Journal of Economic Science Research
http://ojs.bilpublishing.com/index.php/jesr

ARTICLE

Impact of Controlling Shareholder Equity Pledge on Corporate Value

Haifeng Li[1] Haiyi He[2] Yuanyuan Zhang[3*]

1. Shenzhen Hi-Tech Investment Group Co., Ltd, Chengdu, Sichuan, 611130, China
2. School of Finance, Southwestern University of Finance and Economics, Chengdu, Sichuan, 611130, China
3. School of Securities and Futures, Southwestern University of Finance and Economics, Chengdu, Sichuan, 611130, China

ARTICLE INFO

Article history
Received: 13 December 2019
Accepted: 23 December 2019
Published Online: 31 December 2019

Keywords:
Separation of powers
Equity checks and balances
Equity concentration
Incentive effect; Encroachment effect

ABSTRACT

As an innovative financing behavior, equity pledge breaks the limit of traditional financing, and broadens the financing channels of companies and major shareholders. This paper comprehensively considers the impact of controlling shareholder equity pledge on corporate value from three research perspectives. The main conclusions are as follows: (1) When the equity pledge is not considered, the cash flow rights and voting rights of the company owned by the controlling shareholder are positively correlated with corporate value. That is, this presents incentive effect, but the existence of the separation of the two powers brings the second type of agency problem and reduces corporate value. (2) When considering the equity pledge, the controlling shareholder's equity pledge may weaken the incentive effect and strengthen the encroachment effect which causing a reduction of corporate value. (3) Based on the accounting point of view, the controlling shareholder's equity pledge is negatively correlated with the corporate performance, while the concentration of ownership dilutes this negative effect. (4) The balance of equity weakens the negative effect of the controlling shareholder's equity pledge on corporate value, thereby reduces the negative impact of the equity pledge.

1. Introduction

1.1 Research Background

Due to the economic downturn in recent years, the real economy development of China has hit a bottleneck. Many listed companies have been caught in the tight capital chain, and a growing number of listed company shareholders have pledged their equity to finance the company. According to the Wind Database, controlling shareholders of 3019 listed companies in the A-share market raised capital through the pledge of shares, which presents a grandeur of "full-stock pledge" by the last trading day of 2018.

The equity pledge converts the funds invested by shareholders into the company from static to dynamic. Put another way, the funds enter the secondary market circulation once again, and the liquidity is greatly enhanced. The characteristic of equity pledge is that it not only provides loans for the controlling shareholder, but also maintains his control over the company. However, the actual cash

**Corresponding Author:*
Yuanyuan Zhang,
School of Securities and Futures, Southwestern University of Finance and Economics, Chengdu, Sichuan, 611130, China;
Email: yyzhang@swufe.edu.cn

 DOI: https://doi.org/10.30564/jesr.v3i1.1557

flow rights are reduced and the degree of separation of the two powers is intensified, while the controlling shareholder's control over the company remains unchanged after the pledge. As a result, the controlling shareholder's cost of encroaching on the corporate interests is reduced, and the possibility of expanding his own income by sacrificing the minority shareholders has increased significantly.

Since the concentration of shares is a common phenomenon in listed companies, many controlling shareholders have very strong control and take a special position in the listed company. The pledge of the controlling shareholders is also easily transmitted to the listed companies through various paths, which has a greater impact on corporate value. This indicates that although the equity pledge brings more benefits to the market, it also brings greater risks.

1.2 Research Objective

In previous literatures, we found that researches on equity pledge are mostly focused on case analysis, which makes the conclusions not comprehensive enough to be applied to most listed companies. They are highly targeted, but inadequately universal. In addition, empirical studies on equity pledge are lack of the updated data analysis for the fast changing market. Different from the existing researches, this paper will analyze the impact of the controlling shareholder's equity pledge behavior on corporate value from the perspectives of separation of powers, company performance and balance of shares, based on the China's A-share listed companies' equity pledge in 2014-2017.

The findings of this research are practical for investors. First of all, in recent years, equity pledges have grown rapidly, which has had a great impact on the market and investors. Therefore, based on information asymmetry theory, principal-agent theory, etc., this paper combines the status quo of equity pledge to conduct empirical analysis, and helps investors to better understand the financing methods.

Secondly, although the development of equity pledge is fast, the development of relevant laws and systems has not kept pace with the equity pledge, which has brought certain challenges to the regulatory authorities. This paper proposes corresponding suggestions about governance through empirical analysis, and then promotes the regulation of equity pledge.

The current academic researches on equity pledge mainly focus on two aspects: First, the analysis of the economic consequences of equity pledge, including the impact on the corporate stock price, company performance, corporate governance and corporate value etc. Second, the motives and legal characteristics of the equity pledge are studied.

