

Institutional Investor Heterogeneity, Accounting Information Quality and Enterprise Performance

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Abstract: Taking all A-share listed companies from 2015 to 2019 as the research object, this paper makes an empirical analysis of the relationship between institutional investors and accounting information quality and corporate performance, and further explores the influence of different institutional investors on accounting information quality and corporate performance, and the effect of institutional investor heterogeneity is analyzed from the perspective of enterprise nature. Empirical shows that: institutional investors holdings of listed companies has a positive role in promoting enterprise performance, especially the high independence of institutional investors to promote more obvious, accounting information quality of enterprise performance also has a significant positive effect, but by the influence of institutional investors holdings, accounting information quality positive impact on enterprise performance will change significantly. The research results of this paper have certain reference significance for investors to invest and participate in corporate governance.

Keywords: Institutional investors, Heterogeneity, Accounting information quality, Business performance.

1. Introduction

The participation of institutional investors in corporate governance has always been a topic worth discussion. On the one hand, institutional investors have more mature investment and supervision ability than minority shareholders, which boosts corporate governance; on the other hand, institutional investors' participation in corporate governance may have a strong intervention in corporate governance, and may cooperate with shareholders to affect the effect of corporate governance. In the western mature capital market, capital market in our country start time is short, far from mature capital market, this suggests that there are many on the market mechanism is imperfect, corporate governance related interests investors know about corporate investment is not enough, and as the market is not mature enough, enterprises under the market running more able to find loopholes in the market to avoid losses, so environment, The development of China's capital market is even more difficult to improve (Wu Guoding, 2018). Institutional investors to participate in corporate governance of the ultimate goal is to make enterprise long-term development and improve enterprise performance, enterprise in institutional investors can obtain effective financing channels, and institutional investors' professional ability can also give enterprises better advice, can also effectively restrict management decision does not conform to the part of the enterprise sustainable development, constantly improve the level of enterprise financial performance (Lin Bo, 2018). While participating in corporate governance, institutional investors are also restricted by their own factors. Relatively independent institutional investors will play a positive role in corporate governance, have better ability to supervise corporate governance behaviors, and play a good role in promoting corporate development. If there is a potential commercial relationship with the company, the independence of many institutional investors will be insufficient for corporate governance decisions. In corporate governance decisions, they even agree with the relevant decisions of corporate governance because their own interests

are linked with the enterprise. However, independence strong institutional investors tend to invest in more and more enterprises, its interests guidance is improved earnings, combined with the present situation of our country capital market is not mature institutional investors are more likely to value the short-term profit way to reduce the risk of investment, such power of institutional investors participating in corporate governance will become very small. Even if institutional investors focus on participating in corporate governance with long-term returns, they may also have a certain negative impact on enterprises, leading to more problems in corporate performance. When institutional investors participate in corporate governance, how to maintain their independence while participating in corporate governance, and how to plan their own profits while considering the long-term survival of enterprises are both problems worth thinking about.

2. Literature Review and Research Hypothesis

2.1. Institutional Investors and Corporate Performance

From the perspective of institutional investors, their impact on enterprises can be intuitively reflected in the shareholding ratio. The tendency of institutional investors to participate in corporate governance is affected by the shareholding ratio, and it pays more attention is paid to long-term investment decisions, which enables the long-term development of the enterprise and plays a better supervisory role in corporate governance. Institutional investor shareholding can better improve the efficiency of the company and can create good corporate performance (Li Jianying, 2013). The impact of institutional investors on enterprise performance is mostly based on the simple analysis of enterprise performance impact, With the latest Internet enterprise performance as the starting point, Xu Lin (2019) believes that the shareholding of institutional investors in the Internet industry is significantly and positively related to

corporate performance, Compared with the manufacturing industry, institutional investors in the Internet industry have a relatively high shareholding ratio, The correlation with business performance is even more pronounced, And institutional investor shareholding affects enterprise performance and is not linear correlation; From the perspective of financial performance, Lin Bo (2018) introduced internal control to view the relationship between them, While both institutional investors and internal controls promote corporate performance, But in the role of institutional investors, The impact of internal control on enterprise performance is significantly reduced, This suggests that institutional investors involved in corporate governance may affect internal control. In institutional investors under further research, the scholars gradually expand to the heterogeneity of institutional investors to study the influence on the enterprise, Li Zhengguang (2014) to A-share listed companies as the research object, classify institutional investors, institutional investors are divided into stable and trading, the results show that stable institutional investors relative to trading institutional investors can play more corporate governance effect and supervise enterprise governance behavior, in order to improve the performance of the enterprise. From the perspective of A-share listed companies in 2015, Liu Yingfei (2015) tested the impact of institutional investors' shareholding ratio on enterprise performance with two aspects of independence and stability. Research found that the impact of independent institutional investors on enterprise performance has a significant positive correlation, independence is not strong of institutional investors did not find the relationship with enterprise performance, more independent and stable institutional investors to promote enterprise performance, the more obvious, more can play an efficient role in corporate governance, independence is not strong of institutional investors to the enterprise investment even if very stable will not affect the performance and governance level of the enterprise itself. With enterprise heterogeneous perspective, Zhu Weidong (2016) emerging industry listed companies as a sample, that whether institutional investors holding is relative or absolute will have a significant impact on enterprise performance, institutional investors with strong independence have a higher role in promoting corporate performance, institutional investors with low independence can not affect corporate performance, but will reduce the generation of corporate performance, influenced by the size and nature of the enterprise, the impact of less independent institutional investors on the enterprise performance is also limited to some large-scale and state-owned enterprises, and the impact on the performance of other enterprises is not significant. From this point of view, the impact of institutional investors on corporate performance As further research has seen more controversies and findings, On this basis, the paper puts forward the following research assumptions:

Hypothesis 1: The proportion of shares held by institutional investors is positively correlated to corporate performance

Hypothesis 2: Institutional investors with strong independence will have a more significant positive relationship with corporate performance

Hypothesis 3: Negative correlation between the impact of less independent institutional investors on corporate performance

2.2. Institutional Investors, Accounting Information Quality and Corporate Performance

Accounting information of the quality affects investor sentiment, and investors are sensitive to stock investment, low degree of information stock is not easy for investors to judge, but turn to accounting information quality to determine the value of the stock itself, institutional investors as a member of the greater investment, the importance of accounting information quality is also more prominent (zhu bo, 2015). With investor protection perspective, Li Shugen (2016) with A-share listed company data built investor protection degree, the study found that the higher the degree of protection to investors, the higher the quality of accounting information of listed companies, this suggests that the listed companies pay attention to transmit signals to investors by the high quality of accounting information, to attract investors to invest, Investor protection is a guarantee to promote listed companies to provide high-quality accounting information, and the quality of accounting information is necessary for investors. It is also necessary for investors to obtain information to understand investment, and its quality determines the effect of investment and the interest of investors. Accounting information conveys business performance and various financial indicators of an enterprise, but A single accounting indicator cannot position the situation of the entire enterprise. The more investors rely on accounting information for investment, enterprises will process accounting information to influence investors' judgment. Also targeting A-share listed companies, Liu Bin (2012) believes that there are significant accruals in China's securities market, listed companies can adjust the accrued profits of enterprises to affect the profits of enterprises, and institutional investors can find the accrued phenomenon of enterprises to give correction, and determine their own investment direction. However, most investors do not have the ability to distinguish the action of the enterprise in earnings management, and cannot accurately judge whether the accounting quality generated by earnings management is the same real financial situation of the enterprise as shown in the statement. From the perspective of the equity incentive, Lu Weiguo (2020) analyzed the role of institutional investors in equity incentive and accounting information quality from the two aspects of state-owned enterprises and private enterprises respectively, and believed that institutional investors' participation in corporate governance can play a regulatory role and improve the quality of accounting information, institutional investors with higher independence play a stronger regulatory role, and institutional investors with less independence are more likely to collude to reduce the quality of accounting information, in state-owned enterprises, institutional investors do not have the ability to influence the quality of their accounting information, and their ability to influence is more prominent in private enterprises. Further classification of institutional investors, it can be found that institutional investors itself also has a lot of changes, all kinds of detailed investor classification on the influence of the enterprise is different, Yang haiyan (2012) to further expand the classification of institutional investors, found that institutional investors overall reduce the reliability of the accounting report, but the transparency of information disclosure is relatively improved. Enterprise customary surplus manipulation to affect the quality of accounting

information, especially downward surplus management, every institutional investors will more or less affect the quality of accounting information, but according to the nature of institutional investors themselves, the impact on enterprises is limited, so the development of the market can not be too much rely on institutional investors to restrict corporate governance, and ignored the problem of institutional investors itself. Accounting information is the enterprise operating data, to a certain extent reaction enterprise actual situation, as an independent third party, CPAs are more likely to provide strong evidence of the impact of institutional investors on the quality of accounting information, Song Yunling (2020) studied the impact of institutional investors on the quality of accounting information from the perspective of certified public accountant auditing, and found that institutional investors' shareholding can reduce the profit adjustment range of enterprises in auditing, which has a positive impact on the quality of accounting information. The impact of independent institutional investors is more prominent, and when financial risk is higher, institutional investor holdings are more likely to ensure high-quality accounting information.

