

# Corporate Governance, Equity Concentration and Cash Dividend Policy

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## Abstract

This paper makes an empirical study on the relationship among equity concentration, corporate governance and cash dividend policy using CSMAR 2008-2016 A-share data. The research results of the article show that listed companies with concentrated equity, non-state-owned holdings and poor corporate governance are more inclined to issue cash dividends. The positive correlation between corporate governance and cash dividend distribution rates is only significant in high-equity concentration firms. In addition, after further distinguishing the nature of equity, we found that the positive effect of non-state-owned enterprises is more significant than that of state-owned enterprises.

## Keywords

Corporate governance; cash dividend policy; shareholding structure; equity nature.

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## 1. Introduction

Cash dividend policy is not only related to the cash flow of enterprises, but also has an important impact on the decision-making of investors. Since Miller & Modigliani (1961) put forward the dividend-independent theory, the research on cash dividend policy has attracted wide attention in academic circles. However, the very strict perfect market hypothesis proposed in this theory does not exist in reality, so many subsequent scholars gradually relaxed this hypothesis in the study of dividend policy, and put forward many well-known theories. In many cash dividend theory, the interpretation of the cash dividend policy by agency theory may have the most influence, further. As one of the important ways for investors to obtain investment returns, cash dividends are inextricably linked with corporate governance. Therefore, this paper attempts to study the relationship between corporate governance and cash dividend policy from the perspective of agency theory.

Corporate governance has an important impact on cash dividend policy, where cash dividends may be the result of improved corporate governance or an alternative to corporate governance (La Porta et al., 2000). Based on this, La Porta et al. proposed two competitive cash-dividing agent models in 2000: the result model and the substitution model. Among them, the result model believes that managers with better governance rarely abuse free cash flow, which increases the possibility of companies paying dividends and raises the level of dividend payment. Therefore, the results model predicts that the cash dividend payment level is positively correlated with the corporate governance effect. The surrogate model argues that when external investors observe that less-governed companies are more likely to generate agency problems stemming from insider control and free cash flow, companies with poorer governance pay less for companies with better governance. Cash dividends are even more necessary. Therefore, it is predicted that the company's dividend payment level is negatively correlated with the quality of corporate governance. From this point of view, these contradictory hypotheses have yet to be further tested.

In addition to the above theoretical studies, the academic community has also conducted empirical studies on the correlation between corporate governance and cash dividend policy, but mostly based on the United States and other developed markets (such as Adjaoud and Ben-Amar, 2010; Jiraporn et al, 2011; Mitton, 2005). On the contrary, this paper takes China, an emerging market country, as the research object, and finds that good (poor) corporate governance will reduce (increase) the cash dividend distribution rate, that is, corporate governance and cash dividend distribution rate show a substitution relationship. Furthermore, because of the internal governance mechanism of Chinese enterprises, the current situation of high equity concentration and high proportion of state-owned shares is widespread. Therefore, this paper focuses on how corporate governance affects cash dividend policy from the aspects of corporate governance mechanism (controlling shareholder ownership ratio, controlling shareholder nature) and corporate governance index. To sum up, this paper aims to explore whether and how ownership structure and nature affect the correlation between corporate governance and cash dividend policy in China, the largest emerging economy.

Specifically, the main contributions of this paper include the following aspects. First of all, most of the existing studies are based on the markets of developed countries in Britain and the United States (such as Adjaoud and Ben-Amar, 2010; Jiraporn et al, 2011; Mitton, 2005). On the contrary, this paper studies the relationship between corporate governance and cash dividend distribution under different ownership structure in China, an emerging market country. The results show that the positive correlation between corporate governance and cash dividend distribution rate is only significant in high equity concentration companies.

Secondly, this paper discusses the company's willingness to allocate cash dividends. The research results show that listed companies with concentrated equity, non-state-owned holdings and poor corporate governance are more inclined to issue cash dividends. It is further explained that the corporate governance and cash dividend distribution rate in China is an alternative relationship, which has certain practical significance.

Finally, this paper supplements the previous literature from the perspective of equity nature (Gugler, 2003; Chen et al., 2009). We find that, compared with state-owned enterprises, the interaction between corporate governance and equity concentration in non-state-owned enterprises is more significant (the correlation coefficient is five times that of state-owned enterprises). This means that non-state-owned enterprises can benefit more from corporate governance. Therefore, the research in this paper greatly supplements the research on the corporate governance of non-state-owned enterprises and the correlation between the nature of corporate equity and corporate cash dividend policy (eg Lee & Xiao, 2005).