Different from the existed articles, the novelty of this study lies in:

Firstly, from the perspective of research, this paper conducts a multi-angle analysis of the impact of controlling shareholder equity pledge on corporate value. Existing researches on the impact of equity pledge on corporate value are mostly based on the perspective of ownership and control, focusing on the separation of the two powers to study the cross-impact effect of equity pledge on ownership, control and corporate value. From the perspective of China's current capital market, its practicality is not enough. This paper combines the perspective of corporate performance and equity balance to comprehensively study the impact of controlling shareholder equity pledge on corporate value.

Secondly, this study uses the equity multiplier to measure financial leverage replacing most of the existing research practices which applied the asset-liability ratio.

Third, this paper obtains the latest data and distinguishes the equity pledge sample and the controlling shareholder equity pledge sample. Furthermore, the empirical analysis is divided into two situations, not considering the equity pledge and considering the equity pledge. We include as much sample data as possible for empirical analysis to make the results more reliable.

1.3 Literature Review

Li et al. [1] found that the phenomenon of encroachment on the corporate assets has increased significantly after the controlling shareholder conducts the equity pledge in the listed companies. Hao and Liang [2] revealed that the greater the proportion of the controlling shareholder' s equity pledge, the more serious the separation of the two powers, and the more motivation to encroach on the corporate interests. It is especially true for privately held companies.

Bozec et al. [3] found that when the controlling shareholder's cash flow rights and control rights are unified, they do not have a strong intention to damage corporate value. Joh [4] believed that the controlling shareholder enjoys a large degree of control due to the existence of the separation of the two powers, and they may use mergers and acquisitions to achieve the benefit transfer. The consequence reacts to the capital market, and we observe that the corporate share price will be negatively affected and fall. Ju [5] noticed that the greater the separation of the two powers, the lower corporate value in private enterprises, that is, the separation of the two powers has an amplification effect in private enterprises.

Yeh [6] found that when the corporate shareholders pledge the equity, it will aggravate the agency problem, and the pledge ratio is positively related to the agency

DOI: https://doi.org/10.30564/jesr.v3i1.1557

problem which causes corporate value to be negatively affected. Zheng et al. [7] suggested that when the ultimate controller of the company is in a difficult position, it is more likely to choose equity pledge financing, and controller has a stronger desire to extract company resources to meet its own capital needs and damage corporate value. Later, Xie et al. [8] further pointed out that major shareholders have stronger incentives to use the accounting policies for market value management after the equity pledge, which damages corporate value.

2. Methodology

The empirical part contains three parts. First, the impact of the controlling shareholder's equity pledge on corporate value is passed on through the separation of the two powers. Second, the influence of the controlling shareholder's equity pledge on the corporate performance is transmitted to corporate value. Last, we investigate the impact of controlling shareholders' equity pledge on corporate value from the perspective of equity balance.

2.1 Research Hypothesis

2.1.1 The Influence of Controlling Shareholder Information on Corporate Value without Considering Equity Pledge

According to Claessens et al. [9], voting rights are used to measure the controlling power, and cash flow rights are used to measure the ownership. The equity pledge is mainly through affecting ownership, which in turn affects corporate value. According to La port et al. [10], the higher the cash flow rights owned by the controlling shareholder, the higher the sharing benefit, and the less likely to harm the corporate interests. In this case, the Hypothesis 1 of this paper is proposed:

H1A: The cash flow rights owned by the controlling shareholder are positively correlated with corporate value when other factors remain unchanged. As the controlling shareholder's cash flow rights increase, corporate value will also increase. That is, there is an incentive effect.

H1B: The control rights owned by the controlling shareholder are positively correlated with corporate value when other factors remain unchanged. As the controlling shareholder's control increases, corporate value will also increase.

Studies have shown that when control rights and cash flow rights are inconsistent, especially when the controlling shareholder has a higher proportion of control rights with low ownership, the cost of the interest encroachment is less. Assuming that there is profit-driven, rational controlling shareholders may engage in encroachment [11]. And the greater the separation of the two powers, the more serious this encroachment behavior. Based on this, the Hypothesis 2 is proposed:

H2: The degree of separation between cash flow rights and control rights is negatively correlated with corporate value when other factors remain unchanged.

2.1.2 The Influence of Controlling Shareholder Pledge on Corporate Value

Some literature [2,9] have found that, the corporate ultimate controller's equity pledge will lead to a reduction in its actual cash flow rights, resulting in weakening incentives and agency problems given that other factors remain unchanged. Also, some scholars [7] pointed out that equity pledges would lead to the "tunneling" behavior, thus reduces corporate value. Based on these findings, the Hypothesis 3 and 4 are proposed:

H3A: When other factors remain unchanged, the equity pledge makes the actual cash flow right hold by the controlling shareholder decline, which weakens the incentive effect. Therefore it has a negative impact on corporate value.