The impact of accounting information on enterprise performance is generally the impact of accounting information quality and transparency on enterprise performance. Taking the transparency of accounting information as the research object, the impact of accounting information quality on enterprise performance is investigated based on the accounting information data provided by the third-party platform directly. The impact of accounting information transparency on enterprise performance is more significant in the lag period, and in the increasingly mature capital market, accounting information transparency also gradually improves, promoting the improvement of enterprise performance (Chen Li, 2017). Further research on accounting information transparency shows that accounting information transparency also has a positive impact on enterprise value, but only in the growth stage of enterprises, while accounting information transparency is negatively correlated with enterprise value after enterprises mature (Li Yingli, 2019). With quality of accounting information as the research object, is the analysis of enterprise financial data, build the model and enterprise handling accrued profit to measure the quality of the accounting information, in the perspective of guizhou area itself, Tang Xiaojian (2013) study found that enterprise easy to manipulate the surplus is used to improve enterprise performance, the resulting effect is the enterprise accounting information quality is reduced, And the earnings management gap between enterprises is large, accounting information quality is uneven. From the perspective of M&A performance, the quality of accounting information also has a positive impact on THE level of M&A performance. Enterprise M&A attaches more importance to the quality of accounting information itself and can more reasonably estimate the current value of enterprises to promote the occurrence of M&A and have a positive impact on M&A performance (Pan Hongbo, 2014). From the research on the influence of institutional investors on accounting information quality, both positive and negative influences exist. Most of them interpret the influence mechanism of institutional investors on enterprise accounting information quality with different samples and perspectives, while accounting information positively affects enterprise performance. Is the relationship between institutional investors in the quality of

accounting information and corporate performance coordinated with the quality of accounting information to jointly promote the improvement of corporate performance? Based on the above point of view, the article proposes the following assumptions:

Hypothesis 4: The higher the shareholding ratio of institutional investment, the less significant the positive impact of accounting information quality on enterprise performance

Hypothesis 5: The more independent institutional investors suppress the positive impact of accounting information quality on firm performance

Hypothesis 6: Institutional investors with low independence will have no significant positive impact on accounting information quality and corporate performance

3. Research Design

3.1. Sample Selection and Data Sources

All a-share listed companies from 2015 to 2019 were selected as the research samples. In order to ensure the rationality of the data, the original data were processed as follows: 1. ST, *ST and PT listed companies were excluded; 2. Eliminate the enterprises included in the finance and insurance industry; 3. Eliminate enterprises with asset-liability ratio greater than 1; 4. Companies that eliminate abnormal data and missing data; 5. In order to ensure that the main variables are less affected by extreme values, 1% and 99% tails are reduced; Finally, 11,547 sample data were obtained, and the financial data of enterprises were all from the CSMAR database.

3.2. Selection of Variables

3.2.1. Explained Variable -- Enterprise Performance

Mostly used in enterprise performance measure return on assets (ROA) as its measure, calculating formula for return on assets = net income/final total assets, and scholars adopt assets return rate, return on equity and tobin Q as a measure of enterprise performance, the paper choose return on assets as metrics.

3.2.2. Explanatory Variables -- Accounting Information Quality

The measurement methods of accounting information quality are roughly divided into information disclosure level, stock return rate, surplus management, etc. The article believes that surplus management is the adjustment of accounting statements of enterprises belongs to the normal category, the audit of certified public accountants to surplus management accounts for the audit part is very small, certified public accountants to the normal category of surplus management is low attention, will issue unqualified audit report. However, for reference enterprise investment, adjusted accounting statement information can affect investors' investment intentions, so earnings management is more appropriate to evaluate the quality of accounting information used for investment. This paper refers to Liu Qiliang (2013) to measure the quality of accounting information by using the cross-sectional modified Jones model of annual and industry regression. The specific calculation formula is as follows:

$$DA_t = \frac{TA_{i,t}}{A_{i,t-1}} - \frac{NDA_{i,t}}{A_{i,t-1}} \quad (1)$$

The calculation formula is as follows: $NDA_{i,t}$

$$\frac{NDA_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PEF_{i,t}}{A_{i,t-1}} \quad (2)$$

In Formula (2), and are obtained by OLS regression through Formula (3) : $\alpha_1\alpha_2\alpha_3$

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PEF_{i,t}}{A_{i,t-1}} + \alpha_4 ROA + \varepsilon_i \quad (3)$$

Where, $TA_{i,t}$ represents the total accrued profit (total accrued profit = net profit -- operating cash flow), $A_{i,t-1}$ represents the assets of the previous period, $\Delta REV_{i,t} - \Delta REC_{i,t}$ represents the difference between the current year's change in operating income and the current year's net receivables, and $PEF_{i,t}$ represents the original value of fixed assets. According to the above formula, controllable accrual profit (DA) is finally obtained, and the absolute value is taken as a negative indicator of accounting information quality. The greater the absolute value of discretionary accruals (| DA |), the worse the quality of accounting information. To facilitate the observation of regression results, the paper takes the reciprocal of the regression absolute value as a whole, which is in the same direction as accounting information quality.

3.2.3. Explanatory Variable -- Heterogeneity of Institutional Investors

Referring to Brickley's (1988) and Yang Haiyan's (2012)

research methods and sorting them out, the six representative institutional investors for enterprise shareholding are securities investment fund, social security fund, qualified foreign institutional investor, insurance, trust and securities broker. Among them, funds, social security funds and qualified foreign investors have higher independence, while insurance, trust and securities brokers have a certain interest relationship with enterprises, and their independence is relatively weak. Therefore, this paper takes the sum of the six shareholding proportions that are greatly influenced by institutional investors as the overall shareholding ratio (INS) of institutional investors. Among institutional investors, the sum of securities investment funds, social security funds and qualified foreign investors is used as the measurement index of highly independent institutional investors (INS1). The sum of insurance, trust and brokerage was used as a measure of less independent institutional investors (INS2).

