Does the controlling shareholder's share pledging increases the financial risk of the company

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Abstract. Equity pledging, the practice of pledge shares in exchange for liquidity from lenders, has become a popular approach to financing, especially in Chinese capital market. However, although there are many attractive benefits, share pledging also brings uncertainty and risks to the companies and the market. This study examines the effect of controlling shareholder's equity pledging activities on corporate financial risk using a sample of public A-share listed companies in China. After processing the sample and eliminating some observations, a multiple regression model is used to examine the relationship of the share pledging, and ownership structure to the corporate financial risk. It is found that the effect of controlling shareholders' equity pledging can increase a company's financial risk, but this effect is subject to the balanced level of the ownership structure of major shareholders, as more shares are held by other major shareholders, the negative impact that controlling shareholders' share pledging on financial risks can be decreased.

Keywords: Corporate governance; Financial risks; share pledging; Controlling shareholder.

1. Introduction

As a new financing method, equity pledging is developing rapidly and is currently widely employed in the capital market by the companies seeking more liquidity. As of 2021, 4826 companies in all the Chinese listed companies have conducted share pleading. It can be seen that equity pledging has become an important way of financing used by shareholders of listed companies and is favoured by controlling shareholders.

At the first glance, controlling shareholders' equity pledges are a manifestation of their personal behavior, however, once the share price fluctuates or falls, it will expose the controlling shareholders to the risks of margin calls and also the risks of closing out their positions of the company's stocks and even losing control of the company. As a consequence, the controlling shareholders have the incentive to influence the financial decision of the company in order to mitigate the risks brought by share pledging and share price fluctuations. However, those actions may not be for the benefit of the general shareholders, and those decisions in mitigating the stock fluctuations may also bring about other risk factors and affect the long-term performance and operations of the company. In addressing this concern, current researchers mainly focus on the economic aftermath of stock pledges, and the impact of equity pledges on corporate value. Compared to the previous research, the contribution of this study is that it focuses on the impact of controlling shareholder's equity pledging on the company's risks, and constructs a theoretical framework of how equity pledging affects a corporate's financial risks. This can enrich the financial consequences of share pledging.

2. Literature review

2.1 Definition of financial risk

Financial risk is a hot topic of research in the field of financial and risk management. Financial risk refers specifically to the risk arising from the process of debt financing, i.e., the risk of fluctuation of investors' returns as a result of the enterprise raising funds by means of debt financing. When a company has serious liquidity problems and is unable to repay its existing debts, it poses a certain risk. When a company has serious liquidity problems and is unable to repay its existing debts, a certain amount of financial risk arises [1]. For corporate managers, a high debt ratio will increase the cost of debt and raise the risk of default; while from the shareholders' perspective, excessive indebtedness will increase financial leverage, increase the uncertainty of shareholders' returns, and increase the risk of financial default. From the shareholders' perspective, excessive indebtedness increases financial leverage, increases the uncertainty of shareholders' returns, and increases the probability of financial risk [2].

2.2 Measurement of financial risk

At present, domestic and foreign scholars mostly use financial indicators to make comprehensive measures of financial-related risks of listed companies, which are specifically classified into univariate and multivariate analysis methods.

The univariate analysis method usually applies the financial leverage (DFL) and related solvency ratio measures, such as gearing ratio, working capital allocation ratio, current ratio, capital turnover ratio, etc., to analyze and measure the financial risk of enterprises [3]. Some other studies on the topic include Gupta, who introduced three indicators, namely, the current ratio, the ratio of working capital over total assets, and the ratio of shareholders' equity to liabilities, to measure the potential bankruptcy risk of enterprises [4]. Subsequently, more and more scholars began to focus on the issue of corporate financial risk, such as Altman, who employed multivariate analysis to determine the riskiness of companies based on the financial data of several enterprises [5]. The output of his analysis is a Z - score model to discriminate the financial risk of enterprises.

2.3 Factors that affect financial risk

As the subject of this paper is the correlation between share pledging and corporate's financial risk, it focuses on the influence of internal factors of a company, like the shareholder's activities and the ownership structures of companies. From the perspective of investment and financing decisions, foreign scholars believe that the formation of financial risk is mostly concentrated in both financing and operational decision processes [6]. McNeil and Frey also support the above view, and believe that the internal investment and financing decisions and the external environment of enterprises can trigger financial risk [7]. Therefore, this paper argues that equity pledges, as one of the important financing methods, will have a significant impact on corporate financial risk.