The rest of the paper is organized as follows: The second part is a brief review of the literature. The third part describes the data and variables. The fourth part discusses the company's willingness to distribute cash dividends. The fifth part reports the basic empirical results of this paper. The sixth part explores the impact of the nature of ownership on the distribution of cash dividends. The seventh part is the conclusion.

## **2. Journals reviewed**

The theoretical cornerstone and analytical framework of the relationship between corporate governance and cash dividend policy are derived from two competitive cash dividend agency models proposed by La Porta et al. (2000): result model and substitution model. Under two different agency conflicts, scholars at home and abroad have carried out research on the impact of corporate governance on cash dividend policy.

LLSV (2000b) studies the dividend policies of 4103 listed companies in 33 countries, and finds that there is a positive correlation between the level of dividend payment and corporate governance effect in countries with effective legal protection system. The reason is that under a good legal protection system, external investors can effectively use the normal way to implement supervision of the company's internal managers, thus achieving the purpose of safeguarding their own rights and

interests. Therefore, in a well-governed company, managers rarely abuse free cash flow, and do not avoid the illusion of high dividend payout ratio in order to avoid negative effects on the company and deviate from the company's operating performance. Because China's current economic legal system is still not perfect, here, the paper proposes hypothesis 1:

H1: Corporate governance and cash dividend distribution ratio are negatively correlated.

A study by Shleifer and Vishny (1986) found that the existence of a controlling majority shareholder can effectively alleviate agency conflicts between management and shareholders. Because it has enough incentives to monitor and regulate whether to make investments or acquisitions, these investments or acquisitions help to increase their private reputation, but the yield is low, even for the interests of outside investors. Therefore, when corporate governance is good, managers seldom abuse free cash flow, which increases the possibility of dividend payment, and improves the level of cash dividend payment. When corporate governance is poor, the company will reduce the payment of cash dividends. Based on this, the paper puts forward the hypothesis 2:

H2: The positive correlation between corporate governance and cash dividend distribution rate is only significant in high equity concentration companies.

The nature of equity is another important factor affecting cash dividend policy (e.g. Gugler, 2003; Setia-Atmaja et al., 2009). Compared with non-state-owned enterprises, state-owned holding implies double principal-agent structure and the actual controllers of state-owned property rights are difficult to supervise the group's agents (board members) because of the free-rider problem. This makes it easy for the controlling shareholder to reach an agreement to exploit the minority shareholders. Therefore, when the company obtains the income, the controlling shareholder does not distribute the proceeds to the shareholders in the form of dividends. On the contrary, they invest in high-risk projects to achieve high control returns, which in turn allow state-owned enterprises to distribute lower cash dividends than non-state-owned enterprises. Based on this, this paper proposes hypothesis 3:

H3: Compared with state-owned enterprises, the interaction between corporate governance and equity concentration on cash dividend distribution ratio in non-state-owned enterprises is more significant.

### 3. Data

In this section, we will explain the construction of the corporate governance index used in this article, and then carry out corresponding descriptive statistics. And how to measure the degree of equity concentration, state-owned holding listed companies and the financial data used in this paper are explained.

#### (1) Corporate governance index

Refer to the previous literature (eg Gompers et al., 2003; Aggarwal et al., 2009; Ammann et al., 2013; Yu Zhuangxiong, Li Jie et al., 2016). This article uses 43 indicators related to corporate governance disclosed by CSMAR A-share listed companies. Using Gompers et al. (2003) GMI (Governance Metrics International) scoring algorithm, a corporate governance index CGI with Chinese characteristics is constructed. After excluding the sample of financial enterprises, the sample of this paper includes 14812 annual observations of enterprises from 2008 to 2016. Subject to the availability of data, this article only uses 43 corporate governance indicators provided by CSMAR. We set a threshold for each indicator, which is greater than the threshold. The indicator has a value of 1, indicating that the corporate governance indicator is good; otherwise, it takes 0, indicating that the corporate governance indicator is not good. These 43 indicators include the following five categories: board responsibility, information disclosure and internal control, shareholder rights and company control market, compensation mechanism and corporate behavior.

