



Property rights nature, institutional investor's investment style and investment efficiency

Tang Songlian and Lu Jing

School of Business, East China University of Science and Technology, No.130 Meilong Road, Shanghai, China

ABSTRACT

The paper sampled from Chinese listed firms over the period 2005-2011, we investigate whether institutional investors can optimize corporate resource allocation efficiency, and to what extent the optimization influenced by ultimate controlling shareholders or institutional investors investment style. We find that institution ownership can really promote corporate resource allocation efficiency; further, mutual fund and dedicated mutual fund can cut down over-investment as well as alleviate under-investment. Finally, Institutional investors exert a more significant influence on corporate resource allocation efficiency in government-controlled enterprises; especially in local-government-controlled enterprises. What's more, our evidence indicates that the dedicated mutual fund is the main driver of this enhancement. It suggests that: Changing role of government can help institutional investors better protect minority investors' interests; encourage institutional investors differentiated development; improve corporate government, make the dedicated mutual fund take activism.

Keywords: Corporate resource allocation efficiency; Over-investment; Under-investment; Institutional investors; Ultimate controller

INTRODUCTION

Shleifer and Vishny (1986) argued that in some degree institutional ownership can strengthen the firm internal supervision mechanism[21]. As an important external governance, Institutional investors provide a new way to improve the governance mechanism for listed corporations in China. For example, In August 2006, the joint against by institutional investor made Wuliangye Corporation (one of listed company in China) only acquire alcohol-related assets in Pashtoon group rather than the whole equities. The reason is that Wuliangye Corporation fails to success in diversification. We can see that it is the active institutional investors' joint effort, not silence or withdraw, that lead to the acquisition of downsizing and rationalization in finally under management over-investment behaviors.

In recent years, researchers repeatedly verified the feasibility of institutional investors participate in corporation resources allocation. Cella(2012) found that as the more long-term institutional shareholders, the lower degree of over-investment and under-investment. But such influence can't be observed from short-term institutional shareholders[5]. Najah (2011), Elyasiani (2010) show that institutional investors are more incentive to encourage and supervise investment expenditure[2],[7]. Huddart (1993), Vishny (1996), Gasparetal (2005) and Noe (2002) found that larger institutional shareholding would brought more right to access to investment decision, which prompting institutional investors' effective participation and supervision in company affairs[9],[18].

Previous research has opened a very good perspective for us, but there are some issues worth further studying. For example, whether institutional investment style or ultimate controlling shareholder can affect the relationship between institutional shareholders and corporation resources allocation efficiency. Using Listed Corporation in 2005-2011 in China as sample, we investigate whether institutional investors can optimize corporate resource

allocation efficiency. And whether the degree of optimization varies with ultimate controlling shareholder or institutional investors' investment style? The results demonstrate that institutional ownership can improve corporate resource allocation efficiency. While mutual fund and dedicated fund can cut down over-investment and alleviate under-investment, Transient fund and quasi-indexer fund cannot affect corporate resource allocation efficiency. Furthermore, ultimate controlling shareholders affect the relationship between institutional investor ownership and corporate resource allocation efficiency, especially in local-government-controlled enterprises. Institutional investors' ownership can play more significantly role on corporate resource allocation efficiency in government-controlled enterprises, further compared with the central-government controlled-enterprises, institutional investors improve resource allocation efficiency more pronounced in local-government-controlled enterprises.

The innovation in this paper is that: (1) considering the heterogeneity of institutional investors, research on different institutional investment styles effect on the corporation governance. (2) Different institutional environment, especially ultimate controller shareholder may influence institutional investors' optimization corporate resource allocation efficiency.

The remaining part is as follows: the second part is the literature review and put forward the hypothesis; the third part introduces the research design; the fourth part is the empirical testing and analysis; the fifth part is the robust test; the last part is the conclusion and some suggestions.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT INSTITUTIONAL OWNERSHIP AND INVESTMENT EFFICIENCY

It has been widely recognized in the literature that asymmetric information and agency problems will make the corporate investment deviate from the optimal level, lead to over-investment or under-investment, which affects corporate resource allocation efficiency (Hubbard, 1988). Gomes and Novaes (2005) points out that equity restriction can not only reduce the managers' private interests, but also can prevent the block shareholder transferring resources from the firm[10].

