

Research on the influence of equity pledge on corporate performance of cultural media listed companies

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Abstract

In China's capital market, equity pledge has emerged as a prevalent financial phenomenon, characterized by its low loan cost, abbreviated loan process, and rapid approval time. This trend continues to escalate. However, equity pledge frequently triggers explosions, and the market is reproached for its equity pledge issues. Equity pledge, although it brings convenience, also exposes potential high-risk situations, sparking widespread concerns and skepticism in the market.

In this study, panel data from 99 selected listed companies, spanning 2018 to 2022, are selected as research samples, and a model is constructed to examine the relationship between the equity pledge of controlling shareholders and corporate performance. The findings are as follows: (1) There is a significant negative correlation between the shareholding pledge of controlling shareholders and the company's operating results. The regression remains significant even after controlling for some variables and further controlling for the annual and individual effects. (2) The findings of the Bootstrap mediation effect test demonstrate a significant mediating influence of financing constraints on equity pledges and corporate performance. Moreover, the results of the significance level and regression coefficient symbol reveal that the equity pledge of controlling shareholders exacerbates the restrictive impact on corporate performance by alleviating the intermediary path of financing constraints encountered by enterprises.



Full Text Article



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Keywords: Controlling shareholder; Equity pledge; Equity pledge

Background and implications

Background

Compared with the traditional way of pledging physical assets, equity pledge is essentially an innovative right pledge. In 2013, the promulgation of the Business Methods for Stock Pledge Repurchase Transactions and Registration and Settlement marked a critical stage of development for the equity pledge system. Since the release of the registration and settlement business method in 2013, securities companies have standardized the pledge behavior, and the market financing behavior of equity pledge has developed explosively. In 2017, the China Securities Regulatory Commission (CSRC) issued a series of regulations on the reduction of shareholdings by major shareholders and private placements to restrict listed companies from obtaining funds through shareholding reductions, As well as the downward pressure of downgrading in 2018, bank loans have obvious policy tendencies, harsh loan conditions, cumbersome procedures, etc., resulting in limited financing channels for major shareholders. As of December 2022, 38.588 billion shares have been pledged by A-share listed companies, and 11.386 billion shares have been pledged by listed companies in the culture and media category, accounting for 9.5% of the total A-share market².

Research implications

From a theoretical point of view, this paper further explores how equity pledge affects the performance of firms, and provides a new research direction for the economic impact of equity pledge. In recent years, due to the gradual expansion of the scale of equity pledges, the deviation between cash flow rights and control rights has made the second type of agency problem more serious, and the resulting risks have become more and more obvious. From the perspective of financing constraints, this study explores the close relationship between equity pledge and firm performance. Based on the characteristics of property rights, we have conducted more detailed research to further deepen the understanding of how equity pledge affects corporate performance, which is of far-reaching significance for theoretical research. At the same time, by systematically combing the equity pledge announcement of the controlling shareholder, it is found that the existing industry research is relatively scarce, and the impact of equity pledge on corporate performance is analyzed and studied by taking the cultural media industry as the research object, which is helpful to improve investors' understanding of equity pledge.

From a practical point of view, major shareholders in the culture and media industry frequently "hollow out" enterprises. Given that the industry is under tremendous pressure to raise funds, it has become a common practice to raise capital through equity pledges. The possible impact of this industry and the corresponding strategies to deal with it are almost always hotly debated by the

public. On this basis, this paper examines the internal relationship between the controlling shareholder's equity pledge and the company's performance, which can guide the rational operation of the enterprise and promote technological innovation. At the same time, it will also help improve China's equity pledge system. From the perspective of the intermediary effect of financing constraints, this paper reveals how the equity pledge of controlling shareholders affects the performance of the company, which helps enterprises to better understand how financing constraints affect the performance, and also helps enterprises to understand the financing behavior of listed companies more accurately.

Literature research

Research on the motivation and risk of equity pledge

Although the equity pledge is mainly a personal financing act of the major shareholder, according to the original intention and intention of the major shareholder, this behavior can be divided into two different motives: good faith and bad faith.

