Do Controlling Shareholders' Equity Pledges Affect Dividend Policy Choices

Yihang Guo

Inner Mongolia University of Finance and Economics, Hohhot, 101070 Mongolia, China

Keywords: Equity pledge, Dividend policy, Financing constraints

Abstract: Dividend distribution of domestic listed companies is inherently characterized by discontinuity and instability, and dividend distribution, which is one of the important financial decisions in the context of corporate equity pledges, is also likely to be affected. Therefore, this paper selects data of A-share listed companies from 2016-2021 to investigate the impact of controlling shareholders' equity pledges on dividend policy choices and to examine the moderating effect of financing constraints in this process. The results show that firms prefer to pay stock dividends after making equity pledges, and this preference becomes stronger as the proportion of equity pledges increases, and financing constraints play a positive moderating role in the effect of equity pledges on both cash and stock dividends.

1. Introduction

Equity pledges have become a popular means of corporate finance in recent years due to their own advantages. The reason why shareholders prefer equity pledge financing is that equity pledge financing can achieve financing purposes without diluting shareholders' control, but equity pledge is not essentially a personal act of the controlling shareholder, and the consequences of equity pledge, whether by the controlling shareholder itself, company managers or various investors, will be affected to a certain extent. The risks borne by the company and the structure of cash flow rights within the company will change after the equity pledge. Dividend policy, as one of the important financial decisions of the company, is a reflection of the company's operating results and financial position, and is a bridge between the company and investors, affecting not only the company's cash flow but also the relationship between the company and market investors. Therefore, it is necessary to study the choice of dividend policy of the company after equity pledge.

2. Literature Review

2.1 Studies Related to Pledge of Controlling Shareholders' Equity

Equity pledges are the means by which shareholders pledge their shares to financial institutions to obtain funds, and the motives for equity pledges can be broadly classified into three types of interest appropriation, financing needs and control enhancement [1]. The interest appropriation motive is generally studied based on the separation of powers theory and principal-agent theory. Equity pledges transfer the cash flow rights attached to equity, thus reducing the cost of various operations carried out by shareholders. Controlling shareholders use their control position to redistribute the benefits within the company, so that the benefits flowing to the small and medium shareholders are reduced, or to tunnel the company by means of connected transactions, asset swaps, etc. to obtain more benefits for themselves[2]. If a company finds a good investment project but is cash-strapped, the company may also choose to use this means to raise funds before investing, thanks to the advantage of efficient and low-cost equity pledge financing. Controlling shareholders who want to increase their shareholding to further enhance their control may choose to use the funds raised from equity pledges to purchase the Company's shares and continue to increase their shareholding on the basis of their original control in order to secure their position.

2.2 Dividend Policy-Related Studies

Cash dividends and stock dividends are two forms of dividends distributed by companies. Can

Cui (2021)[3] summarized several types of dividend payouts: residual dividends, stable dividends, fixed dividends, and normal plus additional dividends. Currently, more domestic studies focus on cash dividends, which may be paid by companies for motives such as transmitting information to the outside world and reducing agency costs[4]. Bhattacharya (1979)[5] argues that in a market with incomplete information, the payment of cash dividends is a process by which companies transmit operational information to investors, and market expectations of the company are likely to be improved by the transmission, and that the payment of cash dividends reduces the firm's cash flow, creating an effective check on managers' self-interested behavior and having the effect of reducing agency costs.

The internal factors affecting the dividend policy of the company can be said in terms of the company's equity structure, the size of the company, the stage of life cycle the company is in and the financing constraints the company faces; while external factors such as the institutional environment and policy changes related to the company can all have an impact on the dividend policy[6]. Domestic companies generally have the characteristics of high equity concentration, but the phenomenon of low dividends is the norm for companies to pay dividends, high stock dividend has become a hot topic in the domestic stock market, stock dividend increases the total number of shares, through the split can make the share price stable within a reasonable range, and the stock dividend is actually an internal adjustment of the company's owners' equity, without the company creating additional value, easy to operate also attracts investors This is the reason why companies prefer stock transfers[7].

