data to meet the assumptions of the logistic regression model. This may involve scaling or normalizing variables, as well as encoding categorical variables appropriately.

By understanding the distribution and nature of the data through analysis, researchers can apply the necessary transformations to improve the model's performance. Moreover, data analysis is crucial for evaluating and validating the logistic regression model. Through techniques such as cross-validation, holdout testing, or ROC analysis, researchers can assess the model's predictive accuracy, goodness-of-fit, and ability to discriminate between outcomes. By conducting thorough data analysis, potential issues like overfitting or underfitting can be identified and addressed, leading to a more robust and reliable model. Lastly, data analysis enables the interpretation of the results obtained from the logistic regression model. By analyzing the coefficient estimates, researchers can understand the direction and magnitude of the effects of the independent variables on the outcome variable. This interpretation helps in making informed decisions and drawing meaningful conclusions

from the logistic regression analysis. Thus, data analysis is essential for logistic regression models as it aids in identifying relevant predictors, handling missing data, preprocessing and transforming the data, evaluating and validating the model, and interpreting the results. By conducting a thorough analysis of the data, researchers can build accurate and reliable logistic regression models that provide valuable insights and predictions.

3. Results and Discussion

Baseline for Outstanding Fund Managers - This study initially identified outstanding equity fund managers and investigated their key attributes. The company-related background factors, such as the size of funds managed, the number of funds managed, the number of employed managers, and the establishment years of the company, were examined. The manager's stock trading ability was assessed based on their annualized return, while their fund management ability was determined by the number of funds they managed. Additionally, tenure was evaluated by considering the number of employed managers and the company's establishment years. The study aimed to understand the impact of these factors, including stock trading ability, fund management ability, tenure, and company-related background, on investor preferences for equity mutual funds. By analyzing these aspects, the study aimed to gain insights into the factors that influence investor preferences and decision-making processes in the context of equity mutual funds.

The fund managers' management capabilities are also critical, which reflects the managers' outstanding operational capabilities. The size of relevant research funds has an inverted U-shaped relationship with their subsequent performance, a finding that means higher fund numbers mean lower future returns (Jin et al., 2020). However, industry research based on mutual funds shows the opposite. Fund managers with better management skills tend to manage larger funds and earn higher returns. This phenomenon is called investor compensation for identifying excellent fund managers (Berk & van Binsbergen, 2012). Koutmos et al.(2019) successfully identified mutual funds and fund managers with a high winning rate in China by using the false discovery rate (FDR).

The method can distinguish skilled and lucky fund managers by investors and use this information to optimize investment strategies for financial products. For example, although a manager manages several funds, they are all at the same level of excellence. Relative timing ability is the main factor that affects fund performance. Fund managers with more timing ability tend to have better fund performance. Zhao et al., (2011) tested the continuity of the fund's stock selection ability and timing ability. From the test results, the timing and stock selection ability of China's funds are generally sustainable. For contribution of Mallik et al. (2019) study, the weekly NAV at market value was of 76 mutual funds managed by 16 asset management companies (AMCs) were collected. To examine the question, Dong & Doukas (2017) uses a sample of 2,947 actively managed domestic equity mutual funds from 11 European countries. Setiawan and his team adopt panel data analysis using secondary data of 8 selected samples of Sharia equity funds. There is an explore three major issues in mutual fund portfolio management in one of the emerging markets – Thailand (Nathaphan et. al., 2020). Morris (2020) argues that a combination of docile fund boards, hesitant federal courts, and a functioning, yet imperfect, market have allowed fund fees and expenses to decline in some areas, but not others.

Table 1

Descriptive Statistics

	day	c_scale	c_number	c_manager	return	c_year	number
Baseline	361	2.68	4	2	0.178	2	1

Through data screening, this research uses 7 variables to define outstanding Chinese equity stock fund managers. Table 1 presents the descriptive statistics for the baseline of outstanding fund managers. The "day" column shows that the fund managers in the baseline have been employed for an average of 361 days. The "c_scale" column suggests that the managers have a management scale of 2.68, indicating their proficiency in managing funds of a moderate size. The "c_number" column indicates that the company to which the managers

belong manages an average of 4 funds. The "c_manager" column reveals that there are 2 managers in the company, reflecting a relatively small team. The "return" column highlights the best return achieved by the fund managers, with an average of 0.178, indicating their ability to select stocks and time their investments. The "c_year" column suggests that the company has been established for an average of 2 years, indicating a relatively new organization. Finally, the "number" column shows that the fund managers individually manage an average of 1 fund. Overall, the baseline data provides insights into the key characteristics and performance indicators of outstanding fund managers.

