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Multiple Major Shareholders and Corporate Leverage Manipulation

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Abstract

This article takes the financial manipulation behavior of enterprises under the background of China's leverage regulatory policies as the entry point, focusing on the mechanism of the impact of multiple major shareholder structures on corporate leverage manipulation. Based on a sample of non-financial listed companies in China's A-share market from 2008 to 2023, empirical research is conducted. Research has found that compared to a single controlling shareholder structure, equity arrangements with multiple major shareholders significantly enhance the level of leverage manipulation in enterprises, and this boosting effect still holds true after a series of robustness tests. The research conclusion not only provides a new corporate governance perspective for understanding leverage manipulation behavior, but also provides empirical evidence and policy implications for regulatory agencies to improve the leverage regulatory framework and optimize the design of corporate equity structures. It suggests that attention should be paid to the governance efficiency boundary of multiple shareholder structures and the potential regulatory arbitrage risks that may arise.

Keywords

leverage manipulation; Multiple major shareholders; Coordinate costs.

1. Introduction

This article takes the transformation of China's economy from high-speed growth to high-quality development as the research background, focusing on the problem of corporate financial behavior alienation under the "deleveraging" policy framework. Under the macro policy guidance of preventing systemic financial risks, the problem of excessive leverage caused by excessive debt of enterprises has attracted much attention. Previous studies have shown that high leverage not only compresses corporate profit margins by pushing up capital costs (DeAngelo et al., 2018), but also has the potential to trigger a chain reaction of debt defaults. Although the mandatory deleveraging policy launched in 2015 has achieved phased results, it has been found in regulatory practice that some companies have artificially reduced their book leverage ratios through off balance sheet financing, real debt trading, and accounting manipulation, resulting in distorted financial risk information. This leverage manipulation behavior not only distorts the decision-making usefulness of accounting information, but also may lead to pricing failures in the capital market through risk signal masking, misleading shareholders, creditors, and corporate management in their investment and financing decisions.

The existing literature has accumulated rich discussions on the relationship between corporate governance and financial manipulation, but there is still theoretical tension in the research on the governance effects of multiple major shareholders. The supportive viewpoint emphasizes that equity checks and balances can curb controlling shareholders' embezzlement behavior and enhance corporate value through risk sharing; Doubtful research reveals that the problem of

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multiple agents may trigger rent-seeking collusion (Cai et al., 2016) or lead to shortsightedness in strategic decision-making. It is worth noting that existing research mostly focuses on the impact of power games among major shareholders on explicit decisions such as investment, financing, and innovation in enterprises, while the mechanism of implicit financial behaviors such as leverage manipulation has not been fully revealed. This theoretical blind spot may lead to misjudgment of the governance effectiveness of multiple equity structures - when regulatory strengthening forces companies to shift towards more covert leverage manipulation, the supervisory mechanisms relied upon by traditional balance theory may become ineffective due to coordination difficulties among major shareholders.

Based on this, this article breaks through the binary perspective of existing research that simply categorizes multiple major shareholders as "supervisors" or "conspirators", and systematically examines the impact mechanism of multiple equity structures on corporate leverage manipulation using non-financial listed companies in China's A-share market from 2008 to 2023 as samples. Research has found that the coexistence of multiple major shareholders not only fails to achieve the expected governance effect, but also promotes leverage manipulation by exacerbating the first type of agency problem. This conclusion still holds true after a series of robustness tests. Mechanism analysis shows that the coordination costs among major shareholders significantly weaken the effectiveness of supervision, making it easier for management to implement opportunistic accounting behaviors. Compared to existing research, the theoretical contribution of this article lies in three aspects: firstly, it reveals the "governance failure" of multiple equity structures in the dimension of financial manipulation, breaking through the explanatory boundaries of traditional balance theory; Secondly, constructing a theoretical transmission chain of "coordinating costs agency conflicts accounting manipulation" provides a new perspective for understanding the complex effects of corporate governance; Thirdly, expanding the research dimensions of factors influencing leverage manipulation from the perspective of regulatory arbitrage provides micro evidence for the design of "penetrating regulation" policies. At the practical level, research conclusions warn that the applicable boundaries of equity checks and balances need to be re examined, and differentiated governance and regulatory mechanisms should be established for enterprises involving significant financial risks.