H3B: When other factors remain unchanged, the risk of transfer of control rights will make it easier to encroach on the profit of the company and minority shareholders after the controlling shareholder's equity pledge, so that the positive correlation between control and corporate value is weakened, which reduces corporate value.

H4: The controlling shareholder's equity pledge will expand the separation of cash flow rights and control rights, and cause agency problems resulting in lower corporate value.

2.1.3 The Impact of Controlling Shareholder Equity Pledge on Corporate value From the Accounting Perspective

Wang et al., [12] believed that the controlling shareholder equity pledge will reduce the corporate performance level. Other scholars [13] found that the more concentrated the equity, the more conducive to the concentration of resources and the use of control with operational efficiency improved. Therefore, we propose Hypothesis 5:

H5: The equity pledge ratio of the controlling shareholder is negatively correlated with the corporate performance when other factors remain unchanged, but the concentration of ownership will weaken this negative correlation.

2.1.4 The Impact of Controlling Shareholder Equity Pledge on Corporate Value When Considering Equity Checks and Balances

Ruan et al. [14] found the balance of equity has a posi-

DOI: https://doi.org/10.30564/jesr.v3i1.1557

tive impact on corporate value creation within a certain range and presents the "inverted U-shaped" change law. Based on this, we propose the Hypothesis 6 as follows:

H6: The balance of equity is beneficial to internal control and corporate governance when other factors are unchanged. Put another way, when there is equity balance, the negative effect of the controlling shareholder's equity pledge on corporate value will be reduced.

2.2 Model Construction and Variable Definition

The data type in this paper is mixed cross-section data. We use multiple linear regression models to verify the linear relationship between related variables and test whether the hypotheses are true.

2.2.1 The Influence of Controlling Shareholder Information on Corporate Value

This section builds a regression model for studying the relationship between the cash flow rights and control of the controlling shareholder and corporate value. According to the research of Claessens et al. [9], we use cash flow rights and control rights as the measurement of the ownership and control of the company by the controlling shareholder.

Model I:

$$TobinQ_i = \beta_0 + \beta_1 Cash_i / Vote_i + \beta_2 Lgsize_i + \beta_3 Lev_i +$$

$$\beta_4 Growth_i + \beta_5 Industry_i + \beta_6 State_i + \varepsilon \qquad (1)$$

This model is applied to test the relationship between cash flow rights, control rights and company value, and to verify whether Hypothesis 1 is established.

Model II:

$$TobinQ_i = \beta_0 + \beta_1 Cvv_i + \beta_2 Lgsize_i + \beta_3 Lev_i + \beta_4 Growth_i$$

$$+ \beta_5 Industry_i + \beta_6 State_i + \varepsilon \qquad (2)$$

We employ this model to test the relationship between the separation of the two powers and corporate value, and to verify whether the Hypothesis 2 is hold.

Among them, $TobinQ$ is used to measure the value of the company (the replacement cost is measured by the book value of the company's total assets) ; $Cash_i$、Cvv_i represent the controlling shareholder information which refers to the cash flow rights owned by the controlling shareholder and the separation of the two powers; Lev_i is the equity multiplier, measuring the size of the corporate financial leverage; $Lgsize_i$ measures the size of the company which is the logarithm of the corporate total assets; $Growth_i$ represents the corporate future growth ability, and is measured by total operating income growth rate. $Industry_i$ denotes the industry in which the listed company is located. This paper divides the selected samples into 17 industries (excluding the financial industry) in concert with the 2012 edition of the Guidelines for the Classification of Listed Companies. $State_i$ is a dummy variable, and it is 0 for state-owned listed company and 1 for private listed company.

In line with Claessens et al. [9], this study selects cash flow rights as a measure of ownership, voting rights as a proxy of control rights, and the ratio of cash flow rights to voting rights as a measure of the separation of two powers. The sum of ownership in the control chains can be used to measure the cash flow rights. The ownership in each control chain is the product of the shareholding ratios on this chain. If the controlling shareholder's shareholding ratio at each level of the control chain is Ri , then the cash flow right is $\sum(\prod Ri$.

Refer to Hao and Liang [2], the voting rights are expressed as the sum of the smallest current prices of voting rights at each level of the control chain, i.e. voting rights $= \sum[\min(R_{i1}, R_{i2,} ... R_{im})]$, R_{ij} is the voting right of the layer j on the control chain i .

The ratio of cash flow rights to voting rights is an indicator to measure the degree of separation of the two powers. Since the cash flow rights are always less than or equal to the voting rights, the value of the variable is between 0 and 1. The larger the value, the lower the degree of separation of the two powers.