Model Results and Performance Evaluation

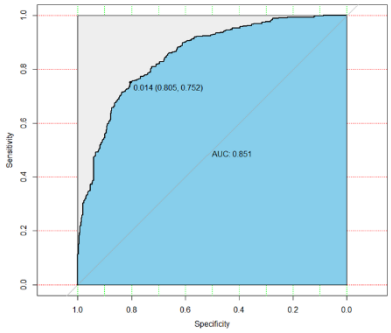


Figure 1 Performance Plots: ROC plot

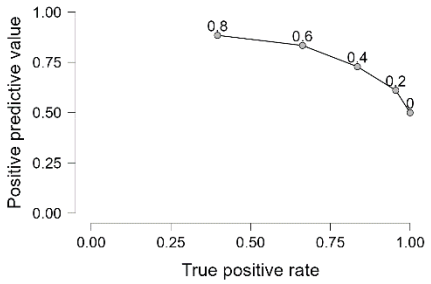


Figure 2 Performance Plots: PR plot

The model used two verification methods to estimate the accuracy. In method one, model used the model to make predictions and calculate the model prediction accuracy by comparing the predicted value with the actual value to 77.94%. Method two uses the ROC curve (Receiver Operating Characteristic) and AUC (Area under the ROC Curve) to evaluate the prediction model. Knowing from figure 1 and figure 2.

- 1-TNR (True Negative Rate) = FPR (False Positive Rate) = 0.805
- TPR (True Positive Rate) =0.753
- AUC=0.851
- Sensitivity and specificity are high.

FPR and TPR are at a reasonable level, and AUC equal to 85.1% means that the algorithm can adapt to 85.1% of the hypothetical scenarios. The above two verification methods prove the reliability and accuracy of the model.

Table 2

Investor Preference Prediction Model With 7 Attributes

	Estimate	Std.error	Z value	Pr(>|z|)	Significance
Intercept	-5.57681	0.55104	-10.121	4.48E-24	***
number	0.327062	0.034274	9.543	1.39E-21	***
day	0.000825	0.000137	6.025	1.69E-09	***
c_scale	0.000188	0.000071	2.663	7.74E-03	**
c_number	-0.00671	0.002938	-2.282	2.25E-02	*
c_manager	0.036601	0.018547	1.973	4.84E-02	*
return	2.816203	0.630693	4.465	8.00E-06	***
c_year	0.057217	0.025972	2.203	2.76E-02	*
AIC：669.65					

*signif. codes：0'***'0.001'**'0.01'*'0.05*

Table 2 shows the relationship between each independent variable and the dependent variable (pref). According to statistical significance, all seven attributes will affect investor preferences. By comparing personal attributes and company background, the managers' attributes significantly impact investor preferences.

Odds ratio means the impact on investor preference probability after changing the current independent variable by one unit while other attributes (independent variables) remain unchanged. The greater the independent variable odds ratio, the greater the influence it has on investor preferences. Therefore, I can infer that an excellent equity fund manager's annualized return increases by one unit (return increased by 100%), his probability of being more favored by investors rises by 1571.33% under other conditions unchanged. In other words, I can roughly estimate that when a fund manager's annualized return increases by 1%, his probability of receiving more investors will increase by 15.71%. According to the above analysis, I know that most investors' preference for excellent equity manager depends on the manager's annualized return. Meanwhile, unlike the other six attributes, the total number of funds managed by the company (c_number) is inversely proportional to the market (investors) preference probability. A rational intuition is that the excessive number of funds makes investors question whether the company has sufficient capacity to manage these funds.

In logistic regression, the odds ratio is a crucial statistical measure that quantifies the relationship between the predictor variables and the probability of the outcome variable. It provides insights into the direction and magnitude of the effect of each predictor on the odds of the outcome occurring. The odds ratio is particularly useful for understanding the strength of associations and making comparisons between different predictor variables. To calculate the odds ratio in logistic regression, we start with the estimated coefficients (β) obtained from the logistic regression model. These coefficients represent the log-odds of the outcome variable for each predictor variable. The odds ratio is then obtained by exponentiating the coefficient value.