Equity pledges under bona fide motives usually reflect the confidence of the majority shareholder in the company and their positive expectations for future development. They may use the pledged funds for the company's business development, technological innovation, or debt repayment, etc., with the aim of enhancing the company's competitiveness and market position. Equity pledge under this motive often contributes to the long-term development of the company and may bring stability and growth in the stock price. Many scholars believe that the pledge of shares by listed companies is not done in good faith. Philip, J., Author2, L., & Author3, M. (2016). argue that the better a company's financial and operational performance, the more likely it is that the controlling shareholder will transfer the company's interests to itself by providing external guarantees or conducting related party transactions. Chan, K., Smith, I. J., & Johnson, A. B. (2013). argue that controlling shareholders use their equity to seek their own personal gains, pledge the funds raised to repurchase the shares of listed companies, so as to increase their shareholdings, thereby strengthening their controlling position and seeking private interests for themselves. Some scholars have also pointed out that the core purpose of shareholders' equity pledge is to stabilize their controlling position, and in this process, equity pledge is mainly used as a temporary means, and in order to avoid loss of control, controlling shareholders holding pledged equity are often inclined to release positive information and send positive signals to the market. In order to maintain the stability of the company's stock price and maintain its own interests and control (Lee, J., Smith, A., Johnson, B., & others (2004)) argue that after the equity pledge, although the controlling shareholder retains control of the company, its cash flow rights are restricted, which may lead it to

focus more on short-term interests, and even pursue private gains at the expense of the interests of the company and minority shareholders .

Under the malicious motive of equity pledge, the controlling shareholder is more inclined to use the equity pledge as a means to satisfy personal self-interest, rather than really promote the development of the enterprise. After the equity pledge, the deviation between the control and the cash flow right is intensified, and while the control remains unchanged, the cash flow right is reduced, and the controlling shareholder can complete the hollowing out at a relatively small cost. This kind of behavior is often at the expense of the interests of the company and minority shareholders, reflecting the bad motives and potential risks of the controlling shareholders behind the equity pledge. There is a positive correlation between the motivation of encroachment and the degree of deviation between the two powers. With the increase of the motivation for embezzlement, the conflict between the controlling shareholder and the minority shareholder will often be exacerbated, especially when the major shareholder itself faces financial constraints or the enterprise faces financing constraints, and the conflict between the two parties further escalates. To sum up, many scholars believe that the financing method of equity pledge chosen by major shareholders is to satisfy their private interests and encroach on the rights and interests of small and medium-sized shareholders.

Equity pledge and financing constraints

In the existing literature, most of them believe that there is a significant positive correlation between the financing constraints of enterprises and the equity pledge behavior. Cheng, H., Wang, J., Zhang, L., & others (2021) argue that compared with other financing methods, equity pledge is easy to operate and can alleviate the company's financial pressure in a short period of time, but at the same time, shareholders' equity pledge behavior will also affect the company's financing constraints, and there is a two-way causal relationship between the two . The convenience of equity pledge alleviates the financing constraints of companies, but companies need to carefully weigh the pros and cons when conducting equity pledge financing (Pang, C., & Wang, Y. (2020) .

Financing constraints and firm performance

Mainstream academic views and a large number of practices have proved that under the influence of the corresponding "intermediary", equity pledge will inhibit the improvement of enterprise performance to a certain extent. Based on the literature and the theory of two-power deviation and principal-agent, this paper uses financing constraints as an intermediary to form the impact transmission path of equity pledge-financing constraint-enterprise performance. Chen, Y., & Hu, J. (2001) argue that during a bear market, the overall stock market underperforms and stock prices generally fall, which puts more pressure on shareholders who obtain funds through equity pledges .

Research on the relationship between equity pledge and enterprise performance

At present, more scholars believe that equity pledge has an adverse impact on corporate performance.