For other factors that may affect corporate financial risk, corporate governance and major shareholders are also widely discussed. Some scholars believe that the controlling shareholder will give a "helping hand" to the company by enhancing the effectiveness of management supervision, strengthening its own governance capacity, and widening the company's access to finance to strengthen its own resistance to financial risk [8]. Yin-Hua Yeh et al. analyzed and studied the mechanism of corporate governance decisions on the degree of connected transactions, and the results showed that the higher the level of guarantees provided by the company, the lower the level of corporate capital expenditure and net working capital, and the higher the possibility of triggering internal risk, which laterally proves that significant matters are one of the influencing factors of corporate financial risk [9].

2.4 Share pledging and financial risk

In the existing literature, the effect of controlling shareholder's equity pledges on business results has been largely verified, and most scholars believe that controlling shareholder's equity pledges increase the financial risk of the firm and further damage the firm's value. Chen and Hu selected listed companies with rich investment opportunities and showed that through equity pledges, controlling shareholders can transfer high leverage and potential risks to the company, which will increase the financial risk of the company [10]. Moreover, changes in the external economic environment can significantly affect the relationship between equity pledges and corporate performance. When the market is active and the economy is booming, equity pledges can improve corporate performance, but when the market is down and the economy is in recession, equity pledges can cause corporate performance to decline, and there is a risk that controlling shareholders will have difficulty in repaying the pledged funds and that control will be transferred, which is detrimental to corporate development. Chiou et al. also showed that equity pledges weaken the correlation between business performance and external capital markets, reduce the reliability of financial performance, and further increase the financial risk of firms, and this phenomenon is more pronounced at higher pledge ratios [11]. Kao and Chen show that pledging equity leads to an increase in the risk appetite of controlling shareholders, and if the investment is successful, the returns will cover the costs, and even if the investment fails, the losses can be borne by the rest of the shareholders, which leads to over-investment in the company and thus deepens the agency problem [12]. Chan et al. (2013) argue that when controlling shareholders pledge their shares, they may be influenced by the company's stock performance, which may change the company's financial decisions regarding. The effect is more significant when the pledge ratio is high [13].

3. Hypothesis development

3.1 Controlling shareholder and financial risks

Financial risk, in general, refers to the uncertainty associated with the deviation of actual earnings from expected earnings in the conduct of financial activities. This risk includes uncertainty caused by changes in the internal and external business environment of the enterprise, and also uncertainty caused by the financial decisions of the company. The controlling shareholder has the ability to influence the financial decision of the listed company by imposing influence on the management. The aftermath of these decisions may not be in line with the benefits of the general shareholders and may lead to changes in the financial behaviour of the company, and thus lead to problems including trenching and other agency problems.

The risks may be enlarged when share-pledging activities are involved, and the influence brought by the controlling shareholders in this scenario is likely to encourage over-investment. When the controlling shareholder is at the risk of losing control of the company, if the investment becomes successful, the shareholder can gain an excessive return, while in facing the failures, the risks will be transferred to the public company, and the final result would be no worse than if the controlling shareholder does nothing and just let the stock price fall.

Secondly, these abnormal investments after the controlling shareholders conducting share pleading may increase the investment risk of the listed company. The investment risk is closely associated with the investment decision of the company. Since the controlling shareholder will try to maintain or even increase the share price of the company in order to avoid the risk of a margin call or even the risk of losing control of the company, they have more incentives to try stabilizing or increasing the share during the pledging period.

All these impacts will increase the uncertainty of the company’s operation, affect the financial performance and have a direct impact on the financial position of the firm, which in turn may lead to a significantly larger financial risk. In addition, through an analysis of the Taiwan market, Chiou et al. found that management's surplus management behaviour after equity pledges can reduce the market's trust in the financial information published by the listed companies and increase the possibility of companies falling into financial crises

In summary, this paper proposes the following hypotheses:

H1: All other things being equal, controlling shareholders' equity pledges will increase the financial risk of the firm

3.2 Ownership structure, share pledging and financial risks

Controlling shareholders' share pledging activities may increase the financial risk of listed companies. The monitoring effects can offset this risk. A sound ownership structure, i.e., the proportion of the shares held by larger shareholders, can restrain the behaviour of the controlling shareholders to a certain extent, as the multiple major shareholders jointly control the company, the balance of their power of control will make it harder for the controlling shareholder to affect management's decisions in investment, and thus constrain the over-investment and lower the agency costs. Other activities that may incur along with share pleading may also be avoided including the tunnelling. In addition, the pledging of controlling shareholders' equity increases the sensitivity of other shareholders to the controlling shareholder's own financial situation, which leads to a stronger monitoring and restraining effect from other shareholders on the controlling shareholder and makes it more difficult for the controlling shareholder to engage in tunnelling and benefits appropriation. Therefore, the ownership structure will restrain the negative aftermath of share pledging and impose a better monitoring mechanism over the behaviours of controlling shareholders, and thus play a role in reducing corporate financial risks. Based on the above analysis, this study proposes the following hypothesis.