3. Hypothesis Formulation

3.1 Pledge of Controlling Shareholders' Equity and Cash Dividends

Dividend payout of domestic listed companies is generally at a low level and discontinuous. However, equity pledge, as a means of financing, is supposed to be a means to solve the difficulties of the company's lack of capital, and the payment of cash dividends is undoubtedly another act to reduce free cash flow, and there is a contradiction between cash dividends and equity pledge, and the right to cash flow dependent on the pledged part of equity is transferred to the pledgee, which weakens the company's motivation to pay cash dividends, so companies with equity pledge may reduce the cash dividend payments [8]. Therefore, the hypothesis is proposed:

H1a: Companies with equity pledges reduce the payment of cash dividends.

In addition, shareholders must hold sufficient assets such as cash or shares to guarantee subsequent margin calls in order to prevent the risk of a transfer of control due to a fall in share prices. Once the pledge ratio is high enough to reach the closing line or warning line, the margin call cannot be fully satisfied with the remaining shares, which requires the controlling shareholder to have sufficient cash in hand to act as a shield to prevent the transfer of control, when the company is in a high-risk stage and financing from external sources becomes very difficult, the controlling shareholder has reason to keep cash in their hands to meet endogenous financing needs, and the incentive to hold cash based on precaution is enhanced [9], hence the hypothesis that:

H1b:The percentage of controlling shareholders' equity pledges is negatively correlated with cash dividends paid.

3.2 Pledge of Controlling Shareholder's Equity and Stock Dividends

The payment of stock dividends sends a signal to the market and investors that the company is doing well, and thus the payment of stock dividends has a favorable effect on the company. After the stock pledge, most companies will adopt strategies such as market value management, surplus management, investor relations management and improving accounting soundness to stabilize the stock price and reduce the risk of high control transfer due to the stock price decline, and stock dividend is one of the more convenient means to conduct market value management. The domestic securities market is characterized by a limited group of investors with limited rationality, and the interpretation and reaction to the company's behavior is often excessive, so the investors'

enthusiasm is stimulated, and the purchase of a large number of shares makes the company's share price rise [8]. And the payment of dividends will cause the share price to fall in a short period of time, and the formation of the price illusion will also attract some investors who prefer low priced stocks. From the company's point of view, the payment of stock dividends does not require the company to create additional value so stock dividends are considered a more convenient operation, and at the same time cater to investors' preferences and bring a positive market reaction, which the company is certainly willing to do. Therefore, the following hypothesis is proposed:

H2a: Companies with equity pledges have a greater preference for paying stock dividends.

Similarly, the controlling shareholder's equity pledge ratio is determined by the company's gearing ratio, share price performance and external policy factors, among which the decisive factor is the total amount of cash needed by the shareholder. Whether based on the purpose of hollowing out the company, financing purposes or based on the purpose of enhancing control, it can be a motivation for controlling shareholders to hold cash flows, and a high percentage of equity pledges often implies that a large portion of future cash flows will converge to controlling shareholders, hence the hypothesis that:

H2b:The percentage of controlling shareholders' equity pledges is positively correlated with stock dividend payout.

3.3 The Regulatory Role of Financing Constraints

The financing constraint faced by the company is undoubtedly another important factor that affects the dividend payment. In reality, the additional compensation given to the external suppliers of funds above the cost of using internal funds is the financing constraint faced by the company. The more free cash flow the company has, the more liquid it is and the less financing constraint it faces, the more likely it is to implement a stable dividend policy. Cash dividends require sufficient cash flow. If liquidity is tight and financing is needed, but the company suffers from financing constraints, endogenous financing becomes the primary choice. The company must use its own funds instead of external funds, relying much more on its own funds. Will the choice of dividend policy after equity pledge be affected by the situation of poor external financing channels? To address this query, the following hypothesis is proposed:

H3: Financing constraints play a moderating role in the choice of equity pledge and dividend policy.

4. Research Design

4.1 Sample Selection and Data Sources

This paper selects the data of domestic A-share listed companies from 2016-2021 as the research object, and the data is obtained from the IFinD database of the same company, and the following processing is done on the data: (1) excluding the special report type enterprises such as financial industry and insurance industry; (2) excluding ST and *ST enterprises, and a total of 3200 observations are obtained; (3) conducting 1% and 99% tailing to avoid the influence of outliers . STATA15 is used to complete the empirical test.