3.2.4. Control Variables

Referring to the experience of previous scholars, the control variables are set as enterprise Size (Size), asset-liability ratio (Lev), enterprise growth (Grow), Equity concentration (LHR), enterprise nature (Owner) and board independence (lbo). See Table 1 for the definition of variables.

Table 1. Variable description

type	name	variable	define
Explained variable	Enterprise performance	ROA	Net profit as a percentage of total ending assets
	Quality of accounting information	DA	Accruals can be manipulated to take absolute value
Explanatory variables	Shareholding ratio of institutional investors	INS	Ratio of shares held by institutional investors to total shares
	The enterprise scale	Size	The total assets at the end of the period are logarithmic
	Asset-liability ratio	Lev	Ratio of total ending liabilities to total ending assets
Control variables	Enterprise growth	Grow	Growth rate of operating income
	Equity concentration	LHR	Shareholding ratio of the largest shareholder
	Enterprise nature	Owner	State-owned enterprises get 1, private enterprises get 2
	Board independence	Lbo	The ratio of the number of independent directors to the total number of directors
	industry	IND	China Securities Regulatory Commission 2012 industry classification
	year	Year	control

3.3. Model Design

$$ROA_{it} = \beta_0 + \beta_1 INS_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Grow_{it} + \beta_5 LHR_{it} + \beta_6 Owner_{it} + \beta_7 Lbo_{it} + \varepsilon \quad (1)$$

$$ROA_{it} = \beta_0 + \beta_1 INS1_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Grow_{it} + \beta_5 LHR_{it} + \beta_6 Owner_{it} + \beta_7 Lbo_{it} + \varepsilon \quad (2)$$

$$ROA_{it} = \beta_0 + \beta_1 INS2_{it} + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Grow_{it} + \beta_5 LHR_{it} + \beta_6 Owner_{it} + \beta_7 Lbo_{it} + \varepsilon \quad (3)$$

$$ROA_{it} = \beta_0 + \beta_1 DA_{it} + \beta_2 DI_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 Grow_{it} + \beta_6 LHR_{it} + \beta_7 Owner_{it} + \beta_8 Lbo_{it} + \varepsilon \quad (4)$$

$$ROA_{it} = \beta_0 + \beta_1 DA_{it} + \beta_2 DI1_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 Grow_{it} + \beta_6 LHR_{it} + \beta_7 Owner_{it} + \beta_8 Lbo_{it} + \varepsilon \quad (5)$$

$$ROA_{it} = \beta_0 + \beta_1 DA_{it} + \beta_2 DI2_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 Grow_{it} + \beta_6 LHR_{it} + \beta_7 Owner_{it} + \beta_8 Lbo_{it} + \varepsilon \quad (6)$$

Where ROA_{it} is the explained variable, representing enterprise performance; INS_{it} is the explanatory variable,

represents the shareholding of institutional investors; $INS1_{it}$ is the institutional investor with strong independence, $INS2_{it}$ is the institutional investor with weak independence. Models (1), (2) and (3) test the heterogeneity effect of institutional investors. Model (4) adds an interaction term between institutional investors and accounting information quality to test the influence of institutional investors' shareholding on the correlation between accounting information quality and corporate performance. Model (5) and Model (6) continue to verify the moderating effect of institutional investor heterogeneity in the form of interaction terms.

4. Empirical Results and Analysis

4.1. Descriptive Statistics

As can be seen from The descriptive statistics in Table 2, there is not a large gap between the maximum value of 0.526 and the minimum value of -1.856. Corporate performance is

stable in corporate data without significant fluctuations. On the mean value, the average value of corporate performance is 0.031, which is greater than zero, and the standard deviation is 0.094, which is small, indicating that most corporate performance is positive. It can be seen that the current enterprise development is relatively stable. In terms of the overall shareholding ratio of institutional investors, the mean value is 5.678, which tends to be a lower shareholding ratio. The overall shareholding of institutional investors is not high, and the standard deviation is also 6.505, indicating a large gap between the maximum value and the minimum value. From the perspective of accounting information quality, the overall mean value is 0.083, which tends to be higher accounting information quality. Although there is a large gap between the maximum value of 6.334 and the minimum value of 0, the overall accounting information quality of enterprises is higher.