Compared to the minority shareholders, the institutional investors has advantage in capital, professional quality, ability of information discovery and excavation, It can supervise the management, reduce the agency cost, ease conflict between block shareholders and minority shareholders, being the role of "shareholder activism". Shleifer and Vishny (1986) put forward that institutional investors are helpful to inhibit inefficient investment[21]. Tricker (1998) given two orientation of institutional investors in corporate governance: "Mediator between Shareholder and Management" and "Improving the Uneasy Alliance", which is also helpful to investment efficiency[25]. Najah et al. (2011)confirm that the long-term institutional investors have the power and ability to supervise, alleviate the information asymmetry and agency problems, and reduce over-investment[2]. Liu and Bredin (2012) find that shareholder activism exist in emerging market, inhibit over-investment is an important channel to affect corporate performance. The empirical results show that institutional investors are helpful to inhibit the inefficiency investment behavior, restrain the over-investment and under-investment. This paper put forward the following primary hypotheses 1:

Hypothesis 1: Institutional investors' ownership is positively related to corporate resource allocation efficiency.

The scholars make a thorough study on the institutional investors' heterogeneity. Bushee (1998, 2001) divide institutional investors into three categories according to their investment behavior, the transient institutional investors focus on short-term targets; dedicated institutional investors and indexed institutional investors have incentives to influence corporate governance[3],[4]. Matsumoto (2002) demonstrate that transient institutional investors is positively related to managers tend to avoid negative earnings[17]. Hsu &Koh (2005)results suggest that transient and long-term oriented institutions co-exist and have differential effects on portfolio firms' earnings management[14].Liu and Peng (2006)found that the companies with more transient institutions shareholding have low earnings quality[15].

In addition, some studies find that institutional investor's investment horizon can directly or indirectly affect the corporate investment strategy. Compared to short-term institutional shareholders; long-term institutional shareholders are more sensitive to the corporate earning announce. Long-term institutional shareholders can supervise the managers and participate in corporate governance (Hotchkiss & Strickland, 2003 [13], Yan and Zhang 2009 [28], Elyasiani and Jia, 2010 [7]). Cella (2012) find that long-term institutional investors can affect the managers decision-making, reduce the agency conflict, then alleviate over-investment and under-investment[5]; but the short-term institutional investors can not affect the management investment decisions, even will herd and self-market to improve the appearance of portfolio performance under the pressure either of customers or of institutional restraints (Suto and Toshino, 2005 [23]). Based on the above researches, we propose the hypothesis 2:

Hypothesis 2: The correlation between institutional investors' ownership and corporate resource allocation efficiency is related to the institutional investment style.

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It has different intervention degree in different institutional environment (Ma and Cao, 2010) [16]. We relax institutional environment homogeneity assumptions to further considering how government controlled system affect corporate resource allocation efficiency. Following Xia and Fang (2005) research design, and using disclosure data of the ultimate control in listed companies in China, it can be classified as non-government-controlled enterprises (individuals, ESOP Association, collective enterprises, foreign enterprises control) and government-controlled enterprises. Government-controlled enterprises are further subdivided into central-government-controlled enterprises (including central-stated-asset committee and central-state-owned enterprises) and local-government controlled-enterprises ((including local stated asset committee and local stated owned enterprises)[26].

According to the information economics theory raised by Grossman and Stiglitz (1990), institutional investors can transmit information to the market in insider trading[11]. As an important part of "property rights bundle", the right to transfer can serve to spur managers, reduce the agency cost in efficient markets (Demsetz, 1967)[6]. However, the potential condition is that there is a valid manager compensation contract. However, from the institutional background of China listing corporation manager compensation contract, it is shown that the manager monetary compensation related more to accounting performance in government-control enterprises, while that related more to stock performance in no-government-controlled enterprises (Firth, 2006)[8].

In addition, because the power of government in China is absolute, it is hard to supervise and apply legal constraints (Xia and Fang, 2005)[26]. This leads to the fact that relative to no-government-controlled enterprises, institutional investors have more limitation to conduct active shareholder behaviour in government-controlled enterprises, even forced institutional investors "vote with their feet" to "adapt" strong government power, this will influence the ability and the effect that institutional investors to participate in corporate governance.