4.2 Variable Definition

This subsection shows the explanatory variables, explanatory variables, moderating variables, and control variables used in the subsequent empirical analysis and explains their names, signs and definitions.

4.2.1 Explanatory Variables

The explanatory variables in this paper are dividend policy, including stock dividends and cash dividends. The stock dividend is the dividend yield obtained by dividing the dividend per share by the closing price on the dividend payout date, which is expressed as paystock; the cash dividend is the dividend yield obtained by dividing the dividend per share by the closing price on the dividend payout date, which is expressed as paycash.

4.2.2 Explanatory Variables

The core explanatory variable in this paper is equity pledge, which is divided into two indicators: whether equity pledge and equity pledge ratio. The presence of equity pledge is measured by a dummy variable, and the absence of equity pledge at the end of the year is 1 and 0, denoted by d. The proportion of equity pledge is calculated by dividing the number of equity pledges by the number of shares held by the controlling shareholder, denoted by pledgerate.

4.2.3 Moderating Variables

The moderating variable in this paper is the financing constraint faced by the firm. To avoid errors and endogeneity problems, the SA index is used to calculate the degree of financing constraints, denoted as sa, by referring to Huang Huaji [10] and Song Weiwei [11].

SA=|0.043*size2-0.737*size-0.04*age|

4.3 Control Variables

Drawing on the existing research results and considering the factors related to the company's operation and dividend distribution decisions, the company's management shareholding (mhold), return on assets (roa), gearing (lev), size (size), growth (growth), earnings per share (eps), and free cash flow per share (psfcff) were selected as control variables. The definition and symbols of each variable are shown in Table 1:

Table 1 : Variable Definitions

Variable Type	Name	Symbol	Definition
Explanatory variable	Cash dividends	paycash	Cash dividend distribution rate, dividends per share / closing price on the date of dividend payment
	Stock dividends	paystock	sum of dividends and conversions
Explanatory variable	Whether equity pledged	d	dummy variable, 1 for equity pledged, 0 otherwise
	Pledged equity ratio	pledgerate	the number of controlling shareholder's equity pledges/number of shares held
Moderating variable	Financing constraint	sa	Calculated by company size and year of establishment
Control variables	management shareholding	mhold	management shareholding/total equity
	Return on assets	roa	Net profit/total assets
	Gearing ratio	lev	Liabilities/total assets
	Size	size	natural logarithm of total assets
	Growth in operating income	growth	Growth in operating income year-over-year
	Earnings per share	eps	Profit after tax/total equity
	Free cash flow per share	psfcff	Free cash flow/total equity

4.4 Model Construction

To verify the direct effect of equity pledges on the choice of dividend policy, the regression model was constructed as follows:

$$pay_{it} = \alpha_0 + \alpha_1 d + \alpha_2 controls + \varepsilon \quad \text{(model1)}$$

$$pay_{it} = \beta_0 + \beta_1 pledgerate + \beta_2 contorls + \varepsilon \quad \text{(model2)}$$

To further verify the moderating effect of financing constraint between the influence of controlling shareholder's equity pledge on dividend policy choice, the regression model is constructed by adding the cross terms of financing constraint and equity pledge as follows:

$$pay_{it} = \chi_0 + \chi_1 d + \chi_2 sa + \chi_3 d \times sa + \chi_4 controls + \varepsilon \quad \text{(model3)}$$

$$pay_{it} = \delta_0 + \delta_1 pledgerate + \delta_2 sa + \delta_3 pledgerate \times sa +_4 controls + \varepsilon \quad \text{(model4)}$$

In the model controls represent control variables, i denotes cash dividends versus stock dividends, and t denotes time; denotes a dummy variable for whether equity pledges are made and a cross term for financing constraints, and denotes a cross term for the percentage of equity pledges and

financing constraints.