2.2.2 The Influence of Controlling Shareholder Pledge on Corporate Value

This part is mainly to construct a research model of the controlling shareholder's equity pledge to corporate value. The first section considers the impact of the expansion of separation of the two powers caused by the equity pledge on corporate value; the second section is based on the corporate performance, indirectly measuring the impact of the equity pledge on corporate value. ROA is selected as the measure of company performance, and the controlling shareholder pledge rate ($Pledge_1$) and the major shareholding ratio ($Stockrate$) are used as control variables. The third section is to study the impact of controlling shareholder pledge on corporate value in the case of equity checks and balances, and the controlling shareholder's equity pledge rate and equity balance Z are added as explanatory variables.

Model III:

$$TobinQ_i = \beta_0 + \beta_1 Cash_i / Vote_i + \beta_2 Lgsize_i + \beta_3 Lev_i$$

DOI: https://doi.org/10.30564/jesr.v3i1.1557

$$+\beta_4 Growth_i + \beta_5 Industry_i + \beta_6 State_i + \varepsilon \tag{3}$$

$$\beta = \alpha_1 + \alpha_2 Pledge_{1i}$$

This model tests the relationship between the cash flow rights, control rights and corporate value under the condition that the controlling shareholder pledged equity to verify whether the Hypothesis 3 is true.

Model IV:

$$TobinQ_i = \beta_0 + \beta_1 Cvv_i + \beta_2 Lgsize_i + \beta_3 Lev_i + \beta_4 Growth_i$$

$$+\beta_5 Industry_i + \beta_6 State_i + \varepsilon \tag{4}$$

$$\beta_1 = \alpha_1 + \alpha_2 Pledge_{1i}$$

This model measures the relationship between the change of the separation of the two rights caused by the controlling shareholder's equity pledge and corporate value for Hypothesis 4. $Pledge_1$ is an independent variable which represents the controlling shareholder's equity pledge. Yeh et al, 2003 [6] shown that when the corporate share price falls, the value of the pledged equity decreases and the pledgee will require the pledger to provide more protection to compensate the decline value of equity. It will make the controlling shareholder unreasonably uses the corporate related assets to maintain the stock price (that is, the market value management), so the equity pledge will expand the leverage effect of the control resulting in more serious agency problem and lower corporate value.

In Model III and Model IV, the β_1 is analyzed as follows:

(1) If both α_1 and α_2 are greater than zero, then the controlling shareholder information is positively correlated with corporate value, and the more the equity is pledged, the more significant this positive correlation is.

(2) If α_1 is greater than zero and α_2 is less than zero, then the controlling shareholder information is positively correlated with corporate value, and the less the equity is pledged, the more significant this positive correlation is.

(3) If α_1 is less than zero and α_2 is greater than zero, then the controlling shareholder information is negatively correlated with corporate value, and the more the equity is pledged, the more significant this negative correlation is.

(4) If both α_1 and α_2 are less than zero, then the controlling shareholder information is negatively correlated with corporate value, and the less the equity is pledged, the more significant this negative correlation is.

Model V:

$$ROA_i = \beta_0 + \beta_1 Pledge_{1i} + \beta_2 Stockrate_i + \beta_3 Lgsize_i + \beta_4 Lev_i$$

$$+\beta_5 Growth_i + \beta_6 Industry_i + \beta_7 State_i + \varepsilon \tag{5}$$

We apply this model to find out the correlation between the controlling shareholder's equity pledge and the corporate performance for Hypothesis 5. Since the corporate performance has positive impact on corporate value, the impact of the controlling shareholder's equity pledge on the corporate performance can indirectly detect the influence on corporate value which enables us to analyze the impact of controlling shareholder's equity pledge on corporate value from the accounting perspective.

Model VI:

$$TobinQ_i = \beta_0 + \beta_1 Pledge_{1i} + \beta_2 Stockrate_i + \beta_3 Lgsize_i + \beta_4 Lev_i$$

$$+\beta_5 Growth_i + \beta_6 Industry_i + \beta_7 State_i + \varepsilon \tag{6}$$

$$\beta_1 = \alpha_1 + \alpha_2 Z_i$$

Model VI is a nested model, which verifies the impact of the controlling shareholder's equity pledge on corporate value in the presence of equity checks and balances, and also verifies whether Hypothesis 6 is hold. Z is a measure of the equity balance which is obtained by dividing the sum of the shareholding ratio of the second to fifth largest shareholders by the shareholding ratio of the controlling shareholder. In other words, Z measures the balance of the remaining major shareholders of the company against the controlling shareholder.