Based on these positive results, we can see that main objective of no-government-controlled firms is the pursuit of company value maximization owing to higher degree of marketization. While the resources are mainly allocated directly by government in government-controlled enterprises, the diversified target made by different government and the long control chain will make the supervision inefficient or even become invalid as well as the over-control of the insiders, so as to greatly reduced the influence of external shareholders. For the above analysis, this paper put forward the hypothesis 3:

Hypothesis 3: Compared with government-controlled enterprises, Institutional investors' ownership has more positively related to corporate resource allocation efficiency in no-government-controlled enterprises.

The gradual reform in China as well as the decentralization reforms began in the late 1970s made various motives and behaviour come into being among all levels of government in the capital market. The above analysis shows that government control bring negative influence on institutional investors' shareholder activism, so is there any difference among government administrative levels? There are two completely different viewpoints in this literature.

A kind of viewpoint thinks that uncertainty supervision, regional and individual differences in local government will increase the cost of institutional investors activism. Therefore, comparing to the central-government-controlled enterprises, institutional investors are more difficult to monitor the behavior of the listed corporation in the local-government-controlled enterprises. First of all, based on the perspective of government agency mechanism, the role of central government is more of a client, and the role of the local government is more similar to an agent (Xia and Fang, 2005)[26]. Secondly, based on perspective of local government autonomy, the local government gradually has its special interest and utility preferences (He, 2007)[12]. Finally, the autonomy expansion of the local government caused great uncertainty; bringing regional and individual diversification to corporate behaviour.

Another viewpoint is that the central-government-controlled enterprises are mainly engaged in the livelihood of the industry, mainly based on the country's political strategic considerations for management, other shareholders can hardly affect their decisions. Xu (2000), Sun (2005) think that the reason of over-investment in government-controlled enterprises is not its irrational, but the institutional environments[27],[22]. Xia and Fang (2005) also pointed out that although the governance structure and regulatory environment of government-controlled enterprises has undergone great changes through restructuring and listing, but they are still controlled by the government, local authorities have the ability and motivation to internalize their social or political goal to listed companies[26]. It can be inferred that the "voice" institutional investors has would greatly reduce in the ultimate controllers of central government-controlled enterprises. That is to say, relative to the local government, central government has more power to control listed company, institutional investors have weaker bargaining power, based on this, this paper considers the hypothesis 4:.

Hypothesis 4: Compared with the central-government-controlled enterprises, Institutional investors' ownership has more positively related to corporate resource allocation efficiency in local-government-controlled enterprises.

EXPERIMENTAL SECTION

RESEARCH METHOD

THE SAMPLE AND DATABASE

The sample period is from 2005 to 2011, which contains seven years. We match the ownership data with stock returns and accounting information for the Chinese A shares available at CSMAR with the following criteria: (1) Firms with special treatment stock are excluded; (2) Firms in finance and insurance industry are excluded (with CSRC Industry Classification code "I") (3) Firms with missing accounting and stock market information are excluded. Further, we winsorize variables at the 1st and 99th percentile to reduce the influence of extreme observations. The final sample consists of 8,569 firm-year observations. Which contain over-investment sample 3363, and under-investment sample 5206.

The financial data mainly comes from CSMAR Database and Institutional data mainly comes from Wind Database. The measurement of 13 industry classifications is issued by the China Securities Regulatory Commission (CSRC).

VARIABLE DESIGN

(1) Institutional investor ownership

Institutional investors' shareholding is the percentage of shares owned by institutional investors in the sample firms (IVPER), computed as the number of shares held by institutional investors divided by the total number of outstanding shares.

In capital market of China, mutual fund ownership occupies a dominant proportion of institutional investors, so we divided institutional investors into mutual fund and no-mutual fund. Mutual funds themselves have different investment preferences, investment philosophy and operation mode. We select semi-annual and annual mutual fund report data to classify mutual fund. First, we divided institutional investor into mutual fund ownership and no-mutual fund. Then, following Bushee (1998, 2001) methodology, we construct three categories index of investment concentration, investment turnover and earnings sensitivity[3],[4]. Using factor analysis and cluster analysis methodology, the mutual fund ownership can be classified into transits funds, indexed funds and dedicated funds. Transient mutual fund shareholding (TFUND) computed as the number of shares held by transient mutual fund divided by the total number of outstanding shares. Indexed mutual fund shareholding (QFUND) computed as the number of shares held by index mutual fund divided by the total number of outstanding shares. Dedicated mutual fund shareholding (DFUND) computed as the number of shares held by dedicated mutual fund divided by the total number of outstanding shares. No-mutual funds including QFII, social security funds, pension funds, insurance funds, corporate ownership, finance company ownership and bank holding etc, No-mutual funds (IFUND) computed as the proportion of institutional shareholding minus mutual fund shareholding.