Table 1 lists 43 corporate governance-related indicators disclosed by domestic listed companies and the proportion of companies meeting each indicator. For each index, if the enterprise meets the critical value set by Gompers et al. (2003), then the index takes a value of 1, and then calculates the number of indicators with a value of 1 as a percentage of all 43 indicators, then the CGI of the enterprise can be obtained. For example, if a company meets all 43 (or 20 out of 43) metrics, its CGI is 100% (or

46.5%). If the CSMAR database reports only 30 of a company's 43 indicators, and the company meets 24 of them (24 of the 30 indicators), its CGI is  $24/30 = 80\%$ . The construction of this index is very common in the existing literature.

Unlike the corporate governance index used by Ammann et al. (2013), the CGI in this paper contains less information on shareholder rights, anti-merger provisions and management compensation mechanism. However, it provides a more comprehensive description of the characteristics of management and the violations, corporate protection of corporate employees, customers, consumer rights and interests. In addition, unlike the CGI used in the United States or the European Union, CGI in this paper accurately depicts the emerging market represented by China, which is showing a trend of gradually improving corporate governance under the pressure of marketization.

Table 1

Corporate governance metrics and percentage of companies that meet metrics		
	Individual governance indicator	Percentage of companies that meet targets
Board responsibility		
1	The chairman and the general manager are not the same person.	78.83%
2	The size of the board is more than 5 and less than 16.	96.29%
3	External directors account for more than 50% of the board.	2.53%
4	There are no Dong Gao members holding shares down by 10%.	87.48%
5	There is no increase in shareholding by Dong Gao members. 10%	35.96%
6	The general manager is not elected by the controlling shareholder.	12.32%
7	The general manager is from the outside of the company.	19.25%
8	General manager is not a controlling shareholder.	49.52%
9	The chairman shall not be elected by the controlling shareholder.	26.32%
10	The chairman is from the outside of the company.	19.02%
11	The chairman was not held by the controlling shareholder.	25.04%
12	Independent directors attended at least 75% of the board meeting.	2.52%
13	The nomination committee is composed of independent directors.	
14	Former CEO is not on the board.	55.73%
Financial information disclosure and internal control		
15	The company disclosed the deficiency of the company.	17.84%
16	There are no related transactions.	2.93%
17	The company did not receive an unqualified audit report.	99.05%
18	Other expenses paid by the company to auditors do not exceed audit fees.	99.73%
19	Social responsibility reports are examined by third party organizations.	2.32%
20	Social responsibility reports refer to the guide to sustainable development report.	16.52%
21	There is no accounting violation in the company.	95.32%
22	There are no other aspects of accounting violation.	96.23%
23	The general manager did not quit because of his involvement.	99.79%
24	The chairman did not quit because of his involvement.	99.68%

25	The audit committee is composed of independent directors.	0.00%
Shareholder rights and control market		
26	Company disclosures protection of shareholders' rights and interests	97.74%
27	The proportion of shareholders attending the shareholders' meeting is over 75%.	8.66%
28	Voting at shareholders' meeting allows a cumulative vote.	12.27%
29	The largest shareholder's share does not exceed 50%.	78.95%
Executive compensation		
30	Accurate disclosure of annual salary	98.64%
31	CEO is not in the Remuneration Committee.	89.60%
32	The Remuneration Committee is made up of independent directors.	0.00%
33	Independent Directors receive remuneration in Listed Companies	0.00%
34	Independent directors have no objection to the proposal of remuneration for directors and executives.	99.98%
Company behavior		
35	Protection of creditors' rights and interests	56.80%
36	Protection of workers' rights and interests	99.49%
37	Disclosure of supplier rights and interests	71.65%
38	Company disclosures protection of customers and consumers' rights and interests	95.72%
39	Corporate disclosure environment and sustainable development	98.17%
40	The company discloses public relations and public welfare undertakings.	96.04%
41	Corporate disclosure of social responsibility system and improvement plan	24.71%
42	Disclosure of production safety	82.81%
43	Committee on safety or environment	0.52%
<p>The table reports 43 indicators related to corporate governance characteristics disclosed by domestic listed companies. These indicators are divided into five categories: board responsibility, financial information disclosure and internal control, shareholder rights and control market, executive compensation and corporate behavior. For each corporate governance index, we calculate the proportion of enterprises satisfying the index, with a total sample of 14812 enterprises.</p>		

## (2) Equity concentration

This paper uses the Huffindale index (calculating the sum of the squares of the shareholding ratios of the top N shareholders) to measure the degree of equity concentration. This paper selects  $N = 3$ , that is, the sum of the squares of the shareholding ratios of the top three major shareholders.

## (3) State controlled listed companies

This paper selects listed companies with state-owned shareholding exceeding 30% as state-controlled listed companies.