For a binary predictor variable, the odds ratio is calculated as the exponential of the coefficient value (e^β), as shown in the formula. It signifies the change in odds when the predictor variable increases by one unit, while keeping all other variables constant. For example, an odds ratio of 1.5 indicates that the odds of the outcome variable occurring increase by 50% for every one-unit increase in the predictor variable. For a categorical predictor variable, the odds ratio compares the odds of the outcome variable occurring between different categories of the predictor variable, with one category serving as the reference category. To calculate the odds ratio, we exponentiate the difference in the coefficient values between the categories of interest. The reference category has a coefficient value of zero, so the odds ratio for a category is the exponential of its coefficient value.

$$odds(y) = e^{\beta_0+\beta_1\times x_1+\beta_2\times x_2+\cdots+\beta_k\times x_k} \quad (11)$$

Interpreting the odds ratio involves considering whether it is greater or less than 1. A value greater than 1 signifies a positive relationship, indicating that an increase in the predictor variable corresponds to an increased likelihood of the outcome. On the other hand, a value less than 1 indicates a negative relationship, indicating that an increase in the predictor variable is linked to a decreased probability of the outcome. Additionally, the magnitude of the odds ratio reflects the strength of the association. A larger odds ratio suggests a stronger effect of the predictor variable on the outcome.

Table 3

Odds Ratio with 7 Attributes

	Estimate	Odds ratio	Impact Ranking
return	2.8162	16.7133	15.7133
number	0.32706	1.38689	0.38689
c_year	0.05722	1.05889	0.05889
c_manager	0.0366	1.03728	0.03728
day	0.00083	1.00083	0.00083
c_scale	0.00019	1.00019	0.00019
c_number	-0.0067	0.99332	-0.0067

Table 3 shows that the study exponential estimates the value and gets odds ratio. The odds ratio is an important tool in logistic regression as it helps us understand the impact of predictor variables on the likelihood of the outcome. It provides valuable insights into the relative importance of different predictors and allows for comparisons between predictor variables. By interpreting and analyzing the odds ratio, researchers and

practitioners can gain a deeper understanding of the relationships between variables in logistic regression models.

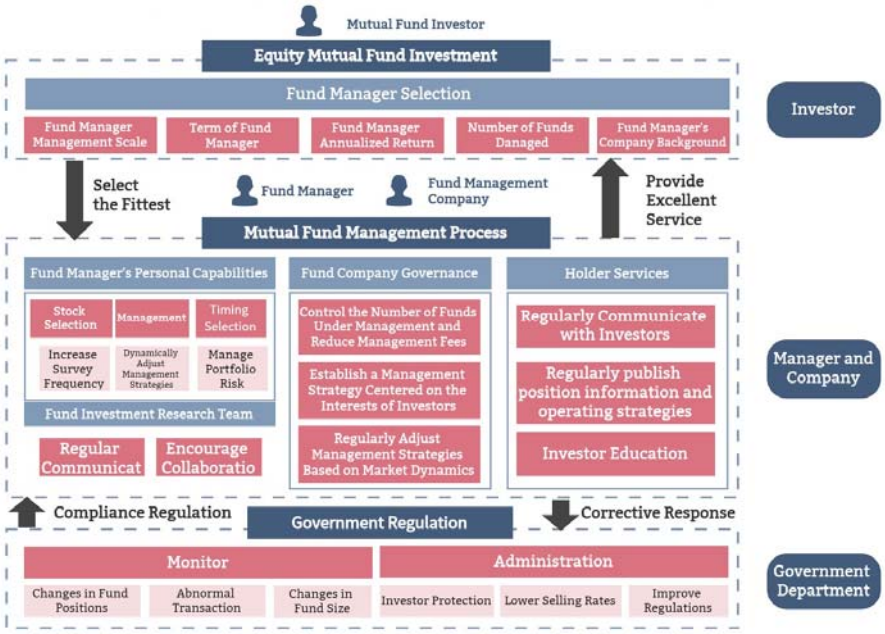
Odds ratio means the impact on investor preference probability after changing the current independent variable by one unit while other attributes (independent variables) remain unchanged. The greater the independent variable odds ratio, the greater the influence it has on investor preferences. Therefore, I can infer that an excellent equity fund manager's annualized return increases by one unit (return increased by 100%), his probability of being more favored by investors rises by 1571.33% under other conditions unchanged. In other words, I can roughly estimate that when a fund manager's annualized return increases by 1%, his probability of receiving more investors will increase by 15.71%. According to the above analysis, I know that most investors' preference for an excellent equity manager depends on the manager's annualized return. Meanwhile, unlike the other six attributes, the total number of funds managed by the company (c_number) is inversely proportional to the market (investors) preference probability. A rational intuition is that the excessive number of funds makes investors question whether the company has sufficient capacity to manage these funds.

