

## Study on the Institutional investors holding shares and the listed companies' dividend policy

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**Abstract.** This paper takes institutional investors' shareholding ratios in non-financial listed companies from the Chinese A-share market from 2003 to 2008 and listed companies' cash dividend policy as the research object, making an empirical study on the relationship between institutional investors and cash dividend policy in the listed companies. The results show that: (1) whether listed companies issue the cash dividend and its cash dividend payment level are positively related to its early institutional investors' shareholding ratio; (2) during periods that before and after share reform, company's cash dividend payment level and early institutional investors' shareholding ratio are all significantly positively related to each other at 1% level, but before share reform, listed companies' cash dividend payment levels are in a stronger correlation to early institutional investors' shareholding ratio; Judging from the probability of cash dividend payment, listed companies' cash dividend payment probability is in a stronger correlation to institutional investors' shareholding ratio than the time before share reform.

**Keywords:** Institutional investors, shareholding ratio, Cash dividend policy

### 1. Introduction

With the completion of equity division reform, the macro environment that institutional investors participating in the corporate governance changed fundamentally. As one of the cores of corporate governance, dividend distribution policy is not only directly related to the company's financing policy and capital structure, but also affects the management supervision and the company's sustainable development, so, strengthening a research on the listed company's dividend policy is of great significance. This article carries research on cash dividend policy mainly from the following two aspects: one, cash dividend distribution tendency, namely whether the listed company distribute cash dividend; Second, the cash dividend distribution efforts, namely the listed company's level of cash dividends per share.

This paper adopts the theoretical analysis and empirical analysis of the organic combination of research methods, via classify different types of institutional investors, studying whether cash dividend policy among different types of institutional investors have a difference, and takes financial data before share reform(2003-2004) and after share reform(2007-2008) as samples, carry on a comparative analysis between the two periods, studying the problem of institutional investors' relationship with cash dividend policies before and after share reform.

### 2. The theoretical analysis and assumptions suggested

Institutional investors, corresponding to the individual investors, namely funds are managed by specialized personnels and agency to invest in different fields widely. In the western developed countries, institutional investors are divided into generalized investors and special investors. This paper takes special investors as the main research object, namely: securities investment funds, securities agency, trust and investment companies, etc.

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With the study of the relationship between institutional investors and company's dividend policy, Allen and Michaely(2003) found that the higher the institutional investors' shareholding ratio is, the bigger possibility of company's selecting stock buyback instead of issuing the cash dividend in the dividend policy is[1]. Therefore, foreign scholars generally thought that institutional investors would have an influence on listed company's dividend policy. At home, Weng Hongbo, Wu Shinong(2007) found that the holding of the shares of institutional investors in China's listed companies was weak, failed to significantly affect the company's dividend policy[2]. Based on the above analysis, this paper puts forward the following assumptions:

1: the higher the institutional investors' shareholding ratio is, the bigger possibility of listed company's distribute cash dividends, and the higher level of cash dividend payment is.

2: relative to the period before equity division reform, the institutional investors' shareholding ratio has a stronger correlation to company's dividend policy during the time after equity division reform.

### 3. Study design

#### 3.1 variable selection:

This paper adopts the payment probability of cash dividend(ydps), the cash dividend payment level(DPS) as explained variables, institutional investors' shareholding ratio as explanatory variables, profitability(eps), the return on assets of main business(croa), cash flow status(cash), the company's size(size), the equity properties(1 means state-owned enterprises, 0 means private enterprises) as the control variables.

#### 3.2 sample selection and division

This paper uses data from 2003 to 2008 as samples to test hypothesis 1, and takes 2006 as research object, adopts data in 2004, 2005 as the sample before equity division reform, the data in 2008 as the sample after equity division to test hypothesis 2.