(2) Investment efficiency

In this paper, we measure investment efficiency based on Richardson's (2006) and Titman et al. (2004) methodology [20], [24]. Following Richardson (2006), using Eq. (1) to estimate the level of expected investments I_{new}^* :

$$I_{newit} = a_0 + a_1 Growth_{it-1} + a_2 Lev_{it-1} + a_3 Cash_{it-1} + a_4 Age_{it-1} + a_5 Size_{it-1} + a_6 Return_{it-1} + a_7 Inew_{it-1} + \Sigma year + \Sigma industry + \varepsilon_{it} \quad (1)$$

I_{new}^{ε} is the residuals from the expectation model, over-investment firms are those who have positive abnormal investment ($I_{new}^{\varepsilon} > 0$); under-investment firms are characterized by negative abnormal investment ($I_{new}^{\varepsilon} < 0$).

Following Titman et al. (2004), using Eq. (2) to compare a firm's current investment with its average investment in the previous three years, it can be viewed as a measure of abnormal investment with respect to the firm's past trend in investment.

$$CI_t = \frac{Investment_t}{(Investment_{t-1} + Investment_{t-2} + Investment_{t-3})/3} - 1 \quad (2)$$

CI_t = 0 indicates that the current year's capital investment is the same as the prior three years average. CI_t > 0 means a firm has positive abnormal capital investment. CI_t < 0 means a firm has negative abnormal capital investment. We define that a firm has over-investment if $I_{new}^{\epsilon} > 0$ and CI_t > 0; a firm has under-investment if $I_{new}^{\epsilon} < 0$ and CI_t < 0.

(3) Ultimate controller

We classified listed company into non-government-controlled enterprises (NGCE) and government-controlled enterprises (GCE). Furthermore, government-controlled enterprises are subdivided into central-government-controlled enterprises (CGCE) and local-government-controlled enterprises (LGCE).

We set two dummy variables, one is government-controlled enterprises (GCE), and the other is central-government-controlled enterprises (CGCE). If the ultimate controller belongs to the government, the GCE value is 1, or else is 0; furthermore, if the ultimate controller belongs to central-government, the CGCE value is 1, or else is 0.

(4) Control Variables

To remain consistent with the existing literature (Aggarwal & Samwick 2006 [1]), we adopt the control variables as follows:

Operating revenue growth (Growth) is computed as the difference of operating revenue in reported year minus operating income in last year divided by last year's revenues.

Free cash flow (FCF) is computed as free cash flow divided by the book value of total assets at the end of each fiscal year. The corporate invest on the condition of having necessity free cash flow. It means that over-investment behavior occur in sufficient free cash flow frequency.

Leverage (Lev) is a debt-to-asset ratio, computed as the book value of total debts divided by the book value of total assets at the end of each fiscal year. It reflects the ability to survive the financial risk.

Auditor opinion (Audit); it sets a dummy variable. 1 if the company received a standard unqualified audit opinion, 0 is otherwise. It means information transparency and reliability, when the company investment is reasonable; it is easy to accept a standard audit opinion

The timing of IPO (Age) is the log of the number of years the firm has been listed on CRSP as of the start of the year. The longer time company has listed the more prone to inefficient investment behavior.

The baseline regression model used in this study is the firm fixed effects model. To mitigate the effects of time we include year dummies in all the regressions to control for variations in the macroeconomic environment across time.

MODELS DESIGN

In order to study the correlation between institutional ownership and corporate resource allocation efficiency, our baseline regression models are as follows:

$$\text{OVERIV}_t(\text{UNDERIV}_t) = b_0 + b_1 \text{IVPER}_{t-1} + b_2 \text{Growth}_{t-1} + b_3 \text{FCF}_{t-1} + b_4 \text{Lev}_{t-1} + b_5 \text{TopTH}_{t-1} + b_6 \text{Ratio}_{t-1} + b_7 \text{Audit}_{t-1} + b_8 \text{Age}_{t-1} + \Sigma \text{year} + \epsilon \quad (3)$$

In Eq(3), the dependent variable is OVERIV and UNDERIV, the independent variable is the institutional ownership. Considering the endogenous problem, the explanatory variables are lagged data in the model.