## (4) Financial data

The financial data used in this paper also come from all A shares of CSMAR from 2008 to 2016. It is classified according to the industry classification standard of 2012, excluding ST, financial and insurance enterprises. A total of 3252 enterprise samples are collected. All data are collected after the

consolidated statements. Referring to the study by Allen and Michaely (2003), this paper selects the natural logarithm of profitability, growth, capital structure and company size as control variables.

Table 2 gives definitions and descriptions of the relevant variables. Table 3 reports descriptive statistics for the main variables, including PAYOUT, CGI, H3, ROE, REV, LEV, and the logarithm of the company size (LNSZ).

Table 2 Variable definition and description

Variable type	Variable	Symbol	Variable definitions
Explained variable	Cash dividend distribution ratio	PAYOUT	Cash dividends / net profit for the year; Cash dividends / year-end net assets paid during the year
Explanatory variables	Corporate governance index	CGI	See above
Moderator	Equity concentration	H3	The sum of the squares of the shareholding ratio of the top three major shareholders
Control variable	Profitability	ROE	Net profit/year-end net assets
	Growth	REV	(This year's operating income - last year's operating income) / last year's operating income
	Financial leverage	LEV	Year-end total liabilities / year-end total assets
	Company Size	LNSZ	Natural logarithm of total assets at the end of the year

Table 3 Descriptive statistics of major variables

	Mean	Median	Maximum	Minimum value	Standard deviation	Number of observations
Panel A: Full sample						
PAYOUT	0.243	0.178	1.800	0	0.298	14812
CGI	36.798	34.884	58.140	25.581	8.371	14812
H3	0.170	0.141	0.592	0.012	0.125	14812
ROE	0.065	0.068	0.350	-0.578	0.115	14812
REV	0.206	0.097	4.773	-0.577	0.635	14812
LEV	0.469	0.472	0.904	0.057	0.208	14812
LNSZ	22.135	21.980	25.984	19.374	1.291	14812
Panel B: High equity concentration enterprise						
PAYOUT	0.214	0.135	1.800	0	0.287	7406
CGI	36.359	34.884	58.140	25.581	7.803	7406
H3	0.074	0.072	0.141	0.012	0.035	7406
ROE	0.053	0.058	0.350	-0.578	0.122	7406
REV	0.191	0.091	4.773	-0.577	0.608	7406
LEV	0.464	0.464	0.904	0.057	0.207	7406
LNSZ	21.856	21.791	25.984	19.374	1.150	7406
Panel C: Low equity concentration enterprise						
PAYOUT	0.272	0.216	1.800	0	0.305	7406
CGI	37.238	34.884	58.140	25.581	8.881	7406
H3	0.266	0.240	0.592	0.141	0.107	7406

ROE	0.077	0.079	0.350	-0.578	0.107	7406
REV	0.221	0.102	4.773	-0.577	0.660	7406
LEV	0.473	0.480	0.904	0.057	0.209	7406
LNSZ	22.414	22.215	25.984	19.374	1.361	7406

#### 4. Company's willingness to distribute cash dividends

There are many factors that affect the company's willingness to distribute cash dividends. Linter (1956) proposed the "dividend-return" theory. He believes that companies generally maintain a long-term target dividend payout ratio, and the company's cash dividend changes are consistent with long-term sustainable income levels. Managers will not easily increase or decrease cash dividends unless the company's earnings will change irreversibly in the foreseeable future. Adjaoud and Ben-Amar (2010) point out that the corporate governance index is a comprehensive reflection of corporate governance effectiveness, which not only affects corporate value, but also has an important impact on cash dividend policy. Shleifer and Vishny (1986) found that the existence of controlling large shareholders can effectively alleviate the agency conflict between management and shareholders, so the higher the equity concentration, the higher the dividend payment rate. The nature of equity is another important factor affecting corporate dividend policy. Setia-Atmaja et al (2009) studied Australia's dividend policy and found that non-state-owned enterprises are more inclined to pay higher dividends than state-owned enterprises. La Porta et al (2000) proposed that the internal capital demand of investment, i.e. future investment opportunities, is an important factor affecting the cash dividend distribution of a company. He believes that when a company has a larger investment project, the company will generally retain the proceeds for investment, thus reducing the distribution of cash dividends. In addition, Deangelo et al (1992) pointed out that the level of a company's debt would also have an important impact on the company's willingness to distribute cash dividends. He found that when a company suffered a short-term loss, it generally reduced the distribution of cash dividends, and when the loss was long-term, it stopped the distribution of cash dividends.