Table 2. Descriptive statistics of main variables

variable	N	Mean	Sd	Min	Max
ROA	11547	0.031	0.094	1.856	0.526
INS	11547	5.678	6.505	0.005	70.19
DA	11547	0.083	0.189	0	6.334
Size	11547	22.36	1.329	17.77	28.64
Lev	11547	42.45	0.201	0.835	99.76
Grow	11547	16.79	33.28	57.50	131.8
LHR	11547	33.42	14.57	3	89.09
Lbo	11547	0.377	0.056	0.2	0.8

4.2. Correlation Analysis

It can be seen from the correlation analysis table in Table 3 that enterprise performance is positively correlated with institutional investment shareholding ratio, and the correlation coefficient is 0.120 and significant at 1% level. Hypothesis 1 is preliminarily verified. Accounting information quality is positively correlated with enterprise performance, the correlation coefficient is 0.150 and significant at 1% level, which also supports the conclusion of many scholars that the promotion of accounting information quality and enterprise performance is positive. Moreover,

from the perspective of enterprise growth, enterprise growth is significantly positively correlated with enterprise performance. The correlation coefficient is 0.219 and significant at 1% level, indicating that enterprises have a strong promotion effect on enterprise performance in the growth stage. Considering the multicollinearity problem, the paper carried out a variety of collinearity tests on the main variables. Generally, it can be considered that there are a variety of collinearity problems if VIF is greater than 10. After the test, the average value of multiple collinearity in the paper is 1.18, far lower than 10, and the multicollinearity problem can be basically ignored.

Table 3. Correlation analysis of main variables

variable	ROA	INS	DA	Size	Lev	Grow	LHR	Owner	Ibo
ROA	1								
INS	0.120 *	1							
DA	0.150 *	0.010	1						
Size	0.035 *	0.282 **	0.050 **	1					
Lev	0.261 *	0.079 **	0.033 **	0.521 **	1				
Grow	0.219 *	0.112 **	0.038 **	0.044 **	0.025 *	1			
LHR	0.148 *	0.071 **	0.049 **	0.201 **	0.055 *	0.003	1		
Owner	0.013	0.005	0.029 **	0.270 **	0.168 *	0.067	0.165 *	1	
Ibo	0.034 *	0.009	0.001	0.011	0.001	0.015	0.041 *	0.033 *	1

Note: *** represents $P < 0.01$, ** represents $P < 0.05$, * represents $P < 0.1$, the same below.

4.3. Analysis of Regression Results

In the regression results of Table 4, the coefficient of INS in Model 1 is 0.016 and significant at 1% level, indicating that the two are highly correlated. The shareholding ratio of institutional investors is highly positively correlated with corporate performance in significance, which verifies hypothesis 1. Model 2 INS1 coefficient of 0.03 and a significant at 1% level, explain independence is strong institutional investors on the correlation is highly positive

correlation with the enterprise performance, and the t-value is more significant than the t-value of model 1. The higher the shareholding ratio of institutional investors with strong independence, the stronger the positive significance of enterprise performance, which verifies the hypothesis 2. The regression coefficient of Model 3 INS2 is -0.06 and significant at 1% level, indicating that the shareholding ratio of institutional investors with weak independence is significantly negatively correlated with corporate performance, thus verifying hypothesis 3.

Table 4. Multiple regression results 1

variable	Model 1 ROA	Model 2 ROA	Model 3 ROA
INS	0.016 *** (12.24)	-	-
INS1	-	0.003 *** (18.06)	-
INS2	-	-	0.006 *** (3.05)
Size	0.117 *** (15.12)	0.120 *** (16.10)	0.153 *** (19.84)
Lev	0.169 *** (35.96)	0.166 *** (35.60)	0.174 *** (37.04)
Grow	0.002 *** (5.85)	0.001 *** (5.84)	0.002 *** (5.91)
LHR	0.094 *** (16.16)	0.094 *** (16.39)	0.082 *** (14.25)
Owner	0.027 ** (2.18)	0.028 ** (2.23)	0.04 *** (3.15)
Ibo	0.062 *** (4.36)	0.061 *** (4.30)	0.062 *** (4.33)
Obs	11547	11547	11547
R-s	0.14	0.15	0.13
r2_a	0.141	0.154	0.130
F	271.1	300.1	248.1

Table 5 in order to reduce the influence of heteroscedasticity and autocorrelation regression with heteroscedasticity robustness standard error, and can be seen from the four models, the institutional investors holding and the quality of accounting information interaction coefficient of -0.511 and a significant at 1% level, the institutional investors group on accounting information quality and positive correlation with inhibition of the use of enterprise performance, and strong inhibition, The interaction coefficient is negative, which verifies hypothesis 4. Model 5, institutional investors holding and the quality of accounting information interaction coefficient of -0.814 and a significant at 5% level, compared with six interaction model of significance, it can be seen that independence is strong institutional investors on accounting information quality and the stronger the positive relationship between enterprise performance inhibitory, independence, there is no significant difference among the weaker institutional investors, Hypothesis 5 and hypothesis 6 are tested. Further to study the nature of the enterprise, the corporate performance of state-owned enterprises under the influence of accounting information quality is not significant, the interaction item of institutional investors in the impact on the quality of accounting information will not affect the corporate

performance, and in private enterprises, the accounting information quality and business performance more significant positive correlation, and institutional investors can significantly inhibit the positive correlation, It can be seen that the existence of institutional investors plays a supervisory role in both state-owned and private enterprises. However, in private enterprises, enterprises can control the quality of accounting information through earnings management to control enterprise performance, which does not happen in state-owned enterprises. From the nature of state-owned enterprises and private enterprises, the promotion and evaluation of state-owned enterprises are different from private enterprises. In the governance of state-owned enterprises and the market economy with government regulation, institutional investors for its intervention is limited, and the management of state-owned enterprises and the appointment of the board of directors and corporate performance of accounting information quality is only part of the reference, is more of a political process, so in the face of the present situation of state-owned enterprises, institutional investors are more willing to invest in private enterprises, It can also be seen from regression data that the number of regression data of state-owned enterprises is much lower than that of private enterprises.