Eq. (4) is used to study the correlation between institutional investment behavior and corporate resource allocation efficiency.

$$\text{OVERIV}_t(\text{UNDERIV}_t) = b_0 + b_1 \text{TypeIV}_{t-1} + b_2 \text{Growth}_{t-1} + b_3 \text{FCF}_{t-1} + b_4 \text{Lev}_{t-1} + b_5 \text{TopTH}_{t-1} + b_6 \text{Ratio}_{t-1} + b_7 \text{Audit}_{t-1} + b_8 \text{Age}_{t-1} + \Sigma \text{year} + \epsilon \quad (4)$$

In Eq. (4), the dependent variable is OVERIV and UNDERIV, the independent variable TypeIV can refer to FUND, TFUND, QFUND, DFUND and IFUND respectively.

RESULTS

DESCRIPTIVE STATISTICS

Table 1: The main variables descriptive statistics

NAME	N	MEAN	MED	MIN	MAX	S.D.
OVERIV	3363	3.65	9.09	1.16	69.50	0.01
UNDERIV	5206	2.26	5.31	0.95	39.98	0.02
IVPER	8569	28.66	24.09	23.45	100	0.01
FUND	5548	13.30	16.56	6.15	100	0.01
TFUND	4069	4.51	5.23	2.60	42.61	0.01
QFUND	1683	0.77	1.06	0.36	9.24	0.01
DFUND	5211	10.39	13.32	4.71	75.94	0.01
IFUND	5548	17.42	19.67	9.35	100	0.00

Table 1 reports the summary statistics of all the key variables that will be used in our empirical tests. The number of over-investment sample is less than under-investment (3288 less than 5092). the mean of OVERIV is 3.65 percent; the maximum of OVERIV is 69.5 percent, the mean of UNDERIV is 2.26 percent; the maximum of UNDERIV is 39.98 percent. This suggests that over-investment phenomenon is more common and serious in China.

On average, 28.66% of A share are held by IVPER, and only around 13.3% are held by FUND, accounting for almost half of institutional shareholders. In contrast to Fan, Hu and Shi (2009), the mean of IVPER was 13.8%, and only around 11.9% are held by FUND. It can see that institutional investors have been rapid developed in China recently. The average percentage of DFUND, QFUND and TFUND are respectively 10.39%, 0.77% and 4.51%. It can say that DFUND has become the main body of the mutual fund.

The number of GCE is 5409, which accounts for 64.50%. It shows us most of listed corporation of ultimate controller is the government. The mean of Topth is 38.16%, illustrates the ownership concentration of listed companies is high in China.

CORRELATIONS

Table 2 reports the pair-wise correlations among the key variables. The lower half of Table 6 is correlation efficient between OVERIV and other key variables; the upper half of Table 6 is correlation efficient between UNDERIV and other key variables.

In the lower half of Table 6, UNDERIV has 1% level significant negative correlated with FUND and DFUND; With IVPER and TRAN has 5% level significant negative correlated; and has no relevant with other types of institutional shareholding. In the upper half of Table 6, OVERIV has 1% level significant negative correlated with IVPER. Correlation test results are according with our hypothesis 1 and hypothesis 2, institutional investors improves corporate resource allocation efficiency, moreover, different institutional investors' shareholding has different impact on corporate resource allocation efficiency.

Table 2. The main variables correlation matrix

	OVERIV	IVPER	FUND	TFUND	QFUND	DFUND
UNDERIV		-0.04**	-0.06***	-0.04**	-0.02	-0.05***
IVPER	-0.08***	1	0.61***	0.35***	0.09***	0.60***
FUND	-0.07***	0.61***	1	0.68***	0.26***	0.96***
TFUND	-0.04	0.35***	0.68***	1	0.22**	0.42***
QFUND	0.02	0.09***	0.26***	0.22***	1	0.17***
DFUND	-0.07***	0.60***	0.96***	0.42***	0.17***	1
IFUND	-0.05**	0.74***	-0.09***	-0.19***	-0.14***	-0.07***

REGRESSION ANALYSIS

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Table 3 presents estimates from baseline specification (Eq.(3) and (4)) using the firm fixed effects model. Panel A in table 3 presents the results of the association between institutional investors ownership and OVERIV, Panel B in

table 3 presents the results of the association between institutional investors ownership and UNDERIV.