Theoretical analysis and research hypotheses

With the diversified development of modern enterprise equity structure, the traditional governance model dominated by a single controlling shareholder is gradually being replaced by a new governance pattern with multiple major shareholders coexisting. This structural change not only reconstructs the power allocation system of enterprises, but also has complex transmission effects on corporate financial decision- making, especially leverage manipulation behavior, through the dual mechanism of supervision effect and collusion effect.

From the perspective of supervisory effects, the presence of multiple major shareholders provides a new supervisory mechanism for corporate governance. Firstly, when a company has multiple major shareholders, these shareholders have the motivation to supervise the controlling shareholder and management in order to safeguard their own interests and prevent improper behavior such as leverage manipulation. This power balance is not only reflected in the voting rights of majordecisions at the shareholders' meeting, but also achieved through appointing

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directors and executives, participating in internal corporate governance, and other means (Cheng et al., 2020). Secondly, as informed traders who have access to private information such as the company's operating conditions, major shareholders can fully utilize market signal transmission mechanisms to constrain the behavior of controlling shareholders, thereby further restraining inappropriate behavior of management. Finally, according to the theory of resource combination, the coexistence of multiple major shareholders provides enterprises with various resources such as technology, market, and human resources, in addition to finance. These resources can to some extent help enterprises effectively cope with the sluggish real economy market and improve their real leverage ratio.

However, the supervisory effect is not always effective. According to the "coordination cost" hypothesis, the presence of multiple major shareholders may also lead to ineffective supervision. Due to information asymmetry and conflicting interests, multiple major shareholders may find it difficult to reach consensus in the decision- making process, which increases the decision-making cost of the enterprise. This cost is reflected in the efficiency of supervision over management, where multiple major shareholders find it difficult to reach consensus on the supervision and punishment of executives, resulting in ineffective supervision (CHENG et al., 2015). In addition, multiple major shareholders usually only indirectly participate in the daily operation and management of the enterprise, and are not familiar with the specific affairs of the enterprise, which provides opportunities for management to avoid shareholder supervision and engage in self interested behaviors such as leverage manipulation.

In addition to supervisory effects, multiple major shareholders may also generate collusion effects. When multiple major shareholders weigh the costs of collusion and supervision and believe that collusion can bring them greater net benefits, they may choose to abandon supervision and turn to collusion. This kind of collusion behavior usually manifests as multiple major shareholders joining forces with controlling shareholders to jointly deprive small and medium-sized shareholders of their interests, exacerbating conflicts of interest with small and medium-sized shareholders. Multiple major shareholders collude to support management in artificially optimizing capital structure indicators to obtain short-term valuation premiums. Leveraging manipulation is a means of "improving" a company's financial statements, attracting more investors, and obtaining interest rate differentials. Of particular note is that under the background of the registration system reform, the financial threshold pressure for listing qualifications may strengthen the motivation of major shareholders to collude and manipulate leverage ratios, creating a "regulatory compliance facade". Therefore, the collusion effect of multiple major shareholders will exacerbate corporate leverage manipulation behavior. In summary, this article proposes the competitive hypothesis:

H1a: Multiple major shareholders can facilitate leverage manipulation in enterprises.

H1b: Multiple major shareholders can suppress corporate leverage manipulation.

Empirical Design

(1) **Sample selection and data sources**

This article selects sample data of Chinese A-share listed companies from 2007 to 2023 for research, excluding samples with missing financial, pre listing, ST, PT, and variable data. This article uses Stata17.0 to process

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and empirically analyze the sample data. All data comes from the CSMAR database. In order to mitigate the impact of extreme values, this article performed a 1% truncation process on continuous variables.

(2) **Variable definition**

Measurement of multiple major shareholders (Nlarge). Drawing on existing literature (Jiang Fuxiu et al., 2017), 10% is adopted as the definition standard for major shareholders, and the number of multiple major shareholders is used, which is equal to the number of non controlling major shareholders other than the controlling shareholder. Measurement of leverage manipulation (ExpLEVMI). Referring to the research of

Xu Xiaofang et al. (2020), the indirect method under the extended XLT-LEVM method is used to calculate the degree of leverage manipulation of enterprises through the expected model method.