From the perspective of the separation of rights and the hollowing out of major shareholders, according to the research of Wang, Y. C., & Chou, R. K. (2018), the pledge of equity may aggravate the problem of agency and have a negative impact on listed companies. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1999) argue that the size of the cash flow right greatly affects the decision-making and behavior of the controlling shareholder, and that under the same conditions, increasing the size of the cash flow right can help to motivate the controlling shareholder to increase the value of the enterprise while reducing the encroachment on the company's interests. By enhancing the separation of the two rights and reducing the cash flow rights, the equity pledge reduces the enthusiasm of the listed company to enhance its value, and may lead to a series of behaviors that are not conducive to the development of the company. These actions not only lead to the misuse and waste of corporate resources, but also undermine the company's governance structure and market confidence. In terms of finance, the hollowing out behavior may lead to the rupture of the company's capital chain, the decline of profitability, and the weakening of debt repayment ability. On the market side, embezzlement and hollowing out may raise investors' concerns about corporate governance and future development, leading to consequences such as falling stock prices and shrinking market capitalization, which in turn can adversely affect corporate performance.

Literature review

In general, equity pledge research has focused on the drivers behind it and its impact on the economy. As for the causes of equity pledge and its impact on the company's operation, the academic community has not yet reached a unified conclusion. Many scholars generally hold the view that the core goal of major shareholders to pledge shares is to obtain more funds, strengthen their control, and hollow out assets. Hollowing out behavior may take many forms, such as malicious appropriation of listed companies' funds, related party guarantees, related party transactions, etc. These actions are not only harmful to the interests of the company, but also to the interests of other shareholders and creditors. There is no consistent conclusion on how the equity pledge of major shareholders affects the performance of the company, and some studies believe that the equity pledge makes the major shareholder face greater agency conflict and encroachment potential, and damages the company's performance. Other studies suggest that when stock prices fall, major shareholders face higher risk and the risk of a change of control, so they will focus on improving the company's performance to avoid a shift in control.

Regarding the relationship between equity pledge and financing constraints and firm performance, the mainstream view is that equity pledge exacerbates the financing constraints of firms, which in turn adversely affects firm performance. After the equity pledge, the majority shareholder may focus more on short-term interests and ignore the long-term development of the company. Such short-sighted behavior can damage the company's reputation and credibility, which in turn can affect the company's ability to raise funds. Financing constraints limit companies' sources of capital, making it difficult to obtain sufficient funding to drive business development and expansion. When a company faces financing constraints, it may not be able to obtain the required funds in a timely manner to support its key activities such as innovation, R&D, and marketing, which affects the competitiveness and market position of the enterprise. This restriction can cause businesses to miss out on good business opportunities, limiting their potential for growth and development.

Theoretical analysis and research hypotheses

The impact of the controlling shareholder's equity pledge on corporate performance

The company's performance mirrors its operations, and the controlling shareholder's equity pledge, though personal, may impact performance. This study examines this based on theories:

Principal-agent theory suggests ownership-management separation boosts efficiency but agents may harm owners due to personal interests or information asymmetry, weakening equity incentives' impact.

Information asymmetry theory notes information gaps can harm minorities, raise financing challenges, and trigger adverse selection and moral hazard.

Separation of powers theory highlights conflicts between controlling and minority shareholders, exacerbated by equity pledges, risking fund misappropriation and damaging firm reputation.

Signaling Theory explains how equity pledges signal financial needs, influencing market perceptions and stock prices.

Hence, the study hypothesizes H1: higher controlling shareholder pledge ratios correlate negatively with cultural media enterprise performance.

Financing constraints and the impact of equity pledges and firm performance

Myers and Majluf (1984) noted information asymmetry limits internal financing, with insiders having an edge. This leads to "adverse selection" where managers may conceal unfavorable info to boost external investor confidence. Post-financing, high supervision costs risk fund misappropriation. Financing constraints force enterprises to abandon potential projects, weakening competitiveness and raising costs. Based on this, this paper proposes hypotheses: H2 - higher controlling shareholder pledge ratios lead to stronger financing constraints; H3 - financing constraints partially mediate the impact of equity pledge on enterprise performance.

