

# Research on the Influence of Controlling Shareholder's Equity Pledge on Investor Sentiment

## -- Based on Moderating Effect of Internal Control

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### Abstract

The development of China's capital market is not mature. So it's common that investors have emotional problems. In recent years, most of the companies that have been exposed to financial scandals use equity pledge to finance by controlling shareholders, which leads that investors react violently to equity pledge. Does equity pledge of controlling shareholder really make investors depressed? Can high quality internal controls moderate its impact? With the data of A-share listed manufacturing companies in Shanghai Stock Exchange from 2016 to 2020, we do the empirical research to verify it. The results show that there is a negative correlation between equity pledge of controlling shareholders and investor sentiment and the quality of internal control can effectively weaken the negative correlation.

### Keywords

Controlling shareholder; Equity pledge; Investor sentiment; Internal control.

## 1. Introduction

In recent years, equity pledge has become a common financing method. To some extent, it has enriched the financing channels of companies. However, it has also brought some turbulence to the capital market. Controlling shareholders may use information asymmetry to whitewash mistakes in financial statements and then turn their paper wealth into actual cash by transferring their shares to others. Once the negative information is reported, share prices will fall and the interests of minority shareholders will be harmed. As time goes by, the responses of investor to controlling shareholder's equity pledge are mostly negative. While stock price reflects investors' future expectations of the company, equity pledge will cause fluctuations of stock price and unstable capital market operation.

As a positive factor in most of researches about corporate governance, can the quality of internal control mitigate the negative impact of equity pledge among the capital market?

## 2. Theoretical Analysis and Research Hypothesis

### 2.1. Controlling Shareholders Equity Pledge and Investor Sentiment

The information released by existing researches on controlling shareholder's equity pledge can be divided into positive and negative ones. Li Bingxiang, Jian Guanqun [1] and Huang Hongbin [2] introduced the investor sentiment into the researches of controlling shareholder's equity pledge. It was concluded that in order not to lose control, controlling shareholders will take a series of actions to maintain stability growth of market price, including the release of good news to the markets and boosting the investor sentiment. Therefore, the controlling shareholder's equity pledge has positive correlation with investor sentiment. The others thought that negative signal of equity pledge is equity arbitrage. We can consider that the equity pledge is to

raise money to promote the development of companies. However, it may also be a method to cash out and make profits. This just depends on a wrong thought on the spur of the moment of controlling shareholders. Xiao Jingyu [3] pointed out that most investors in the A-share market are retail investors who have weak professional knowledge and poor faculty of judgment. So they will incorrectly assess the motivation of the controlling shareholder's equity pledge. As a result, the controlling shareholder's equity pledge may have a negative impact to investor sentiment.

In addition, most shareholders have the habit of blindly following others. Therefore, the equity pledge of controlling shareholders itself and the negative events during the pledge may lead to great fluctuations in investor sentiment. Due to the limitations of information transparency in the capital market, controlling shareholders with information advantage will take advantage of it to encroach on the interests of minority shareholders and the interests of the company. Today, speculators occupy the majority of China's capital market. We can rationally infer that ordinary shareholders have bias on equity pledge. Based on the above analysis, the following hypothesis is proposed:

H1: Equity pledge by controlling shareholders has a negative relationship with investor sentiment.

## 2.2. The Regulatory Effect of Internal Control

The asymmetry information has provided convenience for controlling shareholders to cash out their equity. Good internal control can not only restrain controlling shareholders' arbitrary behaviors with efficiency, but also weaken the impact of concealing negative news of the company due to the asymmetry information. According to the quality of internal control that has been disclosed, investors may trust the motivation of the equity pledge by controlling shareholders of the company is positive in some degree, so that it can reduce fluctuations of investors' mood. Therefore, the following hypothesis is proposed:

H2: The quality of internal control can moderate the negative correlation between the equity pledge by controlling shareholders and the investor sentiment.

## 3. Empirical Design

### 3.1. Sample Selection and Data Sources

This paper selects A-share listed manufacturing companies in Shanghai Stock Exchange from 2016 to 2020 as research samples. The initial data is processed as follows: (1) Samples of ST and \*ST companies are excluded, (2) Samples of listed companies with missing data are excluded, (3) All continuous variables are treated with 1% tail reduction. After processing, we finally obtain a total sample of 3170 observations. In this paper, the data of the equity pledge of controlling shareholders comes from the CSMAR database with some manual supplementation. The data of quality of internal control comes from DIB database. Other financial data come from CSMAR database. Excel2010 and Stata16.0 are used for data processing.