Based on the above analysis, we use the Logit model to find out the factors that affect the company's willingness to distribute cash dividends. Among them, for future investment opportunities, this paper uses the value of REV lag period (refer to La Porta et al. (2000)). For the measurement of the nature of equity, this paper divides the whole sample into two sub-samples, state-owned and non-state-owned enterprises, according to whether the state-owned share holdings exceed 30%. For the measurement of the shareholding structure, this paper selects the square of the shareholding ratio of the top three major shareholders to represent the concentration of ownership. The results are shown in Table 4. The results show that equity concentration and non-state-owned enterprises are more inclined to issue cash dividends, and corporate governance is negatively related to the willingness to distribute cash dividends, but the results are not significant. The company's profitability, growth, capital structure, and company size all have an impact on the company's willingness to allocate cash dividends.

Table 4 Willingness to distribute cash dividends

Explained variable	Full sample	Non-state-owned enterprise	State-owned enterprise
Whether to issue cash dividends	(1)	(2)	(3)
hthree	0.5894***	1.9713***	0.0154
	(2.92)	(6.38)	(0.05)
CGI	-0.0009	0.0003	0.0052
	(-0.31)	(0.07)	(1.14)

REV (t+1)	-0.2118***	-0.2876***	-0.1392**
	(-5.74)	(-5.78)	(-2.50)
SIZE	0.7543***	0.8542***	0.6576***
	(29.91)	(25.15)	(17.15)
LEV	-3.9471***	-4.0536***	-3.6293***
	(-28.98)	(-23.41)	(-15.88)
ROE	10.7445***	9.9031***	11.6456***
	(30.89)	(22.66)	(20.07)
_cons	-14.6627***	-16.8606***	-12.9869***
	(-29.30)	(-24.66)	(-17.13)
Year dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
N	12569	7946	4623
R2	0.2359	0.2339	0.2525

This table reports panel regression results, where the explanatory variables are whether to issue cash dividends, and the explanatory variables are equity concentration, corporate governance index, and four control variables. All regressions in this paper include year and industry fixed effects. We divided sample companies into two sub-samples of state-owned enterprises (SOEs) and non-state-owned enterprises (non-SOEs) based on whether the state-owned shareholding ratio exceeds 30%. If the proportion of state-owned shares exceeds 30%, the enterprise is defined as a state-owned enterprise, and vice versa is a non-state-owned enterprise. The first is the full sample regression results, the second is the regression results of non-state-owned enterprises, and the third is the regression results of state-owned enterprises. The sample period is from 2008 to 2016. Parentheses are t statistics. \*, \*\* and \*\*\* are significant at 10%, 5% and 1% respectively.

## 5. Corporate governance and cash dividend distribution rate

Referring to Jiraporn et al. (2011), this paper divides enterprises into three groups according to HHI: high equity concentration, medium equity concentration and low equity concentration. Each group sets up a fictitious variable to study the different performance of corporate governance and dividend payment rate in companies with different equity concentration. Similar to Adjaoud and Ben-Amar (2010) and Jiraporn et al (2011), the main regression equations in this paper are as follows:

$$\text{PAYOUT}_{i,j,t} = \alpha' \text{CGI}_{i,j,t} + \beta' (\text{CGI}_{i,j,t} \times \text{H3}_{i,j,t}) + \gamma' X_{i,j,t} + \delta_j + \delta_t + \varepsilon_{i,j,t}$$

Among them,  $\text{PAYOUT}_{i,j,t}$  represents the dividend payment rate of enterprise I in the industry J in the first year,  $\text{CGI}_{i,j,t}$  is the corporate governance index,  $\text{H3}_{i,j,t}$  is a (3 x1) dimensional virtual variable,  $X_{i,j,t}$  is a group of control variables. The control variable X includes the natural logarithm of profitability, growth, capital structure, and company size.  $\delta_j$  and  $\delta_t$  respectively represent industry and time fixed effects.

We first join  $\text{CGI}_{i,j,t}$  and its intersection with  $\text{H3}_{i,j,t}$  to examine the average effect of corporate governance on dividend payout ratios across all industries. As can be seen from the first column in panel A of Table 5, the coefficient of CGI is positive, indicating that corporate governance has a positive impact on the cash dividend distribution rate, but the coefficient is not significant. In the third column, we add H3 three-digit fictitious variable and its multiplier with corporate governance to further investigate the correlation between corporate governance and cash dividend distribution rate in companies with different equity concentration. The results showed that the coefficients of H3 and CGI multiplicative items were significant in the highest and medium H3 companies. Unlike Adjaoud and Ben-Amar (2010) and Jiraporn et al (2011), which are based on developed markets in the U.K. and the U.S., this paper focuses on China, an emerging market country. The results show that the



positive correlation between corporate governance and cash dividend distribution rate is only significant in high equity concentration companies.