5. Empirical Analysis

5.1 Descriptive Statistics

Table 2 shows the results of descriptive statistics of variables, according to which it can be seen that the equity pledge ratio of domestic companies is on average at 24%, which is at a high level, and there are significant differences in the equity pledge ratio between companies; the level of cash dividend payout is not low but there are significant differences between companies; stock dividend payout does not appear to be excessively high under policy supervision.

Table 2 : Descriptive Statistics Results

Variable	Obs	Mean	Std. Dev.	Min	Max
pledgerate	19200	24.554	33.108	0	100
paycash	19200	0.963	1.302	0	6.501
paystock	19149	0.051	0.17	0	1
mhold	19149	0.004	0.029	0	0.241
roa	19138	5.788	7.736	-26.858	28.189
lev	19198	42.566	19.963	6.555	90.732
size	19198	9.682	0.59	8.55	11.46
growth	19189	15.925	34.604	-58.138	193.659
eps	19196	0.399	0.64	-1.637	3.01
psfcff	19197	0.544	0.887	-1.774	4.408
sa	19198	0.257	0.015	0.219	0.295

Table 3 shows the results of descriptive statistics of stock dividends and cash dividends grouped according to whether or not equity pledges are made. It can be seen that the cash dividend payout of the group with equity pledges is lower than that of the group without equity pledges, while the stock dividend payout is significantly higher than that of the group without equity pledges, tentatively verifying hypotheses H1a and H2a.

Table 3 : Subgroup Descriptive Statistics

		2016	2017	2018	2019	2020	2021
paycash	D=0	0.6584481	1.065347	1.150867	1.117699	1.159903	1.228074
	D=1	0.6253479	0.8605696	0.9748271	0.8915858	0.85823	0.8764812
paystock	D=0	0.0679989	0.06135	0.0364003	0.0295866	0.0243598	0.0249121
	D=1	0.1130234	0.0998085	0.0609208	0.047248	0.0327301	0.0268002

5.2 Regression Results

A baseline regression of the data in combination with the model constructed in the previous section was performed to test for direct effects. Then the financing constraint is added to test the moderating effect, and finally a robustness test is performed to verify the reliability of the regression results.

5.2.1 Baseline Regression Results

According to model 1 and model 2, baseline regressions were conducted using the dummy variable of whether equity pledged d and the equity pledge ratio pledgerate as explanatory variables, respectively, to test hypotheses H1a and H1b and H2a and H2b proposed above, and the regression results were obtained as shown in Table 4:

Table 4 : Results Of Multiple Regression Analysis of Direct Effects

	(1)	(2)	(1)	(2)
Variable	paycash	paycash	paystock	paystock
d	-0.0379**		0.0251***	
	(0.0167)		(0.00240)	
pledgerate		-0.00138***		0.000248***
		(0.000255)		(3.67e-05)

mhold	0.00552	0.00605	0.00712	0.0285
	(0.282)	(0.281)	(0.0405)	(0.0405)
roa	0.0114***	0.0111***	-0.00167***	-0.00165***
	(0.00176)	(0.00176)	(0.000254)	(0.000254)
lev	-0.00978***	-0.00963***	-0.000240***	-0.000253***
	(0.000499)	(0.000499)	(7.18e-05)	(7.21e-05)
size	0.781***	0.780***	-0.0409***	-0.0414***
	(0.0168)	(0.0168)	(0.00242)	(0.00243)
growth	-0.00209***	-0.00204***	0.000474***	0.000489***
	(0.000250)	(0.000250)	(3.60e-05)	(3.60e-05)
eps	0.493***	0.486***	0.0733***	0.0735***
	(0.0226)	(0.0226)	(0.00325)	(0.00327)
psfcff	0.0698***	0.0678***	-0.00424***	-0.00442***
	(0.0112)	(0.0112)	(0.00161)	(0.00161)
Constant	-6.432***	-6.403***	0.421***	0.431***
	(0.154)	(0.153)	(0.0221)	(0.0221)
Observations	19,078	19,078	19,078	19,078
R-squared	0.246	0.246	0.082	0.079

Note: ***, **, * denote significant at the 1%, 5%, and 10% levels, respectively; values in parentheses are t-values (same below)

According to the first column of the table, the coefficient of equity pledge is significantly negative at the 5% level, indicating that the level of cash dividend payout in companies with equity pledge is reduced by 0.0379 on average compared to companies without equity pledge, and the equity pledge behavior significantly reduces cash dividend payout; the second column shows that the coefficient of equity pledge ratio is significantly negative at the 1% level, indicating that the higher the equity pledge ratio, the cash dividend payout is less, and the equity pledge ratio shows a negative relationship with cash dividend payout, and hypothesis H1a and hypothesis H1b are verified.