### 3.2. Variable Definitions

#### 3.2.1. Investor Sentiment

Referring to the research of Shen Bing and Chen Xijuan [4], the market valuation level of companies (Tobin Q) is separated into the intrinsic value of stock growth and the mispricing part of the market. And the section of the mispricing can represent the investor sentiment at the company level. In terms of the internal value part, the scale of company, the leverage ratio and the profitability are the most important factors to fit the intrinsic value of the company. Therefore, we use the company's Tobin Q Ratio as explained variable, rate of return on total assets, financial leverage and the scale of company as explanatory variables to do regression

analysis, and then obtain the company's internal value  $Q_{it}^f$  and the mispricing part  $Q_{it}^e$ . Since this paper only selects the manufacturing industry for research, we don't segment the industry to do regression separately. What we get after standardizing residual of  $Q_{it}^e = Q_{it} - Q_{it}^f$  is investor sentiment in this paper.

The regression model is as followed:

$$Q_{it} = \beta_0 + \beta_1 Roa_{it} + \beta_2 Lev_{it} + \beta_3 Size_{it} + \varepsilon_{it}$$

Among this model,  $Q_{it}$ ,  $Roa_{it}$ ,  $Lev_{it}$  and  $Size_{it}$  separately represent the company I's Tobin Q Ratio, the rate of return on total assets, the financial leverage and the scale of company in the Year t.

### 3.2.2. Equity Pledge of Controlling Shareholders

Drawing on the method of Xie Deren[5], this paper uses whether the controlling shareholders pledged equity at the end of the year to measure equity pledge of controlling shareholders. If there has equity pledge by controlling shareholders at the end of the year, we define it is 1, otherwise it is 0.

### 3.2.3. Quality of Internal Control

This paper uses the DIB Internal Control Index to measure the quality of internal control. The index well represents the current situation of the internal control system of China's listed companies. It measures the quality of internal control of listed companies based on the five major objectives of internal control from a comprehensive aspect. To narrow the order of magnitude among variables, the original index is divided by 1000 so that the value ranges between zero and one.

### 3.2.4. Control Variables

With reference to the existing researches on investor sentiment, equity pledges and internal control, we choose Current ratio(Current), operating cash flow per share(OpeCPS), return on equity (Roe), average daily turnover rate(Tover) and return on total assets (Roa) as control variables. The annual dummy variables (Year) are included in the regression model. The detailed variable definitions in this paper are shown in Table 1.

**Table 1.** Variable definitions

Classification	Indicators	Name	Descriptions
Explained variables	Investor sentiment	Sent	Standardize residual value of Tobin Q
Explanatory variables	Equity pledge of controlling shareholders	Pledge	If controlling shareholder has equity pledge, Pledge is 1, otherwise it is 0.
Moderating variables	Quality of internal control	ICI	DIB internal control index/1000
Control variables	Current ratio	Current	Current assets/current liabilities
	operating cash flow per share	OpeCPS	Net operating cash flow/paid-in capital
	Return on equity	Roe	Net profit after tax/year-end shareholders' equity
	Average daily turnover rate	Tover	Average daily turnover rate in the year
	Return on total assets	Roa	Net profit after tax/year-end total assets
	Annual variables	Year	According to 2016-2020, set annual dummy variables

### 3.3. Regression model

To test H1, we construct a correlation model (1) between controlling shareholders' equity pledges and investors' sentiment.

$$Sent_{it} = \beta_0 + \beta_1 Pledge_{it} + \beta_2 Current_{it} + \beta_3 OpeCPS_{it} + \beta_4 Roe_{it} + \beta_5 Tover_{it} + \beta_6 Roa_{it} + \sum Year + \varepsilon \quad (1)$$

To test the moderating effect of internal control quality on the relationship between controlling shareholder equity pledge and investor sentiment in H2, we add quality of internal control as a moderating variable on the basis model (1). Also an interaction term between equity pledge and internal control quality is introduced.

$$Sent_{it} = \beta_0 + \beta_1 Pledge_{it} + \beta_2 ICI_{it} + \beta_3 Pledge_{it} * ICI_{it} + \beta_4 Current_{it} + \beta_5 OpeCPS_{it} + \beta_6 Roe_{it} + \beta_7 Tover_{it} + \beta_8 Roa_{it} + \sum Year + \varepsilon \quad (2)$$

## 4. Empirical Analysis

### 4.1. Descriptive Statistics

The results of descriptive statistics for each variable are shown in Table 2. We can see that the mean and median of investor sentiment are -0.001 and -0.267 respectively, both of them are negative, which indicates that the investor sentiment of China's A-share listed manufacturing companies in Shanghai Stock Exchange is generally low. The minimum value of -1.457 and the maximum value of 5.775 indicate that the investor sentiment of the sample companies is volatile, unstable and easily disturbed by external information. The mean of Pledge is 0.384, indicating that the controlling shareholder's equity pledge exists in some enterprises, but it is not a rare phenomenon. So it has research significance. The mean of internal control quality index is 0.65 and the median is 0.658, indicating that the quality of internal control of the sample companies is generally high, and the standard deviation is 0.066 reflecting that there is not much difference in the quality of internal control between companies.