In order to prevent the classification of equity concentration degree based on Jiraporn et al (2011) method from affecting the main results of this paper, we divide the total sample into two sub-samples according to the HHI median. The degree of equity concentration will be divided into high equity concentration and low equity concentration. The result is shown in column 2 of panel A. The results show that the positive impact of corporate governance on the cash dividend distribution rate is only significant in high equity concentration companies.

Table 5 Corporate governance, equity concentration and cash dividend distribution ratio

Panel A: Corporate Governance Index			
Explained variable	(1)	(2)	(3)
PAYOUT			
CGI	-0.0003		
	(-0.96)		
CGI×HH3		0.0038**	
		(2.04)	
CGI×LH3		0.0075	
		(0.66)	
CGI×HH3			0.0038***
			(6.03)
CGI×MH3			0.0049***
			(3.61)
CGI×LH3			-0.0004
			(-0.13)
ROE	0.1957***	0.0002*	0.1810***
	(13.44)	(1.89)	(12.38)
REV	-0.0329***	-0.0000***	-0.0333***
	(-10.04)	(-5.11)	(-10.14)
LEV	-0.3504***	-0.3476***	-0.3392***
	(-26.42)	(-6.25)	(-25.67)
SIZE	0.0399***	0.0337***	0.0333***
	(18.39)	(4.11)	(15.15)
_cons	-0.5113***	-0.3897***	-0.4090***
Year dummies	(-8.87)	(-2.61)	(-6.99)
Industry dummies	Yes	Yes	Yes
	Yes	Yes	Yes
N	14812	14812	14812
Firms	3253	3253	3253
R2	0.0985	0.0243	0.1026

This table reports the panel regression results, where the explanatory variable is PAYOUT, the explanatory variables are the corporate governance index, the intersection of the H3 dummy variable and the corporate governance index, and the four control variables. All regressions in this paper include year and industry fixed effects. The corporate governance index is constructed from the 43

governance indicators in Table 1. The H3 dummy variable in the second column indicates whether the equity concentration H3 is higher or lower than the H3 median, and the H3 dummy variable in the third column indicates that H3 is divided into three high, medium and low H3 percentiles. In this paper, the 2012 industry classification criteria for classification, excluding ST, financial and insurance enterprises, a total of 3253 enterprise samples. All data are collected after the consolidated statements. The control variables include profitability, growth, capital structure and the natural logarithm of company size. The sample period is from 2008 to 2016. Parentheses are t statistics. \*, \*\* and \*\*\* are significant at 10%, 5% and 1% respectively.

Next, we conduct robustness tests on the basic results of this paper. We classify enterprises according to CGI. Specifically, enterprises with CGI greater than or equal to 51 are regarded as well-governed enterprises, and the corresponding virtual variable (democracy dummy) is taken as 1, whereas the virtual variable is taken as 0. On the basis of panel A of Table 5, we add the corporate governance dummy variable and its intersection with the H3 dummy variable. The regression results are shown in panel B of Table 5. It can be seen that the positive correlation between corporate governance and dividend payout ratio is still significant only for companies with high equity concentration.

Table 5 Corporate governance, equity concentration and cash dividend distribution ratio

Panel B: Corporate Governance dummy variables			
Explained variable			
PAYOUT	(1)	(2)	(3)
Democracy	-0.0009		
	(1.64)		
Democracy×HH3		0.0061*	
		(1.77)	
Democracy×LH3		0.0174	
		(1.26)	
Democracy×HH3			0.0082**
			(2.07)
Democracy×MH3			0.0074
			(1.05)
Democracy×LH3			-0.0075
			(-0.12)
ROE	0.0415***	0.0415***	0.0415***
	(26.42)	(26.42)	(26.42)
REV	-0.0011***	-0.0011***	-0.0011***
	(-6.25)	(-6.25)	(-6.25)
LEV	-0.0299***	-0.0299***	-0.0299***
	(-42.88)	(-42.89)	(-42.88)
SIZE	0.0020***	0.0020***	0.0020***
	(19.57)	(19.40)	(19.36)
_cons	-0.0217***	-0.0215***	-0.0214***
	(-7.63)	(-7.52)	(-7.50)
Year dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
N	14812	14812	14812
Firms	3253	3253	3253
R2	0.3067	0.3068	0.3068