Table 5. Multiple regression results 2

variable	Model 4 ROA	Model 5 ROA	Model 6 ROA	Model 4 State-owned enterprises	Model 4 The private enterprise
INS	0.017 *** (13.56)	-	-	0.001 *** (6.96)	0.002 *** (12.52)
INS1	-	0.003 *** (19.05)	-	-	-
INS2	-	-	0.007 *** (2.96)	-	-
DA	0.087 *** (5.62)	0.078 *** (6.30)	0.064 *** (2.58)	0.019 (1.32)	0.011 *** (4.58)
DA x INS	0.511 *** (3.49)	0.814 ** (2.55)	0.250 (0.66)	0.170 (1.36)	0.626 *** (2.66)
Size	0.117 *** (11.17)	0.120 *** (11.68)	0.152 *** (19.78)	0.071 *** (9.15)	0.162 *** (8.40)
Lev	0.169 *** (21.12)	0.166 *** (20.90)	0.175 *** (37.03)	0.120 *** (18.97)	0.203 *** (15.49)
Grow	0.002 *** (5.25)	0.002 *** (5.26)	0.002 *** (5.94)	0.001 *** (2.64)	0.003 *** (3.92)
LHR	0.093 *** (16.02)	0.094 *** (16.35)	0.082 *** (14.26)	0.004 *** (7.34)	0.014 *** (14.46)
Owner	0.028 ** (2.77)	0.029 ** (2.87)	0.04 *** (3.19)	-	-
Ibo	0.063 *** (4.10)	0.061 *** (4.05)	0.063 *** (4.35)	0.047 *** (3.15)	0.061 ** (2.50)
Obs	11547	11547	11547	3855	6947
R-sq	0.14	0.15	0.13	0.20	0.15
r2_a	0.142	0.154	0.131	0.196	0.148
F	100.18	113.14	89.12	64.45	62.51

From the industry point of view, the article from 17 industry data, including data at most two industries for manufacturing (C) and information technology services (I), can be seen from table 6, manufacturing and information technology services on the influence of institutional investors on corporate performance are independence strong positive influence of institutional investors on corporate performance, the greater the Moreover, among institutional investors with weak independence, the performance of the manufacturing industry is significantly negatively correlated with it, while that of the information technology service industry is not significantly negatively correlated with it. In the two industries, accounting information quality still positively promotes enterprise performance. Under the influence of shareholding ratio of institutional investors, the interaction term between accounting information quality and shareholding ratio of institutional investors has no significant impact on enterprise performance in manufacturing industry, while the interaction term of information technology service industry is significantly negatively correlated with enterprise performance. Moreover, the interaction terms generated by institutional investors with weak independence also have a strong inhibition effect. Under different industry from which it can be seen that the degree of institutional investor

ownership affects corporate performance, so is the quality of the accounting information, but under the joint influence of institutional investors' shareholding and accounting information quality, interactive items in manufacturing do not have obvious correlation with corporate performance, in the information technology services is a significant correlation. This shows that the accounting information quality of the relatively mature manufacturing industry has become more stable. When enterprises use the accounting information quality to improve corporate performance to attract investment from institutional investors, it is not easy to make efforts on earnings management. In addition, the performance of manufacturing enterprises is stable, which is also the interaction item is not significant. Relative information technology service industry in our country started relatively late, not enough market maturity, volatile enterprise performance, managers can more on earnings management to improve the quality of accounting information, in order to deliver better accounting information quality and stable performance, investors are more easy to invest in enterprises, combined with information technology services is the current popular industry in China, Being favored by investors is also a reflection of market development.