#### 3.3 model setting

To test whether hypothesi 1, 2 is established, this paper adopts model1 and model 2 to perform logistics regression analysis;

Model1:

$$ydp_{S_t} = \alpha_0 + \alpha_1 * Institutionalholding_{S_{t-1}} + \alpha_2 * cro_{a_t} + \alpha_3 * ep_{S_t} + \alpha_4 * cas_{h_t} + \alpha_5 * siz_{e_t} + e_t$$

Model2:

$$Dp_{S_t} = \beta_0 + \beta_1 * instituion alholding_{S_{t-1}} + \beta_2 * cro_{a_t} + \beta_3 * ep_{S_t} + \beta_4 * cas_{h_t} + \beta_5 * siz_{e_t} + e_t$$

### 4. Regression analysis

#### 4.1 descriptive statistics

This paper uses Pearson correlation analysis to carry out bilateral inspection on whether the institutional investors' holding shares has a relationship with the company's cash dividends. From table 4.1, we can see, from 2003 to 2008, institutional investors' shareholding ratio is significantly related to whether the company issue cash dividend and the cash dividend's level at 1% .

Table 4.1 descriptive statistics of institutional investors, dividend payment probability and the dividend payment level

variables	year	samples	Whether distribute cash dividends	Cash dividends per share
Institutional investors' shareholding ratio	2003	703	0.247**	0.486**
	2004	1122	0.322**	0.433**
	2005	1114	0.376**	0.489**
	2006	1137	0.333**	0.349**
	2007	969	0.292**	0.404**
	2008	1043	0.338**	0.413**

Note: \* \* \* means significant at 1% level , \* \* means significant at 5% level, \* means significant at 10% level.

#### 4.1.1 probability statistics analysis of institutional investors' shareholding ratio and listed company's dividend distribution:

Statistical data from table 4-2 shows that the institutional investors' shareholding ratio of company distributing dividends every year is significantly higher than company that rarely distributed dividends.

Table 4.2 statistical analysis of institutional investors' shareholding ratio and listed company's dividend distribution probability.

year	groups	samples	Mean of institutional investors' shareholding ratio	Z
2003	Distributing dividends	436	0.027	-7.317 ***
	Rarely distributing dividends	267	0.0114	
2004	Distributing dividends	688	0.0334	-14.334***
	Rarely distributing dividends	434	0.0059	
2005	Distributing dividends	591	0.043	-15.553***
	Rarely distributing dividends	523	0.009	
2006	Distributing dividends	664	0.05	-14.686***
	Rarely distributing dividends	473	0.015	
2007	Distributing dividends	660	0.064	-9.941***
	Rarely distributing dividends	309	0.029	
2008	Distributing dividends	689	0.062	-11.87***
	Rarely distributing dividends	354	0.023	

Note: \*\*\* means significant at 1% level, \*\* means significant at 5% level, \* means significant at 10% level.

#### 4.1.2 proportion of institutional investors' shareholding:

Statistical data in table 4.3 shows that, each year company of high proportion of institutional investors' shareholding distribute cash dividends significantly higher than the company with a low proportion of institutional investors' shareholding.

Table 4.3 statistical analysis of dividends distribution level's relationship with institutional investors' shareholding ratio

year	groups	samples	Cash dividends per share	Z
2003	high	175	0.01618	-7.922***
	low	528	0.0736	
2004	high	262	0.1787	-13.938***
	low	860	0.0653	
2005	high	306	0.1645	-15.210***
	low	808	0.0458	
2006	high	392	0.1524	-13.405***
	low	611	0.0677	
2007	high	488	0.1596	-10.985***
	low	548	0.0629	
2008	high	509	0.1519	-12.202***
	low	601	0.0526	

#### 4.2 hypotheses test

##### 4.2.1 testing the hypotheses 1

In order to test whether the institutional investors encourage listed company to distribute cash dividends and improve its cash dividend payment level. This paper takes models into logistics regression, the results are shown as table 4.4, 4.5:

Table 4.4: the influence of institutional investors on whether listed company distribute dividend

year		intercept	institutional holdings	eps	croa	cash	size	AdjR <sup>2</sup>	F
2004—2008	B	-0.154***	0.188***	0.123***	-0.005	0.013***	0.01***	0.032	309.074***
	t	-4.412	7.918	34.738	-1.034	7.372	5.753		
	VIF	1.225		1.383	3905.641	1.137	1.246		
2004	B	-0.118	0.381***	0.149***	0.152***	0.004	0.009**	0.391	55.238***
	t	-1.298	3.336	11.038	2.349	0.877	2.122		
	VIF		1.212	2.16	1.903	1.216	1.203		
2005	B	-0.125*	0.608***	0.054***	-0.027	0.017***	0.009**	0.268	49.939***
	t	-1.704	9.246	5.896	-0.715	3.955	2.447		
	VIF		1.223	3.254	2.71	1.186	1.261		
2006	B	-0.162**	0.346***	0.147***	0**	0.009**	0.010***	0.38	98.39***
	t	-2.079	5.529	19.236	-2.347	2.562	2.584		
	VIF		1.237	1.257	1.075	1.105	1.289		
2007	B	-0.391***	0.120**	0.120***	0.113***	0.021***	0.021***	0.368	79.9***
	t	-4.904	2.335	13.442	2.811	5.195	5.518		
	VIF		1.257	1.568	1.53	1.119	1.298		
2008	B	-0.071	0.060	0.147***	0.152***	0.002	0.005*	0.432	97.24***
	t	-1.089	1.568	17.278	3.31	0.714	1.763		
	VIF		1.272	1.937	1.913	1.238	1.214		

Note: \*\*\* means significant at 1% level, \*\* means significant at 5% level, \* means significant at 10% level.

Seen from table 4.4, the higher the proportion of institutional investors' shareholding is, the higher cash dividend payment level per share in the listed company is. In other control variables, cash dividend payment level per share is significantly positively related to the company's size, the main business of the return on assets, earnings per share.

Table 4.5 regression results of whether institutional investors' holding shares have a influence on distributing dividends

year	2004—2008			2004			2005			2006			2007			2008		
variables	B	S. E.	Wald	B	S.E.	Wald	B	S.E.	Wald	B	S.E.	Wald	B	S.E.	Wald	B	S.E.	Wald
Institutional holdings	0.618	0.69	0.801	-4.119	4.492	0.841	-2.99	2.531	1.404	2.462	2.017	1.49	2.345	1.301	3.246	80.167	9.855	66.176
eps	4.77	0.246	376	8.493	1.096	0.079	8.514	0.787	16.995	4.903	0.604	65.989	2.325	0.368	39.941	210	1.281	16.535
croa	4.254	0.65	2.768	9.504	2.625	3.112	2.451	1.483	2.73	5.558	1.515	13.451	4.796	1.281	14.015	2.125	2.8	0.549
cash	-0.07	0.054	0.698	0.28	0.188	2.218	0.219	0.133	2.727	-0.174	0.095	3.335	-0.074	0.11	0.448	0.035	0.2	0.024
size	0.525	0.046	32.27	0.029	0.146	0.913	0.405	0.111	13.433	0.648	0.106	37.559	0.637	0.094	45.796	0.422	0.1	5.213
intercept	0.952	0.93	38.61	-6.058	3.037	3.977	-8.841	2.247	15.476	-13.733	2.141	41.146	-13.279	1.917	47.978	13.956	3.8	13.376
Nagelkerke R Square	0.486			0.558			0.564			0.507			0.403			0.899		
Chisquare	2218.59			345.2			587.05			530.1			386.5			748.879		
df	8			8			8			8			8			8		
Sig.	0			0			0			0			0			0		

Note: \*\*\* means significant at 1% level, \*\* means significant at 5% level, \* means significant at 10% level.

Seen from table 4.5, from 2004 to 2006, whether the listed company distribute cash dividends has no significant correlation with previous institutional investors' shareholding ratio, but since 2007, they are significantly positively correlated to each other.