3. Data

This paper selects a relatively complete sample of relevant information disclosure for the listed company in 2014-2017. The data is collected from the Wind Database, CSMAR Database, and the Choice Database. Specifically, the actual controller information and financial data of the required company are sourced from the CSMAR Database, the equity pledge data is derived from the Wind Database and the Choice Database. Nowadays, the laws and regulations related to the equity pledge of China's capital market is not standarded for the announcement of the equity pledge. Therefore, the information related to the equity pledge disclosed in the market is not comprehensive, and the first-hand data collected is difficult to conduct research and analysis. To solve this problem, this article firstly combines the annual reports of the listed company and the announcement related to the equity pledge, and then manually proofread and improve relevant information.

In the data processing, we deal with data and obtain a total of 10,448 research samples as following steps:

DOI: https://doi.org/10.30564/jesr.v3i1.1557

(1) The listed companies with incomplete data or insufficient disclosure are excluded at first.

(2) Exclude financial and insurance companies because the particularity of these companies make them very different from other industries, which may affect the robustness of research conclusions.

(3) Exclude companies that are ST, *ST.

(4) Use Stata to perform a 1% level of Winsorize processing on the samples.

4. Results Analysis

4.1 Correlation Analysis

In this paper, the Pearson correlation coefficient is used to analyze the correlation between variables. Since there are three major types of models in this paper, the correlation between variables is discussed in three cases.

As is shown in Table 1, except for the cross terms, the correlation coefficients between almost all variables is less than 0.5. Therefore, for the controlling shareholder information and corporate value research model, there is no multi-collinearity problem.

In Table 2, the correlation coefficients are all less than 0.5, so there is no multi-collinearity problem in terms of the company performance and the controlling shareholder equity pledge ratio model. And judging from the correlation coefficients, there is a significant negative correlation between the controlling shareholder pledge ratio and the total return on assets, which is in line with our research hypotheses.

Same as the previous analysis, there is no multicollinearity problem in the model of the influence of the controlling shareholder's equity pledge ratio on corporate value, with result shown in Table 3.

Table 1. Correlation Analysis between Controlling Shareholder Information and Corporate Value

Variable name	*TobinQ*	*Cash*	*Vote*	*Cvv*	$Pledge_1$	$Pledge_1$ **Cash*	$Pledge_1$ **Vote*	$Pledge_1$ **Cvv*	*ROA*	*Lgsize*	*Lev*	*Growth*
TobinQ	1											
Cash	-0.060***	1										
Vote	-0.087***	0.862***	1									
Cvv	0.038***	0.520***	0.061***	1								
$Pledge_1$	-0.070***	-0.14***	-0.078***	-0.151***	1							
$Pledge_1$ **Cash*	-0.061***	0.492***	0.434***	0.230***	0.6928***	1						
$Pledge_1$ **Vote*	-0.081***	0.297***	0.444***	-0.12***	0.7910***	0.905***	1					
$Pledge_1$ **Cvv*	-0.050***	0.096***	-0.06***	0.292***	0.8593***	0.803***	0.687***	1				
ROA	0.267***	0.096***	0.113***	0.032***	-0.106***	-0.008***	-0.021	-0.080***	1			
Lgsize	-0.608*	0.190***	0.227***	-0.02***	0.0804***	0.112***	0.147***	0.042***	-0.089***	1		
Lev	-0.319***	0.045***	0.060***	-0.04***	0.1067***	0.133***	0.157***	0.071***	-0.367***	0.435***	1	
Growth	0.0214**	-0.02**	-0.02*	0.002	0.0692***	0.074***	0.0712***	0.075***	0.188***	0.051***	0.0093	1

Note: *** indicates significant at 1%, ** indicates significant at 5%, and * indicates significant at 10% (the same below).

Table 2. Correlation Analysis between Company Performance and Controlling Shareholder Equity Pledge Ratio

Variable name	*ROA*	$Pledge_1$	*Stockrate*	*Lgsize*	*Lev*	*Growth*
ROA	1					
$Pledge_1$	-0.106***	1				

DOI: https://doi.org/10.30564/jesr.v3i1.1557

Stockrate	0.108***	-0.100***	1			
Lgsize	-0.089***	0.080***	0.211***	1		
Lev	-0.367***	0.107***	0.058***	0.435***	1	
Growth	0.188***	0.069***	-0.037***	0.051***	0.009	1

Table 3. Correlation Analysis of Model Variables of Stockholders' Equity Pledge on Corporate Value under Equity Check and Balance