The third column of the table shows that the correlation coefficient between equity pledge and stock dividend payout is 0.0251 and significant at 1% level, i.e., the stock dividend payout of the companies with equity pledge is higher than the average of the companies without equity pledge, and the equity pledge behavior significantly increases the stock dividend payout; the fourth column shows that the correlation coefficient between equity pledge ratio and stock dividend payout is 0.000248 and significant at the 1% level, which means that the increase in the percentage of controlling shareholders' equity pledge has a positive effect on the stock dividend payout, and the higher the pledge ratio, the more likely the company is to choose the stock dividend payout policy. Hypothesis H2a and hypothesis H2b are verified, and the above findings are consistent with the study of Ke Liao[12] et al.

5.2.2 Analysis of the Regulation Effect

To further verify the moderating effect of financing constraints, the regression results are shown in Table 5, according to model 3 and model 4, adding the cross terms of equity pledge and financing constraints, and the cross terms of equity pledge ratio and financing constraints:

Table 5 : Results Of Multiple Regression Analysis of Moderating Effects

	(3)	(4)	(3)	(4)
Variable	paycash	paycash	paystock	paystock
d	-0.0316*		0.0233***	
	(0.0167)		(0.00240)	
pledgerate		-0.00130***		0.000252***
		(0.000255)		(3.67e-05)
dsa	1.943*		0.393**	
	(1.129)		(0.162)	
ratesa		0.0465***		0.00768***
		(0.0171)		(0.00246)
sa	-4.644***	-3.750***	-3.750***	

	(0.731)	(0.563)	(0.563)	
mhold	0.00947	0.00454	0.00603	0.0234
	(0.281)	(0.281)	(0.0404)	(0.0403)
roa	0.0118***	0.0116***	-0.00173***	-0.00171***
	(0.00176)	(0.00176)	(0.000253)	(0.000253)
lev	-0.00991***	-0.00975***	-0.000195***	-0.000205***
	(0.000499)	(0.000499)	(7.16e-05)	(7.18e-05)
size	0.789***	0.787***	-0.0428***	-0.0434***
	(0.0169)	(0.0168)	(0.00242)	(0.00242)
growth	-0.00202***	-0.00197***	0.000450***	0.000463***
	(0.000250)	(0.000250)	(3.59e-05)	(3.59e-05)
eps	0.499***	0.493***	0.0712***	0.0715***
	(0.0226)	(0.0226)	(0.00324)	(0.00325)
psfcff	0.0706***	0.0686***	-0.00431***	-0.00443***
	(0.0112)	(0.0112)	(0.00160)	(0.00161)
Constant	0.0186*	0.00501	-0.0109***	0.000130
	(0.0113)	(0.00819)	(0.00162)	(0.00118)
Observations	19,078	19,078	19,078	19,078
R-squared	0.247	0.249	0.091	0.088

The regression results of model (3)(4) for paycash with the cross terms dsa and ratesa are significant at the 10% and 1% levels, respectively, with positive coefficients, indicating that the financing constraint situation mitigates the reduction of cash dividends paid by the company due to equity pledges. For this result, it can be inferred that after the controlling shareholder pledges its equity to reduce the cash dividend payment, if it wants to stabilize the share price or continue to seek outside capital help, it must send information about the company's operation to the market, and the cash dividend payment is the vehicle to show the company's operation results, so the financing constraint situation will slightly enhance the company's enthusiasm to send signals to the outside world by distributing dividends, and the company When constrained by the financing constraint, the company will increase the cash dividend payment to improve the company's image for future development. For paystock regression results the cross terms dsa and ratesa are significant at 5% and 1% level respectively with positive coefficients, indicating that the financing constraint situation positively moderates the payment of stock dividends after equity pledges. For this result, it can be interpreted that the controlling shareholder in the case of financing constraint has more control over internal own funds and is more inclined to distribute stock dividends when choosing dividend policy.