Study design

Sample selection and data sources

This study examines A-share media firms (2018-2022) as the research sample, and the specific data sample is adjusted according to the following criteria:

- (1) Excluding the sample of enterprises listed after 2018;
 - (2) Excluding samples in special states and missing data, there are problems of uneven quality in the information disclosure of China's cultural media industry, and the exclusion of such companies can ensure the integrity and comparability of research samples and avoid bias and misleading due to insufficient information disclosure;
 - (3) Excluding listed companies with major asset restructuring, major asset restructuring often involves a large amount of capital flow and asset replacement, which may lead to sharp fluctuations in the company's financial data in the short term. Such fluctuations may not only conceal the true operating conditions of the company, mislead investors and researchers about the company's judgment, but also greatly reduce the correlation between the equity pledge and the company's operating results.
 - (4) Listed companies that were ST and *ST in 2018-2022 will be excluded;
- In the end, a sample of 99 companies that met the requirements was obtained.

The study relied primarily on publicly available and manually collected data on corporate annual reports, announcements, and corporate websites, most of which involved financial information derived from the CSMAR database and cross-validated data. In this study, Stata 15.0 was used to analyze and process the data preliminarily processed by Excel for more in-depth analysis and processing, and the relationship between variables and influencing factors were explored.

Variable selection

Explanatory variables

Enterprise performance reflects profitability and operator efficiency in a business cycle, indicating operating quality. Most scholars use accounting (e.g., ROA, ROE) and market indicators (e.g., Tobin's Q, P/E ratio) to evaluate it. This study chose ROA as the performance criterion.

Explanatory variables

This paper, following previous scholars, uses two variables to measure controlling shareholder pledge: Pledge1 (continuous, indicating pledge ratio) and Pledge2 (dummy, indicating whether pledged at year-end, valued as 1 or 0).

Mediation variables

To reflect financing constraints of China's cultural and media listed companies, this study uses univariate (e.g., current ratio, cash holding changes, company size) and multivariate indicators (KZ, SA, WW). The KZ index, proposed by Kaplan and Zingales, measures financing constraints using an ordered Logit model. Higher KZ values indicate greater constraints. Due to its academic acclaim, the KZ index is adopted here, sourced from the Guotaian database, calculated as described.

$KZ = [(EBIT + \text{depreciation and amortization} - \text{interest expense}) / \text{market value of the enterprise}] * 100\%$.

Control variables

When selecting control variables for the regression model, we refer to previous literature and include: Company size (Size), debt-to-asset ratio (Lev), growth ability (measured by total asset growth rate), total management compensation (SS), return on investment, and a year, Individual dummy variable to control for time effects. These variables help accurately reveal the relationship between equity pledges and firm performance, considering various influencing factors and isolating macroeconomic impacts.

Table 4-1 Variable definitions

Variable type	The name of the variable	symbol	Variable definitions
Explanatory variables	Return on total assets	ROA	Net Profit/Average Balance of Total Assets
Explanatory variables	Equity pledge	Pledge1 Pledge2	The number of shares pledged by the controlling shareholder/the total number of shares of the enterprise If the controlling shareholder has an equity pledge at the end of the year, a value of 1 is assigned, otherwise a value of 0 is assigned
Mediation variables	Financing constraints	KZ	KZ Index
Control variables	The size of the enterprise	Size	The natural logarithm of total assets at the end of the period
	Debt-to-asset ratio	Lev	Total Liabilities/Total Assets (Total assets at the end of the period - Total assets at the end of the previous period) / Total assets at the end of the previous period
	The company's ability to grow	Growth	The natural logarithm of total management compensation
	Total management compensation	SS	
	Return on Return	Return	Investment income for the period /

DOI : <https://doi.org/10.71113/JCSIS.2025v2i1.19-35>

Xi, J., Wu, Y., & Yang, L. (2025). Research on the influence of equity pledge on corporate performance of cultural media listed companies. *Journal of Current Social Issues Studies*, 2(1), 19 – 35.