**Table 2.** Descriptive statistics

Variables	N	Mean	Sd	Min	Median	Max
Sent	3170	-0.001	1.167	-1.457	-0.267	5.775
Pledge	3170	0.384	0.487	0	0	1
ICI	3170	0.65	0.066	0.334	0.658	0.781
Current	3170	2.136	1.821	0.438	1.601	11.86
OpeCPS	3170	0.627	0.913	-1.162	0.407	5.134
Roe	3170	0.08	0.096	-0.234	0.068	0.416
Tover	3170	1.424	1.02	0.18	1.126	5.185
Roa	3170	0.044	0.051	-0.114	0.036	0.211

### 4.2. Correlation Analysis

Table 3 reflects Pearson correlation coefficients among variables. The data shows that there is a significant correlation between equity pledge of controlling shareholders and investor sentiment, the significance level is 5%. And the correlation coefficient is -0.055, which can preliminarily confirm H1. Although there is no significant correlation between internal control and investor sentiment, the moderating effect of internal control on the negative correlation between controlling shareholder equity pledge and investor sentiment may still exist. So it is

required to be verified by further regression analysis. Almost all correlation coefficients between the variables in the table are less than 0.8. So there is no serious multicollinearity.

**Table 3.** Correlation analysis

	Sent	Pledge	ICI	Current	OpeCPS	Roe	Tover	Roa
Sent	1							
Pledge	-0.055**	1						
ICI	0.01	0.055**	1					
Current	0.109***	-0.04	0.103***	1				
OpeCPS	0.044*	-0.02	-0.072***	-0.090***	1			
Roe	0.00	-0.01	-0.049**	0.064***	0.419***	1		
Tover	0.110***	0.01	0.02	0.01	-0.097***	-0.111***	1	
Roa	0.01	-0.03	-0.045*	0.248***	0.423***	0.897***	-0.145***	1

Note: \*\*\*, \*\*, \* indicate significant at the 1%, 5% and 10% levels.

### 4.3. Regression Result

As can be seen from Table 4, the regression results of model (1) show that there is a negative correlation between controlling shareholder's equity pledge and investor sentiment at the significance level of 5%. And the correlation coefficient of -0.115 means equity pledge of controlling shareholders can greatly affect investor sentiment. This result further confirms H1, which states that investor sentiment decreases when controlling shareholders take actions of equity pledge.

**Table 4.** Regression results

Variables	(1) Sent	(2) Sent
Pledge	-0.115** (0.0558)	-1.220** (0.564)
ICI		-0.717 (0.509)
Pledge*ICI		1.696** (0.860)
Current	0.0830*** (0.0169)	0.0832*** (0.0170)
OpeCPS	0.107*** (0.0340)	0.108*** (0.0339)
Roe	0.578 (0.685)	0.582 (0.685)
Tover	0.0773*** (0.0281)	0.0789*** (0.0281)
Roa	-2.077 (1.364)	-2.140 (1.365)
Constant	0.00559 (0.0915)	0.472 (0.343)
Year	Yes	Yes
Observations	3170	3170
R-squared	0.059	0.061

Note: The value of standard errors in the parentheses, \*\*\*, \*\*, \* indicate significant at the 1%, 5% and 10% levels.

The second column shows the regression results of model (2). It can be seen that the equity pledge of controlling shareholders is still negatively correlated with investor sentiment at the significance level of 5% when we add the moderating variables and the interaction term between ICI and Pledge. The interaction coefficient is 1.696, which is significant at the 5% level. This indicates that the moderating effect exists. To be specific, the quality of internal control can play a role in weakening the negative correlation between equity pledge of controlling shareholders and investor sentiment. So H2 is verified.

## 5. Conclusions

This paper selects a sample of 634 A-shares listed manufacturing companies from 2016-2020 in Shanghai Stock Exchange, explores the correlation between controlling shareholders' equity pledges and investor sentiment, and introduces internal control to verify whether its moderating effect exists. The study shows that controlling shareholders' equity pledging behavior greatly depresses investor sentiment. As a moderating variable, high-quality internal control can play a significant role in weakening the negative correlation between equity pledge of controlling shareholders and investor sentiment

## References

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