H2: All other things being equal, the degree of equity checks and balances weakens the effect of controlling shareholders' equity pledges in increasing corporate financial risk.

4. Model variables and measurements

4.1 Sample construction

This study selects all companies listed on Chines's two major Stock Exchange, Shanghai and Shenzhen, during the period of 2014 to 2021. as a sample group, and filtered according to the following rule:

Eliminate all companies in the finance sectors, as they have different capital structures;

Exclude companies that are firstly listed within the year 2021;

Eliminate companies with *ST (special treatment) mark as they are on the delist watching list or have consecutive years of negative profits;

Exclude the companies without large shareholders. The level of large shareholders is defined as below 5%;

Eliminate observations with missing data;

The data used in this study is from the Wind database, and the data analysis is used with SPSS28 and Excel.

4.2 Variable selection and definition

4.2.1 Explained variable

Chinese scholars have studied the application of the Z-score in China and it shows that empirically the Z score is accurate in assessing the operational and financial risks of the Chinese listed companies. This study also employs the Altman's Z-score model as an indicator of a company's financial risks.

The calculation of the Z-score is presented below:

$$Z = 1.2 \times \frac{Working\ Capital}{Total\ Assests} + 1.4 \times \frac{Retained\ Earnings}{Total\ Assets} + 3.3 \times \frac{Eearnings\ Before\ Interest\ and\ Tax}{Total\ Assets} + 0.6 \times \frac{Market\ Value}{Total\ Liabilities} + 1.0 \times \frac{Total\ Sales}{Total\ Assets}. \tag{1}$$

As a result, the larger a company's Z-score is, the lower a company's financial risks, and vice versa.

4.2.2 Explanatory variables

The controlling shareholder's stock pledging ratio (Pledge). This is measured by the ratio of the number of shares bering pledged by the largerst shareholder to the total number of shares that are owned by them.

The balance level of the shares attributed across large shareholders (Balance), is calculated as the total shares held by the second and third largest shareholders divided by the total shares held by the larger shareholders. The larger a company's Balance is, the more balanced ownership structure a company has.

4.2.3 Controlling Variables

Company size (Size), is measured by the natural logarithm of the total assets of the company. The larger a company's size is, the capacity that it has to counter the risk is higher.

Return on asset (ROA) is used as an indicator of the profitability of the company. The higher the ROA, the better the company's operating performance will be, so it may have a larger ability to pivot in financial risks.

Leverage ratio (Lev). If the Lev is higher, the company has more obligations and is deeper in debt. This means the company needs more liquidity to cover and may bring higher risk to the company

Growth rate (Growth)is the year over year chage rate of the company's assets. When a company grows faster it has a higher level of risk.

4.3 Regression Model

To empirically test the hypotheses H1 and H2, the following regression model was developed and presented below:

$$\text{Z-Score} = a + \beta_1 \times Pledge + \beta_2 \times Balance + \beta_3 \times \text{Size} + \beta_4 \times ROA + \beta_5 \times \text{LEV} + \beta_6 \times Growth + \beta_7 \times Cash + \varepsilon \quad (2)$$

5. Results and discussion

5.1 Descriptive analysis

Table 1. Descriptive analysis results

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Zscore	7843	-10.0499	345.8679	8.4400	14.6523
Pledge	7843	0.0000	1.0000	0.2832	0.3485
Balance	7843	0.1264	1.9997	0.9264	0.4190
Size	7843	17.6542	28.0554	22.1825	1.3212
ROA	7843	-95.6893	96.8640	4.2267	8.4441
LEV	7843	0.0091	2.2901	0.3984	0.1983
Growth	7843	0.0423	238.5333	1.5649	4.3914

The descriptive analysis results are presented as in Table 1. Financial risk is measured by the inverse of Z value, with a mean value of around 8.44 and equivalent to, indicating that the most equity pledged sample studied in this paper is in the safe range. The pleading rate of controlling shareholders is from 0 to 1, with a mean of 0.2832, indicating there is a potential risk of share pledging associated with stock price fluctuation. The range of balanced levels among larger shareholders is from 0.1264 to 1.9997. The previous one means the largest shareholder owns the majority of stocks among all the shareholders, while the latter means the shares among the first three largest shareholders are at a similar level.