investment		Total investment at the end of the period
year	Year	Dummy variables
Individual businesses	Individual	Dummy variables

Research the model

In order to test the key hypothesis in this study, i.e., whether the equity pledge of the controlling shareholder will have an impact on the company's performance, we construct the following multiple regression model:

$$ROA_{it} = c \times Pledge_{it} + \gamma_1 Size_{it} + \gamma_2 lev_{it} + \gamma_3 growth_{it} + \gamma_4 SS_{it} + \gamma_5 Return_{it} + YearFixedEffects + IndividualFixedEffects + \epsilon_{it}$$

(4-1)

$$KZ_{it} = \alpha \times Pledge_{it} + \beta_1 Size_{it} + \beta_2 lev_{it} + \beta_3 growth_{it} + \beta_4 SS_{it} + \beta_5 Return_{it} + YearFixedEffects + IndividualFixedEffects + \epsilon_{it}$$

(4-2)

$$ROA_{it} = c' \times Pledge_{it} + b \times KZ_{it} + \gamma'_1 Size_{it} + \gamma'_2 lev_{it} + \gamma'_3 growth_{it} + \gamma'_4 SS_{it} + \gamma'_5 Return_{it} + YearFixedEffects + IndividualFixedEffects + \epsilon_{it}$$

(4-3)

In the above model, Pledge is a representative of equity pledge, and Pledge1 and Pledge2 are used to quantify, and the specific quantification methods of other variables can be found in Table 4-1.

4. Methods for mediating effects

If the influence of variable X on Y is transmitted through variable M, then M is the mediating variable, and the relationship between X, M, and Y is shown in Figure 4-1. The basic principle is shown in Figure 4-1.

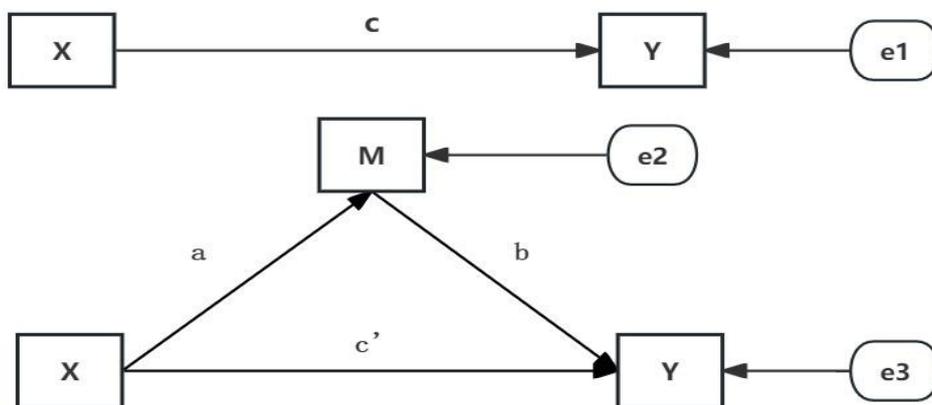


Figure 4-1 Schematic diagram of the mediation model

In recent years, scholars have been deepening their research on the validity of test methods and the appropriateness of test procedures, Jerry Hausman (2002), Preacher and Hayes (2004), and Zhao et al. (2010).and other scholars have questioned the effectiveness of the stepwise regression test, and recommended the use of the Bootstrap method to test the mediating effect, and the specific test steps are as follows:

$$Y=cX+e1 \quad (4-4)$$

$$M=aX+e2 \quad (4-5)$$

$$Y=c'X+bM+e3 \quad (4-6)$$

X and Y are regressed to obtain the coefficient c. If c is significant, then the next test is carried out according to the mediating effect, otherwise it is a masking effect, and the test is stopped.

X and M are regressed to obtain the coefficient a; X and M together perform a regression on Y to obtain the coefficient b. If both A and B are significant, the fourth step is proceeded, and vice versa, the third step is continued.