Measure the control variables. Control for the following variables: enterprise size (Size) expressed as the logarithm of the total assets of the enterprise; The asset liability ratio (Lev) is expressed by dividing total liabilities by total assets; The listing period (Age) is expressed as the logarithm of the company's listing time; Profitability (ROA) is expressed as the return on total assets; The proportion of cash flow is expressed as net cash flow from operating activities divided by total assets at the end of the period; The proportion of accounts receivable (Rec) is expressed as the net amount of accounts receivable divided by the total assets at the end of the period; If the net profit of the previous year is negative, take 1; otherwise, take 0; Crosslist dummy variable, where the value of a listed company's listing on both B and H shares is 1, otherwise it is 0; When the property nature (Soe) is a state-owned enterprise, the value is 1, otherwise it is 0; The size of independent directors (Indep) is the ratio of independent directors to the number of directors on the board; Dual, meaning that the chairman and general manager are the same person, with a value of 1, otherwise it is 0; The size of the board of directors is represented by the number of directors; The virtual variable of social audit quality (Big4), where listed companies hire international "Big Four" accounting firms to conduct audits with a value of 1, otherwise it is 0; In addition, this article also controls for year and industry effects.

Model design

To investigate the impact of multiple major shareholders on corporate leverage manipulation behavior, this paper constructs the following empirical model:

$$ExpLEVMI_{i,t} = \alpha_0 + \alpha_1 Nlarge_{i,t} + \alpha_2 Controls_{i,t} + \mu_i + \varphi_t + \varepsilon_{i,t}$$

Among them, ExpLEVMI is the dependent variable, indicating the degree of leverage manipulation by the enterprise; Nlarge is the independent variable, representing the coexistence of multiple major shareholders in the enterprise; Controls is a set of control variables. When α_1 is significantly positive, it indicates that the coexistence of multiple major shareholders reduces the effectiveness of management supervision, thereby promoting leverage manipulation behavior in the enterprise. H1a is verified, otherwise H1b is established.

Empirical results

Descriptive statistics

According to Table 1, the average of multiple major shareholders is 0 4990 indicates that 49.90% of the sample companies have multiple major shareholders, which also reflects that the equity structure of multiple major shareholders is quite

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common in Chinese listed companies. The maximum value of leverage manipulation is 1.48, the minimum value is -0.08, and the mean is 0.1139. From this, it can be inferred that there are significant differences in the degree of leverage manipulation among sample companies. Considering the covert nature of leverage manipulation, it can be inferred that the actual degree of leverage manipulation may be much greater than the statistical results. The descriptive statistical results of other variables will not be elaborated one by one.

Table 1: Descriptive Statistics

VarName	Obs	Mean	SD	Min	Median	Max
ExpLEVMI	33150	0.1139	0.211	-0.08	0.04	1.48
Nlarge	33150	0.4990	0.673	0.00	0.00	5.00
Size	33150	22.2501	1.278	19.92	22.06	26.22
Lev	33150	0.4397	0.197	0.07	0.43	0.89
Age	33150	2.1594	0.808	0.00	2.30	3.37
ROA	33150	0.0350	0.060	-0.24	0.04	0.19
Cashflow	33150	0.0479	0.068	-0.15	0.05	0.24
Rec	33150	0.1216	0.102	0.00	0.10	0.46
Loss	33150	0.1164	0.321	0.00	0.00	1.00
Crosslist	33150	0.0571	0.232	0.00	0.00	1.00
Soe	33150	0.3793	0.485	0.00	0.00	1.00
Indep	33150	0.3747	0.053	0.31	0.33	0.57
Dual	33150	0.2730	0.445	0.00	0.00	1.00
Board	33150	2.2430	0.177	1.79	2.30	2.77
Big4	33150	0.0633	0.243	0.00	0.00	1.00

（1） Benchmark regression analysis

Table 2 shows the regression results of multiple major shareholders and leverage manipulation. From column (1), it can be seen that when controlling only for the year and industry, multiple major shareholders significantly contribute to leverage manipulation behavior at the 5% level. Column (2) shows the regression results after adding control variables. From the table, it can be seen that the regression coefficients of multiple major shareholders and leverage manipulation have not changed in sign and remain significant. This indicates that after controlling for other factors, the equity structure of multiple major shareholders can promote leverage manipulation in enterprises, and H1a has been verified.