Column (1) of Panel A and Panel B in Table 3, we can see that IVPER is at the 1% significant negative correlated. Coefficients were respectively -0.068 and -0.038. This shows that institutional ownership is higher, it can inhibit the management over-investment behaviour and under-investment behaviour, optimize corporate recourse allocation efficiency. Hypothesis 1 has been verified.

Column (2) - (6) of Panel A and Panel B in Table 3, we can see that FUND and DFUND are at the 5% significant negative correlated; and TFUND, QFUND and IFUND are largely not associated with OVERIV and UNDERIV (statistically insignificant). It is say that institutional investors' investment style can impact on corporate recourse allocation efficiency. Hypothesis 2 has been verified.

Table3.Institutional investors' ownership and investment efficiency

Variables	Panel A OVERIV						Panel B UNDERIV					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
IVPER	-0.068 (-3.19)						-0.038 (-2.97)					
FUND		-0.034** (-2.36)						-0.029 (-2.49)				
TFUND			-0.048 (-1.03)						-0.028 (-1.13)			
QFUND				0.133 (0.68)						-0.078 (-0.45)		
DFUND					-0.04 (-2.16)						-0.033 (-2.20)	
IFUND						-0.000 (-0.00)						-0.011 (-0.57)
OTHERR	CONTROL						CONTROL					
Num	2544	2167	1623	697	2045	2167	3989	3381	2446	986	3166	3381
Ad-R ²	0.009	0.020	0.012	0.012	0.019	0.018	0.010	0.012	0.010	0.002	0.012	0.010
F-Value	3.938	6.552	3.499	2.088	5.831	5.841	6.267	5.943	4.149	1.281	5.706	5.198

Note: The upper number is the correlation coefficients between the variables, and the lower number indicates the value of t, $t > 1.65$, $t > 1.96$, $t > 2.58$, respectively, 10%, 5% and 1% levels significantly.

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The empirical results of the baseline regressions in Section 4.4.1 support our hypothesis 1 and 2. However, these estimations cannot identify whether the optimization influences by ultimate controlling shareholders. To check hypothesis 3, Table 4 gives the regression result of institutional shareholding and corporation resources allocation efficiency in GCE and NGCE. To verify the hypothesis 4, Table 7 gives the regression result of institutional shareholding and corporation resources allocation efficiency in the CCGE and LCGE.

Panel A in Table 4, Column (1) and (4) shows that IVPER has at 1% level significant negative correlation with OVERIV in GCE, IVPER is at 10% level significant negative correlation with OVERIV in NGCE; by contrast of the column (2) and (5), FUND has 5% level significant negative correlation with OVERIV in GCE, FUND has no significant negative correlation with OVERIV in NGCE; From the column (3) and (6), DFUND has at 1% level significant negative correlation with OVERIV in GCE, and has no significant correlation with OVERIV in NGCE;

Panel B in Table 4, column (1) and (4) shows that IVPER has at 1% level significant negative correlation with UNDERIV in GCE, IVPER has at 10% level significant negative correlation with UNDERIV in NGCE; by contrast of the column (2) and (5), FUND has at 5% level significant negative correlation with UNDERIV in GCE, FUND has no significant negative correlation with UNDERIV in NGCE; From the column (3) and (6), DFUND has at 10% level significant negative correlation with UNDERIV in GCE, but has no significant correlation with UNDERIV in NGCE;

The result in table 4 shows that IVPER, FUND and DFUND can play a monitor role, control the degree of the over-investment and under-investment in GCE. But in NGCE, both FUND and DFUND can not impact on corporation resources allocation efficiency. It means that institutional investors' ownership can play more significantly role on corporation resources allocation efficiency in GCE; it is opposite to hypothesis 3.