Table 6. Multiple regression results by industry

variable	manufacturing			Information Technology services		
	Model 4 ROA	Model 5 ROA	Model 6 ROA	Model 4 ROA	Model 5 ROA	Model 6 ROA
INS	0.017 *** (12.37)	-	-	0.056 *** (7.60)	-	-
INS1	-	0.027 *** (14.76)	-	-	0.069 *** (8.99)	-
INS2	-	-	0.010 *** (3.67)	-	-	0.009 (0.59)
DA	0.059 *** (3.80)	0.061 *** (4.49)	0.045 *** (2.79)	0.032 *** (2.85)	0.040 *** (3.32)	0.081 (1.19)
DA× INS	0.187 (0.77)	0.319 (1.03)	0.215 (0.60)	0.471 *** (2.57)	0.782 *** (2.98)	0.127 ** (2.44)
Size	0.115 *** (10.54)	0.115 *** (10.73)	0.156 *** (14.14)	0.014 *** (2.78)	0.017 *** (3.55)	0.026 *** (4.83)
Lev	0.178 *** (23.01)	0.176 *** (22.82)	0.183 *** (23.15)	0.256 *** (5.43)	0.256 *** (5.48)	0.266 *** (5.52)
Grow	0.002 *** (5.25)	0.002 *** (3.45)	0.002 *** (3.24)	0.004 * (1.74)	0.005 * (1.69)	0.005 (1.47)
LHR	0.091 *** (14.08)	0.090 *** (13.96)	0.080 *** (12.60)	0.021 *** (4.07)	0.021 *** (4.04)	0.018 *** (3.48)
Owner	0.020 (1.51)	0.022 * (1.71)	0.032 ** (2.45)	0.035 (0.46)	0.044 (0.59)	0.005 (0.73)
Ibo	0.064 *** (3.79)	0.060 *** (3.61)	0.063 *** (3.72)	0.093 (0.88)	0.103 (0.99)	0.056 (0.52)
Obs	7384	7384	7384	843	843	843
R-sq	0.19	0.20	0.17	0.15	0.16	0.11
r2_a	0.185	0.198	0.171	0.147	0.155	0.113
F	89.95	95.02	82.66	9.16	10.51	6.03

Table 7. Fixed effect regression results

variable	Model 4 ROA	Model 5 ROA	Model 6 ROA	Model 4 State-owned enterprises	Model 4 The private enterprise
	INS	0.012 *** (8.06)	-	-	0.043 ** (2.30)
INS1	-	0.017 *** (9.48)	-	-	-
INS2	-	-	0.004 (1.46)	-	-
DA	0.030 *** (5.42)	0.031 *** (6.05)	0.021 *** (4.32)	0.039 (0.53)	0.050 *** (5.90)
DA x INS	0.184 *** (2.91) -	0.314 *** (2.55)	0.402 (0.36)	0.370 (0.48)	0.318 *** (3.42)
Size	0.033 *** (11.19)	0.032 *** (11.25)	0.033 *** (11.11)	0.017 *** (5.56)	0.039 *** (8.68)
Lev	0.241 *** (23.17)	0.241 *** (23.41)	0.247 *** (23.35)	0.184 *** (10.90)	0.253 *** (19.55)
Grow	0.001 *** (4.55)	0.001 *** (4.51)	0.001 *** (4.59)	0.001 *** (2.58)	0.002 *** (3.79)
LHR	0.098 *** (5.56)	0.093 *** (5.36)	0.092 *** (5.13)	0.024 * (1.69)	0.017 *** (4.76)
Owner	0.049 * (1.80)	0.050 * (1.83)	0.051 * (1.83)	-	-
Ibo	0.035 * (1.74)	0.037 * (1.87)	0.035 * (1.76)	0.016 (0.73)	0.050 (1.56)
Obs	11547	11547	11547	3855	6947
R-sq: within	0.1962	0.1983	0.1878	0.1241	0.2223
F	71.84	77.04	64.40	15.41	62.53

4.4. Robustness Test

4.4.1. Fixed Effect Regression

In regression analysis, we know that the accuracy of the model is affected by many variables, even if the control variables are very effective, they cannot avoid the bias caused by the missing variables, for enterprises, most of the missing

variables do not change with time, in order to solve this problem, the article uses fixed effect regression to reduce the impact of missing variables on regression. As can be seen from the fixed-effect regression of model 4, the shareholding ratio of institutional investors is still significantly positively correlated with corporate performance, and the interaction term between accounting information quality and institutional

investors' shareholding is significantly negatively correlated with corporate performance. The fixed effect regression of Model 4 is still valid. It can be seen from the regression of Model 5 and Model 6 that institutional investors with strong independence have a significant impact on accounting information quality and corporate performance, while institutional investors with low independence have no significant impact, which is basically consistent with the multiple regression results in Table 5. From state-owned enterprises and private enterprises of the fixed effects regression, institutional investors holding effects on enterprise performance has salience, and table 5 regression, and the state-owned enterprise accounting information quality in no significant influence on enterprise performance, institutional investors and the quality of accounting information interaction item of the same, there is no significant impact on business performance. However, accounting information quality of private enterprises has a highly positive correlation with corporate performance at the level of 1%, and the interaction between institutional investors and accounting information quality also has a significant impact on corporate performance at the level of 1%.

4.4.2. Replace Variables

In order to make the conclusions more reliable and stable, the article adopts the method of replacing variables, replacing the explanatory variable return on assets (ROA) with the return on net assets (ROE), as you can see from the table 8, institutional investors holding performance is significantly positively related to the enterprise, and can significantly adjust the accounting information quality and the positive correlation between enterprise performance. Institutional investors with strong independence have a significant positive moderating effect on enterprise performance, and compared with institutional investors with weak independence, they can significantly negatively affect the relationship between accounting information quality and enterprise performance, while the impact of institutional investors with weak independence is not significant. In state-owned enterprises and private enterprises, institutional investors can significantly affect the relationship between accounting information quality and corporate performance of private enterprises, but not for state-owned enterprises, which is basically consistent with the original rate of return on assets.