Variable name	*TobinQ*	$Pledge_1$	*Z*	$Pledge_1$*Z	*Stockrate*	*Lgsize*	*Lev*	*Growth*
TobinQ	1							
$Pledge_1$	-0.070 ***	1						
Z	0.141 ***	0.0597***	1					
$Pledge_1$*Z	-0.034 ***	0.6005***	0.704 ***	1				
Stockrate	-0.081 ***	-0.100 ***	-0.668 ***	-0.481 ***	1			
Lgsize	-0.608 ***	0.080 ***	-0.141 ***	0.029 *	0.211 ***	1		
Lev	-0.319 ***	0.107 ***	-0.133 ***	-0.036 **	0.058 ***	0.435***	1	
Growth	0.0214**	0.069 ***	0.089 ***	0.097 ***	-0.037 ***	0.051***	0.009	1

4.2 Regression Analysis

4.2.1 Influence of Controlling Shareholder Information on Corporate Value without Considering Equity Pledge

Table 4 reports the regression results of Model I. We find that the regression coefficients of the independent variables *Cash* and *Vote* are 1.2130 and 1.0762, respectively, and are significant at the level of 1% which indicates that the Hypothesis 1 is true. That is to say, the cash flow rights and control rights are positively correlated with the corporate value. With the increase of cash flow rights, the incentive effect is enhanced. And the accompanying increase in control also reduces agency problems and conflicts of interest to a certain extent, which helps to improve the value of the company. From the perspective of control variables, there is a significant negative correlation between company size and financial leverage and corporate value, in which the negative correlation between company size and corporate value is stronger. In terms of the growth rate of operating income, the regression coefficient is significantly positive at the level of 1% indicating that the growth rate of operating income is positively correlated with corporate value. From the perspective of property right character, the value of private companies as a whole is higher than that of state-owned enterprises.

Table 4. Regression result of Model I

	Independent variable: *Cahh*		**Independent variable: *Vote***	
Variable	Coefficients *t* value		Coefficients *t* value	
Constant	27.3813*** 51.38		27.4822*** 51.59	
Cash	1.213***	9.61	——	——
Vote	——	——	1.076***	8.19
Lgsize	-2.616***	-46.34	-2.626***	-46.37
Lev	-0.112***	-5.02	-0.114***	-5.11
Growth	0.233***	4.43	0.233***	4.45
Industry State	Control 0.577***	Control 14.77	Control 0.540***	Control 14.17
Samplesize	10,448	10,448		
***F* value**	1018.61***	1002.90***		
Adjusted R^2	0.3879	0.3865		

Note: *** indicates significant at 1%, ** indicates significant at 5%, * indicates significant at 10%; model results have been tested for heteroscedasticity and processed.

In Table 5, the *Cvv* 's coefficient of Model II is 0.4035, and it is significant at the level of 1%, which can prove that the Hypothesis 2 is hold, that is, under the same conditions, the degree of separation between cash flow rights and control rights is negatively correlated with corporate value.

Table 5. Regression result of Model II

Variable	Coefficients	*t* value
Constant	26.8743**	48.59
Cvv	0.4035***	4.39
Lgsize	-2.5537***	-44.76
Lev	-0.1184***	-5.32
Growth	0.2244***	4.29
Industry	control	control
State	0.5253***	13.73
Samplesize	10,448	
F value	999.95***	
Adjusted R^2	0.3839	

4.2.2 The Influence of Controlling Shareholder Pledge on Corporate Value

As is shown in Table 6, all variables except the financial leverage variable Lev are significant at the 1% level. The main independent variables' regression coefficients are positive, but the regression coefficients of the cross term are significantly negative which is consistent with the case of α1 >0, α2 < 0 proposed in the model construction part. That is to say, the cash flow rights and control rights owned by the controlling shareholder are

positively correlated with corporate value, and the less the equity is pledged, the more significant the positive correlation is.

Table 7. regression result of Model IV

Variable nature	Variable name	Regression coefficients	t value
Constant term	Constant	29.3885***	29.90
Independent variable	Cvv	0.1079	0.76
Cross term	$Pledge1*Cvv$	-0.3743***	-3.27
	$Lgsize$	-2.8195***	-27.39
	Lev	-0.0195	-0.49
Control	$Growth$	0.2687***	3.89
variable	$Industry$	control	control
	$State$	0.5543***	6.97
Sample size		4,402	
F **value**		318.45***	
Adjusted R^2		0.3587	

In Table 7, the cross-term regression coefficient is significantly negative. This is in line with the case of α1 >0,

Table 6. regression result of Model III

Model		Independent variable: $Cash$		Independent variable:$Vote$	
Variable nature	Varianame name	Regression coefficients	t value	Regression coefficients	t value
Constant term	Constant	29.1560***	30.72	29.3493***	31.24
Independent	$Cash$	1.2454***	4.84	——	——
variable	$Vote$	——	——	1.3475***	5.75
$Pledge1*$	$Cash$	-0.9616***	-3.02	——	——
$Pledge1*$	$Vote$	——	——	-0.7734***	-2.96
	Lgsize	-2.8280***	-27.80	-2.8568***	-28.18
	Lev	-0.0212	-0.53	-0.0222	-0.55
Control	$Growth$	0.2640***	3.83	0.2672***	3.87
variable	$Industry$	Control	Control	Control	Control
	State	0.5945***	7.50	0.5639***	7.28
Sample size		4,402		4,402	
F **value**		317.9***		318.03***	
Adjusted R^2		0.3609		0.3619	

DOI: https://doi.org/10.30564/jesr.v3i1.1557

α2 < 0 proposed in the model construction part. It also indicates that the separation of the two powers is negatively correlated with the corporate value, and the controlling shareholder equity pledge will further weaken corporate value.