Table 4. Property rights nature, institutional ownership and investment efficiency (1)

	Panel A OVERIV						Panel B UNDERIV					
	GCE			NGCE			GCE			NGCE		
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
IVPER	-0.054 (-2.88)			-0.09 (-1.72)			-0.042 (-2.51)			-0.03 (-1.74)		
FUND		-0.037 (-1.96)			-0.03 (-1.37)			-0.029 (-2.15)			-0.03 (-1.41)	
DFUND			-0.045 (-1.87)			-0.03 (-1.10)			-0.029 (-1.76)			-0.04 (-1.41)
OTHER	CONTROL						CONTROL					
Num	1672	1458	1379	863	701	658	2617	2254	2119	1365	1120	1040
AD-R ²	0.018	0.027	0.025	0.01	0.01	0.01	0.007	0.010	0.010	0.01	0.01	0.01
F-Value	4.909	6.022	5.496	1.64	1.82	1.74	3.415	3.796	3.615	3.49	2.24	2.18

Column (1) and (4) in Panel A of Table 5 shows that IVPER has no significant correlation with OVERIV in CGCE, but it has at 1% level significant negative correlation with OVERIV in the LGCE; contrast by column (2) and (5) in Panel A of Table 5, it can be seen that FUND has no significant correlation with OVERIV in CGCE, but it has at 10% level significant negative correlation with OVERIV in the LGCE; contrast column (3) and column (6) in Panel A of Table 4 ,it can be seen that DFUND has no significant correlation with OVERIV in CGCE, but it has at 10% level significant negative correlation with OVERIV in LGCE.

Column (1) and (4) in Panel B of Table 5 shows that IVPER has at 10% level significant negative with UNDERIV in CGCE, but it has 1% level significant negative correlation with UNDERIV in LGCE; contrast the result of table 6 Panel B regression (2) and regression (5) ,it can be seen that FUND has no significant correlation with UNDERIV in CGCE, but it has at 5% level significant negative correlation with UNDERIV in LGCE; contrast column (3) and (6) of Panel B in table 7,it can be seen that DFUND has no significant correlation with UNDERIV in CGCE and LGCE;

In brief.institutional shareholding, FUND and DFUND can play a monitor role, inhibit over-investment and mitigate over-investment in LGCE; Hypothesis 4 is verified: compared with the CGCE, institutional investors improve CRAE more pronounced in LGCE.

Table 5. Property rights nature, institutional ownership and investment efficiency (2)

	Panel A OVERIV						Panel B UNDERIV					
	CGCE			LGCE			CGCE			LGCE		
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
IVPER	-0.04 (-1.28)			-0.06 (-2.73)			-0.07 (-1.75)			-0.03 (-1.92)		
FUND		-0.02 (-0.69)			-0.05 (-1.86)			-0.04 (-1.53)			-0.02 (-2.00)	
DFUND			-0.02 (-0.68)			-0.06 (-1.80)			-0.05 (-1.38)			-0.02 (-1.05)
OTHER	CONTROL						CONTROL					
Num	551	486	460	1121	972	919	920	809	764	1697	1445	1355
AD-R ²	0.01	0.02	0.02	0.02	0.03	0.03	0.00	0.01	0.01	0.01	0.01	0.01
F-vaule	1.74	2.30	2.20	3.68	4.40	4.01	1.16	1.66	1.60	4.19	2.94	3.09

ROBUSTNESS CHECKS

The results in section four say that there is negative relation between institutional ownership and corporate resource allocation efficiency. This finding is consistent with the notion that institutional investors can monitor and govern listed company. However, it may be the case that listed company with efficient capital allocation attracts institutional investors' shareholding. In our research, we use three methods to solve this problem. (1) Residual institutional ownership and corporate resource allocation efficiency[19] ; (2) Propensity Score Matching (PSM) Test ; (3) Alternative treatment of CRAE

The measure of over-investment and under-investment will have great influence to the result. When we only use the method of Richardson (2006) to measure over-investment and under-investment, the result still supports the original conclusion.

CONCLUSION

Viewed from institutional environment factors and institutional investors investment style, The paper research the role of institutional shareholder activism behaviour on investment efficiency. Sampled from Chinese listed firms over the period 2005-2011, we investigate whether institutional investors can optimize corporate resource allocation efficiency, and to what extent the optimization influenced by ultimate controlling shareholders or institutional investors investment style. We find that institution ownership can really promote corporate resource allocation efficiency; what's more, mutual fund and dedicated mutual fund can cut down over-investment and alleviate under-investment, while transient mutual fund and quasi-indexer mutual fund cannot affect corporate resource allocation efficiency. Finally, Institutional investors' ownership can play a more significant effect on corporate resource allocation efficiency in government-controlled enterprises; we further verified that compared with the central-government-controlled enterprises, this effecting is more pronounced in local- government-controlled enterprises.