This study uses logistic regression to analyze the impact of the outstanding equity fund managers' attributes (personal attributes and company background) on the market investors' preferences. Impact ranking shows that the main factors affecting investors' preference for excellent equity mutual fund managers are annualized returns, the number of funds under management, the age of the company and the number of fund managers of the company to which the fund manager belongs. The results show that the fund managers' annualized return is the most crucial factor for investors' preferences. With other conditions unchanged, it can be roughly assumed that every 1% increase in the excellent fund managers' annualized return will increase the market preference probability by 15.71%. Fund managers who oversee a larger number of funds are typically more popular due to their strong management capabilities and the ability to deliver excellent performance. This positive correlation between the number of funds managed and the management scale indicates that investors recognize and value fund managers with the capacity to handle multiple funds successfully. It is worth noting that the number of funds managed by the company to which the fund manager belongs is negatively correlated with the preference of investors. When the variable "c_number" increases by one unit, indicating the issuance of an additional fund by the company, there is a corresponding decrease in the probability of the fund manager's popularity by 0.67%. This conclusion is consistent with the figure, and it also proves the research of Farid and Wahba (2022) This finding holds significance, especially when considering that fund management companies overseeing a large amount of funds should take note of this impact on the fund manager's reputation and investor preference. There is an opposite correlation between "number" and "c_number", and this contradiction exists in the fund industry in practice. The company will ask manager to issue more new funds as the fund manager is popular, and investors will buy the fund in large quantities because of their preference for the fund manager. This behavior will lead to an increase in the size of the fund manager and called "Matthew effect". Investors do not prefer a company that manages many funds, so the fund company controls the number of funds managed by the fund manager to control the number of funds managed by the company, even if he is a star fund manager.

The author also realize that two shortcomings caused the model accuracy not to reach the optimal range. Due to the inability to obtain real-time stock positions of the fund, the fund manager return rate has a small number of outliers. Secondly, only 849 fund managers who meet the screening requirements make the model's training set, and test set small. Recommendations for research results are that the investors pay more attention to the equity fund managers' attributes than company background, so it is essential for practitioners to improve their personal capabilities, significantly to improve the ability to select timing and stocks (annualized returns). For regulators, when the stock market is overvalued, they should monitor and manage high-return equity funds and their managers to ensure that there will be no stampede sales when the financial bubble tends to burst.

Enhanced Full-chain Management Model of Chinese Mutual Funds - Based on the prediction model and result analysis, an enhanced full-chain management model of mutual funds in China can be derived in this figure. Research on mutual fund investors shows that rational investors base their judgments on investment value (Zhu,

2018). This comprehensive model encompasses three key perspectives: equity mutual fund investors, mutual fund managers and their companies, and government departments. Investors of equity mutual funds primarily consider crucial factors such as the fund manager's annualized return, the number of funds managed by the manager, the establishment time of the manager's company, and the number of fund managers within the company. By incorporating these aspects, the model aims to facilitate informed decision-making for investors in selecting the most suitable fund manager.



In the mutual fund management process, it is crucial for both fund managers and their companies to deliver high-quality services to investors. Fund managers should prioritize enhancing their personal capabilities, including stock selection, management, and timing. To improve stock selection abilities, managers should increase their research frequency on listed companies, enabling them to gain insights into a wider range of companies and identify stocks with potential alpha returns. Enhancing management capabilities necessitates the dynamic adjustment of strategies in response to market trends and economic conditions. For instance, during overheated markets, it is important to control the management scale to mitigate risks. Developing timing skills involves the dynamic management of the portfolio's risk exposure ratio, striking a balance between short and long positions. In bear markets, reducing long positions and favoring defensive stock portfolios is advisable. Additionally, as the supporting team for fund managers, the fund investment research team should maintain regular exchanges of research findings and share industry reports. By striving to meet the needs of fund managers, the team can enhance collaboration efficiency and contribute to overall performance.