4.2.3 Study on the Impact of Controlling Shareholder Equity Pledge on Corporate Value based on Accounting Perspective

Table 8. regression result of Model V

Variable nature	variable name	Regression coefficients	t value
Constant term	Constant	-0.1141***	-6.90
Independent	$Pledge_1$	-0.0155***	-6.79
variable	$Stockrate$	0.0523***	9.50
	$Lgsize$	0.0167***	9.64
	Lev	-0.0157***	-23.18
Control variable	$Growth$	0.0192***	13.94
$Industry$		Control	Control
$State$		0.0154***	5.93
Number of samples		4,402	
***F* value**		162.81***	
Adjusted R^2		0.1808	

In the regression result of Model V, the regression coefficient of the equity pledge ratio of the controlling shareholder is -0.0155 and it is significant at the level of 1%, indicating that the controlling shareholder's equity pledge has a significant negative correlation with the corporate performance. After adding the control variable, $Stockrate$ false, its regression coefficient is significantly positive, which means that there is a significant positive correlation between equity concentration and company performance. This proves that Hypothesis 5 is hold. That is, the shareholding pledge ratio of the controlling shareholder is negatively correlated with the company's performance under the condition that other factors remain unchanged, but the concentration of ownership will weaken this negative correlation. From the perspective of other control variables, company size and operating income growth rate have a positive impact on company performance, while financial leverage is negatively correlated with company performance. In terms of the property nature, State's regression coefficient is significantly positive, which indicates that the performance of private enterprises is superior to state-owned enterprises as a whole.

4.2.4 The Impact of Controlling Shareholder Equity Pledge on Corporate Value When Considering Equity Checks and Balances

Table 9. regression result of Model VI

Variable nature	Variable	Coefficient	*t* value
Constant term	Constant	29.308***	31.06
Independent variable	$Pledge_1$	-0.377***	-2.91
Cross term	$Pledge_1*Z$	0.1758*	1.89
	$Stockrate$	1.2693***	4.75
	$Lgsize$	-2.8479***	-28.08
Control variable	Lev	-0.0211	-0.52
	$Growth$	0.2618***	3.80
	$Industry$	Control	control
	$State$	0.5650***	7.26
Number of samples	4,402		
***F* value**	280.58***		
Adjusted R^2	0.3		

It can be seen from Table 9 that the regression coefficient is -0.3770, and it is significant at the level of 1%, which indicates that the controlling shareholder's equity pledge ratio is significantly negatively correlated with corporate value. While considering the balance of equity, cross-terms between equity balance and pledge ratio of the controlling shareholder is significantly positive which reveals that the balance of equity weakens the negative effect of the controlling shareholder's equity pledge on corporate value. From the perspective of control variables, equity concentration and operating income growth rate are significantly positively correlated with corporate value.

4.3 Suggestion

According to the findings of this article, the controlling shareholder's equity pledge has a negative impact on corporate value and company performance which increases the risk of investment and form a bad expectation of the financing behavior, and then affect the further development of China's capital market. Therefore, this paper proposes the following suggestions for problems arising in the process of equity pledge.

(1) Regulators should formulate regulations to improve the information disclosure of equity pledge. In addition, the specific information on the equity pledge project should also be properly disclosed, which will help strengthen the supervision of the project and prevent the abuse of applying financing method of equity pledge.

DOI: https://doi.org/10.30564/jesr.v3i1.1557

(2) It is essential to further broaden the financing channels of private enterprises and alleviate the financing difficulties of private enterprises. The most important influencing factors of equity pledge are the less financing methods and financing difficulties. Under this circumstance, many enterprises are forced to choose equity pledge for financing which leads to a vicious circle.

(3) From the perspective of the company itself, internal control should be strengthened to improve internal governance. The company should properly improve the shareholding structure, and introduce strategic investors as equity balancers to supervise and restrict the behavior of the corporate controlling shareholders and to prevent the emergence of agency problems. The corporate supervisory department can set the upper limit of the pledge ratio. In addition, the responsibilities of the corporate board of supervisors should be strengthened to supervise equity pledge.