5.2 Empirical analysis and discussion

In the regression model, Z-score is used as an explained variable, and the controlling shareholder's pledging ratio (Pledge) and the balanced level among large shareholders (Balance) are used as explanatory variables. The result is presented in Table 2.

From the table, it can be seen that Pledge is negatively associated with Z-score of 1% significant level, indicating controlling shareholder's share pledging activities increased the company's financial risks. From the control variables, the regression results are consistent with the theoretical expectation, and hypothesis 1 is verified. This indicates that the effect of controlling shareholders' equity pledges can increase the financial risk of enterprises by decreasing the creditworthiness of the companies. When there's turmoil in the stock's performance, the controlling shareholder will face the risk of transfer of control when the share price falls sharply. Moreover, when stock prices are low, that makes shares in controlling shareholders' hands less valuable and unable to cover the margin, which increases the risk of insufficient cash flow and may lead to greater financial risk.

Hypothesis 2, is also verified as the model shows Balance is positively associated with Z-score on a 10% significant level. This indicates a more evenly distributed share structure among equity holders can offset the corporate financial risks. This may be due to the fact that the other major shareholders can serve as internal monitors and have an impact on the behaviour of controlling shareholders. The stronger the role of monitoring and restraining the controlling shareholders' profit appropriation, tunnelling, and over-investment after the share pledging activities.

Table 2. Regression analysis

Variables	Coefficient	z Value	Sig.
Pledge	-1.0952***	-2.6020	0.0093
Balance	0.3093*	0.9032	0.0664
Size	-0.0707***	-5.3823	0.0000
ROA	0.1829***	9.6204	0.0000
LEV	-33.0059***	-35.8842	0.0000
Growth	0.0668**	2.0336	0.0420

***, **, * denote significance level at the 1%, 5%, and 10% level, respectively

6. Conclusion

This paper discusses the relationship between controlling shareholders' share pledges and corporate financial risk and further examines the effects of ownership structure on the financial risk using Chinese publicly traded companies during 2014-2021 in Shenzhen and Shanghai Stock Exchanges. The empirical results show that: (1) the effect of controlling shareholder's share pledge is negatively related with corporate's financial risks; (2) the negative effect of equity pledge on corporate financial risk is weakened in companies with a balanced ownership structure.

References

[1] Whitaker, R. B. The early stages of financial distress. Journal of economics and finance, 1999, 23(2), 123-132.

[2] Yi Wang.Z-score model on financial crisis early-warning of listed real estate companies in China: a financial engineering perspective. Systems Engineering Procedia, 2012, 3: 153-157.

[3] Mandelker, Gershon N., and S. Ghon Rhee. The impact of the degrees of operating and financial leverage on systematic risk of common stock. Journal of financial and quantitative analysis, 1984, 19(1):45-57.

[4] Gupta, Manak C. The effect of size, growth, and industry on the financial structure of manufacturing companies. The Journal of Finance, 1969, 24(3):517-29.

[5] Altman, Edward I. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. The journal of finance, 1968, 23(4): 589-609.

[6] M Lahir. Measuring the Financial Health of Indian Oil Corporation Limited using Z-Score Model. Multinational. Finance Journal, 2014, (6).

[7] McNeil, A. J., Frey, R., & Embrechts, P. Quantitative risk management: concepts, techniques and tools-revised edition. 2011. Princeton university press.

[8] Friedman, E., Johnson, S., & Mitton, T. Propping and tunnelling. Journal of Comparative Economics, 2003, 31(4): 732-750.

[9] Yeh, Yin-Hua, Pei-Gi Shu, and Yu-Hui Su. Related-party transactions and corporate governance: The evidence from the Taiwan stock market. Pacific-Basin Finance Journal, 2012, 20(5): 755-776.

[10] Yehning Chen, Shing-yang Hu. The controlling shareholder's personal stock loan and firm performance. National Taiwan University, 2001.

[11] Chiou, Jeng-Ren, Ta-Chung Hsiung, and Lan-Feng Kao. A study on the relationship between financial distress and collateralized shares. Taiwan Accounting Review, 2002, 3(1): 79-111.

[12] Kao, Lan-Feng, and An-Lin Chen. Directors' share collateralization, earnings management and firm performance. Taiwan Accounting Review, 2007, 6. (3): 153-172.

[13] Chan, Konan, et al. Shares pledged and corporate repurchase. National Chengchi University, 2013.