As Adams et al. (2018) research, effective fund company governance should adhere to three fundamental principles. Firstly, based on the prediction results indicating a negative correlation between the total number of funds managed by the company and investor preferences, the company should exercise control over the frequency of new fund issuance. This will prevent an excessive number of funds from undermining the management abilities of fund managers. Additionally, reducing the management fee rate can serve as an incentive to attract more investors. Secondly, it is essential for the company to establish a management philosophy that prioritizes the interests of investors rather than relying solely on generating management fees. Lastly, the company must adopt a dynamic management strategy that adjusts to market and economic conditions. For instance, it should refrain from launching new funds or reduce the number of funds before an impending market bubble bursts. Furthermore, the company should encourage fund managers to reduce stock positions to minimize losses during bear markets. By following these principles, fund companies can enhance their governance practices and better align their strategies with the needs and expectations of investors.

In terms of holder services, fund managers and their companies need to communicate with holders on a regular basis, and regularly announce to holders the specific operating strategies of the fund and stock holdings. More importantly, the manager and his company provide holders with free materials and courses, allowing them to choose funds that meet their needs.

Government supervision is an important way for government departments to help the healthy development of the fund management industry. Government departments need to carry out compliance supervision on the fund industry, and the fund industry needs to correct and respond to the problems detected by the government. Specific to government regulation, it includes two main aspects including monitoring and administration. From a government perspective, it is crucial to monitor the stock positions held by different fund managers and closely observe the potential impact of significant adjustments in fund positions on stock market volatility. Additionally, monitoring abnormal transactions is of utmost importance, as these transactions often involve gray activities such as stock price manipulation and black-box trading. Lastly, the government should closely monitor large-scale fund transactions, particularly during bull markets, as fluctuations in the size of these funds can directly influence the volatility of company stock prices. The government's research on fund management shows that regulatory agencies must re-evaluate the effectiveness of the upper limit on brokerage fees, and at the same time dynamically balance brokerage fees to protect the rights of individual investors from being exploited. (Oh et al., 2017). Government intervention plays a vital role in fostering a healthy growth of the fund management industry through effective administrative measures. Administrative management encompasses important aspects such as investor protection, reducing fund sales fees, and enhancing regulatory efficiency. To safeguard the interests of fund investors, the government should establish specialized laws that punish actions detrimental to investors and regulate industry behavior. Simultaneously, collaboration between the government and the industry is necessary to lower fund sales fees, ensuring investors receive fair returns. Furthermore, leveraging big data models and artificial intelligence can significantly enhance regulatory efficiency, enabling the government to efficiently identify issues and detect violations within the industry.

4. Conclusions and Recommendations

The study successfully identified outstanding equity fund managers based on their performance metrics, particularly focusing on the fund manager's stock trading ability, which was quantified by the annualized return. The fund management ability was assessed based on the number of funds managed by each fund manager. The tenure of fund managers was determined by analyzing the number of days they have been employed. The study explored the company-related background, encompassing the size of funds managed by the company, the number of funds managed, the number of managers employed, and the number of years the company has been operating. Study examined the company-related background factors, include the size of funds managed, the number of funds managed, the employed managers, and the establishment years of the company. The study investigated the impact of these facts on investor preferences for equity Mutual funds. Except for the variable of the number of funds managed by the company, the remaining six variables have a positive impact on market preference. It is worth noting that found the market's preference for funds is driven by the annualized return of funds, and the greater number of funds managed by a company, the lower the likelihood of its fund managers being sought after by the market. By building an enhanced full-chain management model of Chinese mutual funds, it helps us understand all aspects of fund investor choice, resulting in improved mutual fund management process from managers and companies' perspectives, improved government regulatory and protect the interests of investors.

Fund managers may prioritize improving their annualized returns as it has the most significant impact on investor preference. Fund management companies need to carefully manage the number of funds to avoid overwhelming investors and maintain their reputation. Personal Investors may consider the number of funds managed by a manager, as it indicates their management capabilities and potential for delivering excellent performance. Fund management companies like China Southern Asset Management may focus on establishing a management philosophy that prioritizes investor interests over generating management fees. Regulatory bodies like China Securities Regulatory Commission and National Administration of Financial Regulation may enforce specialized laws to protect investors, regulate industry behavior, and ensure fair practices in the mutual fund industry. Future research may incorporate additional data, such as management fees of fund managers, market volatility, and other relevant information to enhance the explanatory power of the model and generate a more

precise management framework.

5. References

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