This table reports panel regression results, where the interpreted variable is PAYOUT, the explanatory variables are corporate governance dummy variables, the intersection of H3 dummy variables and corporate governance dummy variables, and four control variables. All regressions in this paper include year and industry fixed effects. Enterprises with  $CGI \geq 51$  are classified into companies with good corporate governance, and the value of corporate governance dummy variables is 1. The H3 dummy variable in the second column indicates whether the equity concentration H3 is higher or lower than the H3 median, and the H3 dummy variable in the third column indicates that H3 is divided into three high, medium and low H3 percentiles. In this paper, the 2012 industry classification criteria for classification, excluding ST, financial and insurance enterprises, a total of 3253 enterprise samples. All data are collected after the consolidated statements. The control variables include profitability, growth, capital structure and the natural logarithm of company size. The sample period is from 2008 to 2016. Parentheses are t statistics. \*, \*\* and \*\*\* are significant at 10%, 5% and 1% respectively.

## 6. Ownership nature and cash dividend distribution rate

The impact of the nature of controlling large shareholders on dividend policy is also the focus of previous literature (Gugler, 2003; Chen et al, 2009; Setia-Atmaja et al, 2009). This article examines the difference between state-owned enterprises and non-state-owned enterprises. The reason is that, compared with non-state-owned enterprises, state-owned holding implies a dual principal-agent structure and the actual controllers of state-owned property rights are difficult to supervise the group's agents (board members) because of the free rider problem. This makes it easy for the controlling shareholder to reach an agreement to exploit the minority shareholders. Therefore, when the company obtains the income, the controlling shareholder does not distribute the proceeds to the shareholders in the form of dividends. Instead, they invest in high-risk projects to extract high control gains, which in turn allow state-owned enterprises to distribute cash dividends lower than non-state-owned enterprises.

Based on the above analysis, this paper divides the sample enterprises into two sub-samples of state-owned enterprises (SOEs) and non-state-owned enterprises (non-SOEs) according to whether the proportion of state-owned shares exceeds 30%. If the state-owned shareholding ratio exceeds 30%, the enterprise is defined. It is a state-owned enterprise, and vice versa is a non-state-owned enterprise. First, we use PSM to match the dividend payment rates of state-owned and non-state-owned enterprises, and compare the differences between the two types of listed companies. Among them, profitability, growth, capital structure and the natural logarithm of company size are selected as control variables (refer to Allen and Michael, 2003). The result is shown in Table 6.

Table 6 The nature of enterprise ownership and cash dividend distribution rate

PAYOUT	Cash dividend / net profit		Cash dividends / net assets	
	Non state owned enterprises	State-owned enterprise	Non state owned enterprises	State-owned enterprise
ATT	0.285	0.244	0.013	0.010
Difference value	0.041		0.003	
Standard error	0.030		0.000	
T value	1.36		6.45	

The matching results show that the dividend payment rate is measured either by the ratio of cash dividend to net profit or by the ratio of cash dividend to net assets. The difference between state-owned enterprises and non-state-owned enterprises is significant, and the latter's dividend payout ratio is greater than the former. This further supports the conclusions we have drawn before.

Next, we examine the impact of corporate ownership on the distribution of cash dividends through corporate governance. The results are shown in Panel A of Table 6. Columns 1-3 (columns 4-6) of

Panel A of Table 6 report the regression results of state-owned enterprises (non-state-owned enterprises) throughout the sample period. Among them, the first and fourth columns are the overall impact of corporate governance on the cash dividend distribution ratio among state-owned enterprises and non-state-owned enterprises. Columns 2 and 5 add H3 binary virtual variables and their multiplication terms with CGI, and columns 3 and 6 add H3 binary virtual variables and their multiplication terms with CGI. The regression results are basically consistent with those in Table 5. The positive effect of corporate governance on cash dividend distribution rate is only significant in high equity concentration companies, whether state-owned or non-state-owned enterprises. However, this positive effect in non-state-owned enterprises is more significant than that in state-owned enterprises, indicating that the principal-agent problem in state-owned enterprises is more serious. Therefore, corporate governance plays a more important role in firms with higher agency costs, such as state-owned enterprises (Setia-Atmaja et al., 2009).