#### 4.2.2 testing the hypotheses 2

This paper chooses company before and after share reform in 2006 as the samples to carry out a regression analysis, results are shown in table 4.6, table 4.7:

Table 4.6 regression results of institutional investors' different influences on cash dividends payment level before and after share reform

variables	period	Before share reform			After share reform		
	variables	B	t	VIF	B	t	VIF
intercept		-0.170***	-3.22		0.07	-1.506	
institutional holdings		0.464***	7.439	1.255	0.040***	4.111	1.369
eps		0.150***	17.374	2.142	0.009***	16.528	2.025
croa		0.019	0.57	1.665	0.028	-1.806	1.844
cash		0.003	1.103	1.162	0.003	0.364	1.194
size		0.010***	4.022	1.184	0.003*	1.934	1.226
AdjR <sup>2</sup>		0.365			0.401		
F		121.8***			74.181***		

Note: \*\*\* means significant at 1% level, \*\* means significant at 5% level, \* means significant at 10% level.

Seen from table 4.6, in periods before and after share reform, institutional investors' shareholding ratio is significantly positively related to company's cash dividend payment level, but before reform, the listed company's cash dividend payment level is closer related to previous institutional investors' shareholding ratio. In other control variables, listed company's cash dividend payment level is positively related to earnings per share and the company's size.

Table 4.7 regression results of whether institutional investors has an impact on dividend distribution during periods before and after share reform

Variables	periods	before share reform			Periods after share reform		
		B	S.E.	Wald	B	S.E.	Wald
institutional holdings		0.873	2.673	0.107	43.485***	8.878	23.993
eps		9.257***	0.671	190.548	6.624***	1.224	29.291
croa		2.967**	1.16	6.539	-1.617	2.737	0.349
cash		-0.311***	0.108	8.238	0.186	0.250	0.553
size		0.404***	0.082	24.274	0.831***	0.188	19.426
intercept		-10.011***	1.722	33.787	-18.356***	3.912	22.021
Nagelkerke R Square		0.536			0.581		
Chi-square		865.685			208.596		
df		8			8		
Sig.		0			0		

Note: \*\*\* means significant at 1% level, \*\* means significant at 5% level, \* means significant at 10% level.

Seen from table 4.7, the higher the institutional investors' shareholding ratio is, the bigger possibility of listed company's distributed cash dividends is. Therefore, judging from probability of distributing cash dividends, the listed company's probability of distributing cash dividends is closer related to the previous institutional investors' shareholding ratio after the share reform, In other control variables, during periods before and after share reform, the listed company's probability of distributing cash dividends is significantly positively related to earnings per share.

## 5. Research conclusions

This paper adopts institutional investors' shareholding ratios in non-financial listed companies from the Chinese A-share market from 2003 to 2008 and listed companies' cash dividend policy as the research object, using mann - Whitney U to test whether the companies which are different in the institutional investors' shareholding ratio also differ largely from each other in cash dividend payment level, and analyze whether institutional investors participating in corporate governance of listed company has an impact on the listed company's cash dividend policy by linear regression model. The results of the study indicate that:

(1) the institutional investors' shareholding ratio of companies distributing the cash dividend is significantly higher than companies not distributing the cash dividend.

(2) the listed company's probability of distributing cash dividend are significantly positively related to institutional investors' shareholding ratio, cash dividend payment level in the companies that distribute is positively related to institutional investors' shareholding ratio.

(3) judging from the cash dividend payment level, during periods before and after share reform, the company's cash dividend payment level is all significantly positively related to previous institutional investors' shareholding ratio at 1%, but after reform, B is less than before, namely cash dividend payment level in listed companies before reform is closer related to previous institutional investors' shareholding ratio; Judging from the probability of distributing cash dividend, the probability of distributing cash dividend in listed company after reform is closer related to previous institutional investors' shareholding ratio before the reform.

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