Use the Bootstrap method to verify a and b. If it is significant, it will move to the next step, otherwise the test will be stopped.

Test the coefficient c' obtained by regression of X and M together to Y. If c' is significant, the direct effect is significant, and the next step of analysis continues, otherwise the direct effect is not significant.

Compare the symbols of AB and C'. If the two have the same number, it is a partial mediation effect, and vice versa, it is a masking effect.

Empirical analysis

Descriptive statistics

Before starting the empirical study, this part first performs a descriptive statistical analysis of each variable, and then delves into the equity pledge status of the controlling shareholders in the selected sample.

Descriptive statistical analysis of the variables involved in the model was performed with the following results:

Table 5-1 Descriptive statistics of the main variables

Variable name	Sample size	mean	standard deviation	min	max	P25	median	P75
ROA	495	0.020	0.195	-1.190	0.930	0.000	0.035	0.070
Pledge1	495	12.890	15.167	0.000	66.900	0.020	7.199	22.780
Pledge2	495	0.380	0.486	0.000	1.000	0.000	0.000	1.000
KZ	495	0.480	2.318	-6.920	6.250	-0.920	0.580	2.090
Size	495	9.740	0.433	8.680	10.650	9.440	9.729	10.070

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Lev	495	0.380	0.200	0.060	1.590	0.240	0.347	0.460
Growth	495	0.010	0.193	-0.560	1.610	-0.080	0.024	0.100
SS	495	7.420	5.607	0.730	35.810	4.340	6.406	7.480
Return	495	0.200	1.461	-21.470	16.850	0.010	0.054	0.140

This study analyzed data from 99 listed companies in the culture and media sector from 2018 to 2022, exploring the relationship and characteristics of companies with equity pledge problems. The average return on assets (ROA) was 2%, with a significant variation (standard deviation of 0.195), indicating weak overall profitability. The average equity pledge ratio by controlling shareholders was 12.89%, reflecting its ubiquity and large scale, with significant differences among enterprises (standard deviation of 15.167). Financing Constraint (KZ) varied considerably, with an average of 0.48 and a standard deviation of 2.318. Control variables showed little variation in company size (standard deviation of 0.433) and enterprise growth (standard deviation of 0.193), while asset-liability ratios varied widely (from 0.06 to 1.59), averaging near 40%. Management compensation (SS) and investment returns also showed significant variations.

Correlation analysis

Stata 16.0 was used to analyze the correlation between variables to preliminarily test the above hypothesis, and the specific results are shown in Table 5-2.

Table 5-2 Pearson correlation test results

	ROA	Pledge1	Pledge2	KZ	Size	Lev	Growth	SS	Return
ROA	1								
Pledge1	-0.178***	1							
Pledge2	-0.101**	0.354***	1						
KZ	-0.237***	0.156***	0.123***	1					
Size	0.195***	-0.131***	-0.205***	-0.061	1				
Lev	-0.131***	0.126***	0.054	0.311***	-0.069	1			
Growth	0.418***	-0.153***	-0.104**	-0.223***	0.144***	-0.106**	1		
SS	0.144***	-0.004	0.017	0.002	0.345***	-0.006	0.071	1	
Return	0.255***	-0.063	0.019	-0.037	-0.003	0.044	0.137***	0.011	1

From the correlation analysis results provided in Table 5-2, we can draw the following conclusions: the correlation coefficient between ROA and Pledge1 is -0.178, and it is significant at the level of 1%; The correlation coefficient between ROA and Pledge2 was -0.101, which was significant at the 5% level. These two negative correlation coefficients imply that there is a significant negative relationship between the proportion of equity pledged (whether represented by

Pledge1 or Pledge2) and firm performance (ROA). In other words, as the proportion of equity pledges increases, the company's performance has a downward trend. This preliminarily supports the hypothesis H1 that equity pledge has a negative impact on firm performance. The correlation coefficient between Pledge1 and KZ is 0.156 and is at the level of 1%.