(4) From the perspective of stakeholders, they should strengthen supervision of the company and respond in a timely manner. As the corporate creditors, when lending to the company, corresponding provisions should be established to restrict the equity pledge of the corporate important shareholders. For other small and medium shareholders, the investment should be withdrawn in time if the purpose of the funds is unknown.

5. Conclusion

This paper uses nested models and multiple linear regression models to analyze the empirical data on equity pledge and fundamentals of sample companies from 2014 to 2017. In the end, the following conclusions are drawn:

(1) Without considering the pledge of equity, the cash flow rights and voting rights owned by the controlling shareholder are positively related to corporate value. However, when the separation of the two rights occurs, the controlling shareholder's cost of encroachment is reduced due to the separation between the cash flow rights and the voting rights. Then, the agency problem occurs which leads to the decrease of corporate value.

(2) The controlling shareholder's equity pledge aggravates the separation of the two power, which weaken the incentive effect and strengthen the encroachment effect, and eventually lead to the reduction of corporate value.

(3) From the perspective of the corporate performance conduction chain, the controlling shareholder's equity pledge behavior will affect the corporate performance and corporate value through conduction.

(4) Seeing from the research on equity checks and balances, when there exists equity balance, the controlling shareholder's equity pledge will be supervised and restricted by other major shareholders, thereby reducing the possibility of agent problems, which in turn reduce the negative impact on corporate value. The higher the equity balance, the weaker the negative impact of the controlling shareholder's equity pledge on corporate value.

References

[1] Yongwei Li, Ruoshan Li. "Tunnel Excavation" Under the Pledge of Listed Companies - A Case Study of Star Power Fund Black Hole [J]. Financial and Accounting, 2007(02): 39-42.

[2] Xiangchao Hao, Qi Liang. Does the Ultimate Controller's Equity Pledge Damage Corporate Value? [J]. Accounting Research, 2009 (07): 57-63+96.

[3] Bozec, Y, Laurin, C., Large Shareholder Entrenchment and Performance: Empirical Evidence From Canada, [J]. Journal of Business Finance & Accounting, 2008, 35(1) & (2): 5-49.

[4] Joh S.W., Corporate Governance and Firm Profitability: Evidence From Korea Before the Economic Crisis, [J]. Journal of Financial Economics, 2003, 68: 287-322.

[5] Xueqin Ju. Separation of Control Rights and Cash Flow Rights and Their Impact on Corporate Value - A Comparative Analysis of Natural Person Holding-Company and State-owned Assets Supervision and Administration Corporation [J]. Dongyue Theory, 2012, 33(09): 168-172.

[6] Yeh, Y.H, Ko, C.E., Su, Y.H., Ultimate Control and Expropriation of Minority Shareholders: New Evidence from Taiwan, [J]. Academic Economic Papers, 2003, 31: 263-299.

[7] Guojian Zheng, Dongjie Lin, Bin Lin. Equity Pledge, Occupation and Enterprise Value of Large Shareholders [J]. Journal of Management Science, 2014,17(09): 72-87.

[8] Deren Xie, Wei Liao, Dengjin Zheng. The Equity Pledge of Controlling Shareholders and the Implicit Choice of Accounting Policies for Development Expenditure [J]. Accounting Research, 2017(03): 30-38+94.

[9] Claessens, S., Djankov, S. and Joseph, R.H. Disentangling the incentive and Entrenchment Effects of Large Shareholdings [J]. Journal of Finance, 2002, 7(6): 2471-2771.

[10] La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Corporate Ownership Around the World, [J]. Journal of Finance, 1999, 54: 471-517.

[11] Liu Shaobo, Paradox of Control Benefits and Revenue of Control Rights -A New Theoretical Interpretation of Infringement of the Interests of Small

  DOI: https://doi.org/10.30564/jesr.v3i1.1557

Shareholders by Major Shareholders [J]. Economic Research, 2007(02): 85-96.

[12] Xinhong Wang, Xing Zhang, Zerong Xue. Study on the Impact of Large Shareholder Equity Pledge on Company Performance—Based on the Moderating-Role of Internal Control [J]. Friends of Accounting, 2018(10): 58-64.

[13] Hua Ji, Guojian Zheng. Daily Related Purchase and Sale Transactions Under the Control of Controlling Shareholders – “Performance Promotion”, “Empty” or “Camera Support” [J]. Finance and Accounting News, 2009(30): 60-63.

[14] Sumei Ruan, Zhongming Ding, Yinguo Liu, Shanlin Yang. The “Inverted U-type” Hypothesis Test of Stock Balance and Corporate Value Creation Capability - Based on Panel Data Model [J]. China Management Science, 2014, 22(02):119128.