Research findings suggest that: (1) on the institutional environment level; government-control is an important factor which influence institutional investors' shareholder activism, and different institutional investors activism is their adaptability to different institutional environment. Changing role of government is good for institutional investors to protect minority investors' interests; (2) on the institutional investors level; encouraging institutional investors differentiated development, improve the dedicated mutual fund "voice" in corporate government, So there is motive and ability to carry out shareholder activism, optimizing corporate resource allocation efficiency.(3) on the company level; improve corporate government, make the dedicated mutual fund take activism.

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REFERENCES

- [1] Aggarwal, R. K., & Samwick, A. A., *Journal of Corporate Finance*, 12, No 3, pp.489-515, **2006**.
- [2] Attig, N., El Ghouli, S., & Guedhami, O., *International Finance Review*, Vol 12, pp 51-82, **2011**.
- [3] Bushee, B. J., *Accounting review: A quarterly journal of the American Accounting Association*, Vol 73, No 3, pp 305-333, **1998**.
- [4] Bushee, B. J., *Contemporary Accounting Research*, Vol 18, No 2, pp 207-246, **2001**.
- [5] Cella, C., *Indiana University, Kelley School of Business Job Market*, Institutional investors and corporate investment. **2012**.
- [6] Demsetz, H., *The American economic review*, Vol 57, No 2, pp 347-359, **1967**.
- [7] Elyasiani, E., & Jia, J., 2010, *Journal of banking & finance*, Vol 34, No 3, pp 606-620, **2010**.
- [8] Firth, M., Fung, P. M., & Rui, O. M., *Journal of Corporate Finance*, Vol 12, No 4, pp 693-714, **2006**.
- [9] Gaspar, J. M., Massa, M., & Matos, P., *Journal of Financial Economics*, Vol 76, No 1, pp 135-165, **2005**.
- [10] Gomes, A., & Novaes, W., Sharing of control as a corporate governance mechanism. **2005**.
- [11] Grossman, S., and Stiglitz, J., *American Economic Review*, Vol 31, pp 573-585, **1980**.
- [12] He Mingxian, *Journal of Zhejiang University*, Vol 37, No 6, **2007**.
- [13] Hotchkiss, E. S., & Strickland, D., *The Journal of Finance*, Vol 58, No 4, pp 1469-1498, **2003**.
- [14] Hsu, G. C. M., & Koh, P. S., *Corporate Governance: An International Review*, Vol 13, No 6, pp 809-823, **2005**.
- [15] Liu, L., & Peng, E., *Working Paper, California State University*, Institutional ownership composition and accruals quality. **2006**.
- [16] Ma Fulian, Cao Chunfang, *Research on management modernization of China*, Government intervention, corporate governance and the change of IPO funds' investment direction. **2010**.
- [17] Matsumoto, D. A., *The Accounting Review*, Vol 77, No 3, pp 483-514, **2002**.
- [18] Noe, T. H., *Review of Financial Studies*, Vol 15, No 1, pp 289-318, **2002**.
- [19] Ramalingegowda, S., & Yu, Y., *Journal of Accounting and Economics*, Vol 53, No 1, pp 98-114, **2012**.
- [20] Richardson, S., *Review of accounting studies*, Vol 11, No 2-3, pp 159-189, **2006**.
- [21] Shleifer, A., & Vishny, R. W., *The Journal of Political Economy*, Large shareholders and corporate control, pp 461-488, **1986**.
- [22] SunZheng, LiuFengwei, Li zengquan, *Economic Research*, , Vol 05, pp 52-63, **2005**.
- [23] Suto, M., & Toshino, M., *Corporate Governance: An International Review*, Vol 13 No 4, pp 466-477, **2005**.
- [24] Titman, S., Wei, K. J., & Xie, F., *Journal of Financial and Quantitative Analysis*, Vol 39 No 4, pp 677-700, **2004**.
- [25] Tricker, B., *An International Review*, Vol 6 No 4, pp 213-216, **1998**.
- [26] Xia Lijun, Fang Yiqiang, *Economic Research*, Government control, institutional environment and firm value—Empirical evidence from Chinese securities market. Vol 05, pp 40-51, **2005**.

[27] Xu Xiaonian, *Comparison of Economic and Social System*, Vol 05, pp 14-19, **2000**.

[28] Yan, X. S., & Zhang, Z., *Review of financial Studies*, Vol 22, No 2, pp 893-924, **2009**.