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Table 2 Benchmark Regression Results

	(1)	(2)
	ExpLEVMI	ExpLEVMI
Nlarge	0.0070***	0.0062**
	(2.7949)	(2.5153)
Size		-0.0002
		(-0.1229)
Lev		0.1349***
		(10.9408)
Age		-0.0070***
		(-2.7352)
ROA		0.6915***
		(19.2559)
Cashflow		-0.4734***
		(-19.5574)
Rec		0.0566***
		(2.8545)
Loss		0.0218***
		(3.6336)
Crosslist		-0.0088
		(-1.1123)
Soe		-0.0085*
		(-1.9157)
Indep		0.0220
		(0.6374)
Dual		-0.0096***
		(-2.6860)
Board		-0.0016
		(-0.1378)
Big4		-0.0184**
		(-2.4693)

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Year&Industry	Yes	Yes
cons	0.1104***	0.0641
	(51.0234)	(1.2953)
N	33150	33150
adj. R^2	0.010	0.047

t statistics in parentheses

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Robustness test

In order to make the empirical results more reliable, this section adopts the following three methods for robustness testing: (1) changing the measurement method of multiple major shareholders. Multiple virtual variables of major shareholders (Nlarge_S), if the company has major shareholders other than the controlling shareholder with a shareholding ratio greater than 10%, MULTI-D is assigned a value of 1, otherwise it is assigned a value of 0; The shareholding ratio of multiple major shareholders (Nlarge-P) is equal to the sum of the shareholding ratios of non controlling major shareholders other than the controlling shareholder. The regression results are shown in Tables 3 (1) and (2), and the research hypothesis H1a still holds true. (2) Change the measurement method of leverage manipulation. Referring to the research of Xu Xiaofang et al. (2020), the basic XLT-LEVM method (LEVM) and the direct method under the extended XLT-LEVM method (ExpLEVM) were used to replace the degree of leverage manipulation of enterprises with the expected model method. The regression results are shown in Tables 3 (3) and (4), and the research hypothesis H1a still holds true. (3) Endogenous processing. There may be endogeneity issues between

the coexistence of multiple major shareholders and the degree of leverage manipulation in a company, where major shareholders also consider the degree of leverage manipulation as an important reference factor when choosing investment targets. Therefore, companies that engage in leverage manipulation are more likely to gain the favor of major shareholder investors. To address this issue, regression analysis was conducted on multiple major shareholders one period in advance to verify the robustness of the results. The regression results are shown in Table 3 (5), and the research hypothesis H1a still holds true.

Table 3 Robustness Test

	(1)	(2)	(3)	(4)	(5)
	ExpLEVMI	ExpLEVMI	LEVM	ExpLEVM	ExpLEVMI
Nlarge			0.0063**	0.0061**	
			(2.4284)	(2.5235)	
Nlarge_D	0.0093***				
	(2.7918)				