5.2.3 Robustness Test

The regression using the ratio of the number of controlling shareholders' equity pledges to the total share capital of the company instead of the ratio of controlling shareholders' equity pledges to shareholdings used above as the explanatory variables yields results consistent with the previous regression, proving the robustness of the empirical results of this paper.

6. Conclusion

Based on the data of A-share listed companies in the past six years, this paper investigates the impact of controlling shareholders' equity pledges on the dividend policy choice of listed companies. The results of the study find that controlling shareholders' equity pledges make companies prefer to pay stock dividends, while cash dividends are reduced compared with companies without pledges, and this preference is more obvious with the increase of controlling shareholders' equity pledges. The moderating effect of financing constraints on the payment of cash and stock dividends is significantly positive. When companies face a situation where external financing channels are blocked after equity pledges, they increase the payment of dividends to convey more information about the company's operations to the market and avoid falling into the dilemma of more depleted liquidity.

Based on the above findings, the insight is obtained that the impact of equity pledge financing on

the choice of dividend policy of the company is significant. Dividends are an important source of investment income for investors, and in the context that China's securities market is still immature at this stage and the protection mechanism for small and medium-sized investors is not perfect, unstable dividend policies are the norm for most companies, and the practice of equity pledging undoubtedly exacerbates the changes in dividend policies. The relevant authorities should strengthen the supervision of such companies, enhance the effectiveness of their information disclosure and effectively curb the negative economic consequences of equity pledges.

References

[1] Chu Yiquan, Liu Fei. “Do controlling shareholders' equity pledges raise the credit risk of listed companies?”. Shanghai Finance, vol. 484, pp.31-41,2020.

[2] Li Yongwei, Li Ruoshan. “The “Tunnel Digging” under the Equity Pledge of Listed Companies - A Case Study of Star Power's Capital Black Hole”. Finance and Accounting, vol. 350, no.02, pp.39-42,2007.

[3] Cui Can. “Research on dividend policy of listed companies in China”. Small and medium-sized enterprise management and technology (Midterm Journal), vol.665, no.11, pp. 155-157,2021.

[4] Luo Quan. “A study on the influence of controlling shareholders' equity pledge on dividend policy choice”. Xiangtan University,2021.

[5] Bhattacharya, S. “Imperfect Information, Dividend Policy, and The Bird in the Hand Fallacy”. The Bell Journal of Economics, pp.259-270, 1979.

[6] Rao Lulu. “The Impact of Economic Policy Uncertainty on Dividend Policy”. Jiangxi University of Finance and Economics”,2022.

[7] Lin Danqi. “Controlling shareholders' equity pledge, control transfer risk and high transfer”. National Circulation Economy, vol.2315, no.11, pp.71-74,2022.

[8] Mao Huimin. “Controlling shareholder equity pledges, surplus management and cash dividend policy”. Business Accounting, vol.714, no.18, pp.41-46, 2021.

[9] Li Changqing, Xing Wei, Li Maoliang. “Controlling shareholders' equity pledges and cash holding levels: emptying or avoiding the risk of control transfer”. Finance and Trade Economy, vol.39, no.04, pp. 82-98, 2018.

[10] Huang Huaji, Wang Jie. “Controlling shareholder equity pledges, financing constraints and corporate innovation”. Value Engineering, vol.41, no.23, pp. 41-43, 2022.

[11] Song Weiwei, Wng Minjia. “Major shareholder equity pledges, internal controls and financing constraints “. Finance & Accounting Newsletter, vol.904, no.20, pp. 70-74, 2022.

[12] Liao Ke, Xie Deren. “Controlling shareholders' equity pledges and dividend policy choices of listed companies”. Financial Research, vol.454, no.04, pp. 172-189, 2018.