Table 6 The impact of corporate ownership on dividend distribution rate through governance  
Panel A: state owned and non-state owned enterprises

Explained variables:	Non state owned enterprises			State-owned enterprise		
	(1)	(2)	(3)	(4)	(5)	(6)
PAYOUT						
CGI	-0.0005 (-0.60)			0.0003 (0.63)		
CGI×HH3		0.0090*** (3.96)			0.0016* (1.84)	
CGI×LH3		0.0196 (1.18)			0.0021 (0.69)	
CGI×HH3			0.0054* (1.74)			0.0005 (0.56)
CGI×MH3			0.0016 (0.25)			-0.0011 (-0.51)
CGI×LH3			-0.0128 (-0.76)			-0.0115* (-1.79)
ROE	0.0004 (1.15)	0.0004 (1.06)	0.0002 (0.62)	0.1791*** (8.28)	0.1766*** (8.15)	0.1760*** (8.10)
REV	-0.0000* (-1.69)	-0.0000 (-1.36)	-0.0000 (-1.10)	- 0.0259*** (-6.38)	- 0.0261*** (-6.44)	- 0.0259*** (-6.39)
LEV	- 0.3379*** (-4.04)	- 0.3189*** (-3.94)	- 0.3153*** (-3.84)	- 0.3268*** (-14.30)	- 0.3204*** (-14.00)	- 0.3212*** (-14.07)
SIZE	0.0322*** (3.71)	0.0229** (2.21)	0.0257*** (3.10)	0.0411*** (11.70)	0.0392*** (11.14)	0.0396*** (11.14)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
_cons	-0.3840**	-0.2641	-0.2814*	- 0.4990***	- 0.4670***	- 0.4605***

	(-2.22)	(-1.46)	(-1.70)	(-5.74)	(-5.25)	(-5.18)
N	9444	9444	9444	5368	5368	5368
R2	0.0295	0.0300	0.0300	0.1122	0.1127	0.1135

This table reports the results of panel regression, in which the explanatory variables are PAYOUT, the explanatory variables are corporate governance index, the multiplier of H3 virtual variable and governance index, and four control variables. All regression in this paper includes years and industry fixed effects. We divide the sample enterprises into two sub-samples, state-owned enterprises (SOEs) and non-state-owned enterprises (non-SOEs), according to whether the proportion of state-owned shares exceeds 30%. If the proportion of state-owned shares exceeds 30%, the enterprise is defined as a state-owned enterprise, and vice versa is a non-state-owned enterprise. Columns 1 and 4 are the overall impact of corporate governance on the distribution of cash dividends in state-owned and non-state-owned enterprises, respectively. Columns 2 and 5 add the H3 binary quantile and its intersection with CGI. Columns 3 and 6 add the H3 tertile dummy variable and its intersection with CGI. Columns 1-3 are the results of the return of state-owned enterprises. Columns 4-6 are the results of the return of non-state-owned enterprises. The sample period is from 2008 to 2016. The t-statistics are in the brackets, and \*, \*\*, and \*\*\* indicate significant levels at 10%, 5%, and 1%, respectively.

## 7. Conclusion

In the past, most of the research on the relationship between corporate governance and cash dividend policy was based on the British hairdressing market, and less attention was paid to emerging markets led by China. The ownership structure and equity nature of Chinese listed companies are quite different from those of developed countries in the United States and the United States. In the internal governance mechanism of Chinese enterprises, the status of high equity concentration and high proportion of state-owned shares is widespread. Therefore, this paper focuses on the analysis of how corporate governance affects cash dividend policy from the internal governance mechanism of Chinese enterprises (controlling shareholder ownership ratio, controlling shareholder nature) and corporate governance index.

By expanding and supplementing the existing literature, this paper demonstrates that cash dividend and corporate governance in China represent a substitute relationship rather than a complementary relationship. Specifically, listed companies with concentrated ownership, non-state holding and poor corporate governance tend to pay cash dividends. The positive correlation between corporate governance and cash dividend distribution rate is significant only for companies with high equity concentration. In addition, after further distinguishing the nature of equity, it is found that this positive effect of non-state-owned enterprises is more significant than that of state-owned enterprises.

The empirical results of this paper have important guiding significance for emerging market countries including China, and greatly supplement the research on corporate governance of non-state-owned enterprises and the correlation between the nature of corporate equity and corporate cash dividend policy. Specifically, the state should strive to improve its political and legal system, improve its regulatory capacity, and regulate the dual principal-agent structure behind state-owned holding; listed companies should improve their corporate governance and optimize the ownership structure.

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