The correlation coefficient between Pledge2 and KZ is 0.123, which is also significant at the 1% level. These two positive correlation coefficients indicate that there is a significant positive relationship between the equity pledge ratio and the financing constraint index (KZ). As the proportion of equity pledges increases, the company may face higher financing constraints. This preliminarily supports the research hypothesis H2, i.e. The pledge behavior is positively correlated with the financing constraints faced by the company. Table 5-2 also shows the correlation between the control variables and the ROA, all of which have a significant correlation with the ROA, and the signs of the coefficients are within the expected reasonable range. This means that it makes sense to consider these control variables in the model, as they may have an important impact on ROA and help to more accurately estimate the direct impact of staking on ROA.

Regression analysis

Analysis of the regression results of equity pledge and firm performance

To test H1 on equity pledges' negative impact on firm performance, a regression analysis was conducted. Based on prior correlation analysis, negative regression coefficients for Pledge1 and Pledge2 were expected (Table 5-3).

Table 5-3 Regression results of equity pledge and firm performance

VARIABLES	ROA	
	(1)	(2)
Pledge1	-0.004*** (0.001)	
Pledge2		-0.078*** (0.021)
Size	0.074 (0.080)	0.029 (0.080)
Lev	-0.078 (0.084)	-0.080 (0.085)
Growth	0.363*** (0.051)	0.376*** (0.051)
SS	-0.000 (0.002)	0.000 (0.002)
Return	0.026*** (0.006)	0.027*** (0.006)
_cons	-0.634 (0.785)	-0.229 (0.782)

DOI : <https://doi.org/10.71113/JCSIS.2025v2i1.19-35>

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Year	con	con
Individual	con	con
N	495	495
R2	0.225	0.216
adj. R2	0.008	-0.003
F	11.207	10.639

*p<0.05,**p<0.01,***p<0.001 The t-value is enclosed in parentheses

According to H1, major shareholders' equity pledges may harm firm performance by diverting resources. Regression analysis using Pledge1 and Pledge2 as independent variables, considering control variables, showed negative coefficients (-0.004 and -0.078) with high statistical significance (t-values: 0.001, 0.021). This confirms H1, indicating a significant negative correlation between major shareholders' equity pledges and company performance.

Regression analysis of equity pledge and financing constraints

In order to verify hypothesis H2, i.e., equity pledge behavior is positively correlated with the financing constraints faced by firms, this paper uses model (2) to perform regression analysis. Based on the foregoing analysis, we expect the regression coefficients for Pledge1 and Pledge2 to be positive, indicating that an increase in the proportion of equity pledges will lead to an increase in the financing constraints faced by the company. Table 5-4 shows the specific regression results:

Table 5-4 Regression results of equity pledge and financing constraints

VARIABLES	KZ	
	(1)	(2)
Pledge1	0.027** (0.009)	
Pledge2		0.669*** (0.197)
Size	0.194 (0.771)	0.481 (0.760)
Lev	1.364 (0.807)	1.342 (0.804)
Growth	-1.613** (0.490)	-1.705*** (0.489)
SS	-0.003 (0.023)	-0.002 (0.023)
Return	-0.088 (0.054)	-0.091 (0.054)
_cons	-2.664	-5.269
Year	con	con
Individual	con	con
R2	0.092	0.098
adj. R2	-0.162	-0.155
F	3.928	4.180

*p<0.05,**p<0.01,***p<0.001The t-value is enclosed in parentheses

Regression results in Table 5-4 show that Pledge1 (coef. 0.027, t-value 0.009, p<0.05) and Pledge2 (coef. 0.669, t-value 0.197, p<0.01) positively correlate with financing constraints. This supports H2, indicating that equity pledges increase financing constraints for listed companies. While equity pledges offer quick funding, they may exacerbate financing issues due to factors like stock price volatility and control risk. Thus, listed companies should weigh equity pledges against other financing options.