Table 8. Multiple regression results of substitution variables

variable	Model 4 ROE	Model 5 ROE	Model 6 ROE	Model 4 State-owned enterprises	Model 4 The private enterprise
INS	0.033 *** (15.91)	-	-	0.025 *** (7.47)	0.038 *** (13.20)
INS1	-	0.060 *** (21.93)	-	-	-
INS2	-	-	0.010 *** (2.56)	-	-
DA	0.092 *** (5.93)	0.091 *** (6.58)	0.064 *** (4.55)	0.012 (0.54)	0.014 *** (6.86)
DA x INS	0.533 *** (2.72)	0.862 *** (3.31)	0.148 (0.687)	0.268 (0.09)	0.804 *** (3.03)
Size	0.171 *** (17.30)	0.179 *** (18.83)	0.236 *** (23.87)	0.144 *** (10.83)	0.208 *** (13.40)
Lev	0.174 *** (29.34)	0.170 *** (28.95)	0.185 *** (30.95)	0.136 *** (15.54)	0.197 *** (23.90)
Grow	0.003 *** (7.59)	0.003 *** (7.49)	0.003 *** (7.55)	0.003 *** (4.34)	0.003 *** (6.71)
LHR	0.014 *** (19.00)	0.014 *** (19.16)	0.011 *** (16.05)	0.008 *** (8.10)	0.018 *** (17.87)
Owner	0.059 *** (3.69)	0.063 *** (4.00)	0.080 *** (4.99)	-	-
Ibo	0.090 *** (4.99)	0.087 *** (4.891)	0.090 *** (4.93)	0.082 *** (3.17)	0.071 *** (2.78)
Obs	11329	11329	11329	3788	6806
R-sq	0.15	0.16	0.12	0.13	0.16
r2_a	0.145	0.164	0.124	0.129	0.163
F	213.82	248.34	179.12	70.42	165.72

5. Conclusion and Enlightenment

This paper takes China's A-share listed companies from 2015 to 2019 as the research object, demonstrates the impact of institutional investors' shareholding ratio and institutional investors' heterogeneity on corporate performance, and further studies the mechanism of institutional investors'

interaction between accounting information quality and corporate performance by taking institutional investors' shareholding as the adjustment. The results show that: 1. The shareholding ratio of institutional investors is significantly positively correlated with corporate performance. From the perspective of heterogeneity, institutional investors with strong independence have stronger positive correlation with

corporate performance, while institutional investors with weak independence have insignificant positive impact on corporate performance and strong negative impact.2. Taking institutional investors as the adjustment perspective, the study found that institutional investors' shareholdings can negatively adjust the correlation between the quality of accounting information and enterprise performance, while institutional investors with strong independence have more significant negative adjustments, while institutional investors with weaker independence are not significant;3. Further research on enterprise types based on the nature of ownership shows that institutional investors' shareholding has a significant positive impact on both state-owned enterprises and private enterprises, but its impact on the quality of accounting information and enterprise performance is not significant for state-owned enterprises, while private enterprises have a relatively high significance.4. From the perspective of industry classification, institutional investors have an equally significant impact on mature and emerging industries. However, as a moderating effect, institutional investors in mature industries cannot significantly affect the correlation between accounting information quality and corporate performance, while they have a more prominent impact on new industries.

Based on the research, we get the following enlightenment: First, institutional investors' shareholding can improve enterprise performance, but the proportion of independent institutional investors' shareholding is relatively low from the data, and the impact on enterprise performance has a certain limit. Institutional investors' shareholding has a strong supervision effect on enterprises, so we should attach importance to the proportion of institutional investors' shareholding, give more investment opportunities to increase the proportion of institutional investors' shareholding, and encourage institutional investors with strong independence to participate in corporate governance and promote enterprise development. Second, pay attention to the third-party supervision of enterprises and develop supervision groups in multiple directions. Institutional investors holding, though the role of supervision enterprises to play, but with the improvement of its stake, could interfere the enterprise normal business decisions or conspiracy, harmful to the enterprise, increase more oversight group, is the guarantee, on the basis of institutional investors to supervise, and to ensure that the independence of the enterprise development decision-making, reduce the contradiction between the two. Third, from an investment perspective, medium and small investors should be more from the perspective of the whole object to select investors, rather than just research report or financial indicators of the enterprise, from the study, the institutional investor shareholding enterprise management are more likely to use the surplus to regulate corporate performance management, make the enterprise performance appears smooth, look from the continuous during business performance is more stable, Enterprises have better development ability to attract more investors to invest, so investors should pay attention to the overall grasp of the situation of the enterprise to invest rationally. Fourth, to provide more investment guarantee for emerging hot industries, promote the stability of investment in emerging hot industries. Mature industry development has leveled off, relative to the emerging industry is more attractive to investors, related investment policy and service, to ensure that the interests of medium and small investors are the important

parts of the emerging industry, high stake investors will affect the enterprise use all sorts of information transfer good prospects for development, in order to influence to small and medium investors, This is not conducive to the development of the whole emerging industry, so it is necessary to formulate investment policies for emerging industries and protect small and medium investors.

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