The mediating effect test of financing constraints

In order to verify hypothesis H3, that is, financing constraints play a mediating role in the relationship between equity pledge behavior and firm performance, this paper uses model (1), model (2) and model (3) to perform regression analysis with reference to the mediation effect test procedure. Table 5-5 shows the specific regression results:

VARIABLE	(1)	(2)	(3)	(4)	(5)	(6)
S	ROA	KZ	ROA	ROA	KZ	ROA
KZ			-0.016** (0.005)			-0.016** (0.005)
Pledge1	-0.004*** (0.001)	0.027** (0.009)	-0.004*** (0.001)			
Pledge2				-0.078*** (0.021)	0.669*** (0.197)	-0.067** (0.021)
Size	0.074 (0.080)	0.194 (0.771)	0.077 (0.080)	0.029 (0.080)	0.481 (0.760)	0.037 (0.079)
Lev	-0.078 (0.084)	1.364 (0.807)	-0.056 (0.083)	-0.080 (0.085)	1.342 (0.804)	-0.058 (0.084)
Growth	0.363*** (0.051)	-1.613** (0.490)	0.337*** (0.051)	0.376*** (0.051)	-1.705*** (0.489)	0.348*** (0.052)
SS	-0.000 (0.002)	-0.003 (0.023)	-0.000 (0.002)	0.000 (0.002)	-0.002 (0.023)	-0.000 (0.002)
Return	0.026*** (0.006)	-0.088 (0.054)	0.025*** (0.006)	0.027*** (0.006)	-0.091 (0.054)	0.025*** (0.006)
_cons	-0.634 (0.785)	-2.664 (7.532)	-0.677 (0.777)	-0.229 (0.782)	-5.269 (7.441)	-0.315 (0.774)
Year	con	con	con	con	con	con
Individual	con	con	con	con	con	con
N	495	495	495	495	495	495
R2	0.225	0.092	0.244	0.216	0.098	0.235
adj. R2	0.008	-0.162	0.030	-0.003	-0.155	0.019
F	11.207	3.928	11.280	10.639	4.180	10.758

Table 5-5 Tests of the mediating effect of financing constraints

*p<0.05, **p<0.01, ***p<0.001 The t-value is enclosed in parentheses

Regression results in Table 5-5 show that equity pledges by major shareholders (Pledge1 and Pledge2) significantly negatively correlate with firm performance (ROA) at the 1% level. This suggests increased financial risk, funding issues, or short-term decision-making. The coefficients related to financing constraints (KZ) in equations (4-5) and (4-4) are also significant, indicating that equity pledges increase financing constraints. The coefficient between financing constraints and ROA is significant, showing an indirect effect. The coefficient c' in equation (4-6) remains

significant, indicating a direct negative impact of equity pledges on firm performance. Since the signs of the indirect effect (ab) and direct effect (C') are the same, financing constraints mediate the relationship between equity pledges and firm performance, supporting H3.

According to the above model test results, the coefficients in the equation are sorted out and summarized, as shown in Table 5-6

Table 5-6 Summary of mediating effect test coefficients

coefficient	Pledge1	Pledge2
c	-0.004	-0.078
a	0.027	0.669
b	-0.016	-0.016
c'	-0.004	-0.067
ab	C'Ibid.	C'Ibid.
outcome	Mediation effect	Mediation effect

Conclusions and recommendations

Conclusions of the study

This paper selects A-share listed companies in the media industry from 2018 to 2022 as the research sample, and finds that there is a negative correlation between the equity pledge of major shareholders and corporate performance by introducing the key variable of financing constraints, and financing constraints play an important mediating role in them.

Research deficiencies and prospects

To a certain extent, the investment direction of the controlling shareholder's equity pledge funds reveals the intention of the shareholders' equity pledge, which has important academic value for the research on the investment direction of equity pledge funds. However, given the current situation, it is difficult to collect relevant data on the investment of equity pledged funds. Therefore, this article does not delve into this perspective. In addition, the relatively small number of listed cultural media companies in China and the lack of empirical data up to 2022 limit the empirical analysis of this study to some extent, and it is hoped that these issues can be further explored in future research.

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