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Nlarge_P		0.0387**			
		(2.5030)			
L.Nlarge					0.0067**
					(2.5231)
Size	-0.0003	-0.0003	-0.0012	-0.0016	-0.0025
	(-0.1328)	(-0.1354)	(-0.5588)	(-0.7720)	(-1.1618)
Lev	0.1348***	0.1349***	0.1459***	0.1359***	0.1146***
	(10.9414)	(10.9376)	(11.0706)	(11.1105)	(8.3691)
Age	-0.0070***	-0.0068***	-0.0090***	-0.0073***	-0.0056*
	(-2.7335)	(-2.6519)	(-3.3150)	(-2.8866)	(-1.7452)
ROA	0.6918***	0.6912***	0.2596***	0.2512***	0.7017***
	(19.2739)	(19.2437)	(6.6685)	(7.0527)	(17.9481)
Cashflow	-0.4735***	-0.4737***	-0.0412	-0.0227	-0.4583***
	(-19.5713)	(-19.5710)	(-1.6374)	(-0.9954)	(-16.5761)
Rec	0.0563***	0.0572***	0.0698***	0.0702***	0.0487**
	(2.8402)	(2.8862)	(3.3457)	(3.5887)	(2.3139)
Loss	0.0217***	0.0218***	0.0245***	0.0232***	0.0234***
	(3.6210)	(3.6324)	(3.7169)	(3.8969)	(3.6633)
Crosslist	-0.0091	-0.0100	-0.0054	-0.0075	-0.0116
	(-1.1421)	(-1.2426)	(-0.6487)	(-0.9575)	(-1.3855)
Soe	-0.0086*	-0.0087*	-0.0096**	-0.0086*	-0.0057
	(-1.9189)	(-1.9465)	(-2.0534)	(-1.9455)	(-1.1946)
Ind	0.0217	0.0221	0.0213	0.0230	0.0128

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ep					
	(0.6276)	(0.6387)	(0.5807)	(0.6716)	(0.3458)
Dual	-0.0097***	-0.0096***	-0.0088**	-0.0091**	-0.0089**
	(-2.6978)	(-2.6880)	(-2.2995)	(-2.5667)	(-2.2479)
Board	-0.0017	-0.0015	-0.0065	-0.0052	-0.0061
	(-0.1470)	(-0.1232)	(-0.5110)	(-0.4379)	(-0.4788)
Big4	-0.0186**	-0.0186**	-0.0188**	-0.0170**	-0.0201***
	(-2.4974)	(-2.5068)	(-2.3833)	(-2.3216)	(-2.6061)
Year&Indust r	Yes	Yes	Yes	Yes	Yes
	(1)	(2)	(3)	(4)	(5)
	ExpLEVMI	ExpLEVMI	LEVM	ExpLEVM	ExpLEVMI
y					
_cons	0.0643	0.0640	0.0921*	0.0950*	0.1310**
	(1.2999)	(1.2935)	(1.7331)	(1.9309)	(2.4781)
N	33150	33150	33150	33150	25946
adj. R^2	0.047	0.047	0.022	0.024	0.047

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Research Conclusion and Implications

This article examines the relationship between multiple major shareholders and corporate leverage manipulation behavior. Research has found that multiple major shareholders have increased the scale of leverage manipulation in enterprises, and this conclusion still holds true after considering endogeneity issues and multiple robustness tests. Against the backdrop of actively managing high debt risks in the capital market and preventing and resolving systemic financial risks, the research conclusions of this article have good practical value for the governance of corporate leverage manipulation, mainly reflected in three dimensions:

At the level of optimizing equity structure: Regulatory agencies should guide

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enterprises to build a dynamic and balanced equity ecosystem, avoiding the dual traps of "one dominant shareholder" and "excessive checks and balances". Specifically, a differentiated voting rights system can be implemented to flexibly control the shareholding ratio of strategic investors. At the same time, a shareholder coordination cost evaluation mechanism can be established to incorporate indicators such as shareholder geographical distribution and industry relevance into the corporate governance rating system. In the pilot program of the "Shareholder Synergy Index" on the Science and Technology Innovation Board, the decision-making efficiency loss of multi shareholder enterprises is dynamically monitored.

At the level of innovative governance mechanisms, efforts need to be made to address the dilemma of ineffective supervision in the context of multiple shareholders. Suggest revising the "Code of Corporate Governance for Listed Companies" to require shareholders holding more than 5% of the shares to establish an information sharing platform and improve the voting mechanism for category shareholders. Drawing on the experience of the EU's Shareholder Rights Directive II, we will implement tax incentive policies for shareholder cooperation supervision and provide income tax deduction benefits to major shareholders participating in the Joint Audit Committee. At the same time, it is necessary to strengthen the responsible management obligations of institutional investors and include their supervisory negligence in leverage manipulation in the negative ESG rating list.

At the application level of regulatory technology: leveraging digital financial infrastructure to enhance financial transparency. On the one hand, a leverage ratio monitoring alliance chain based on blockchain technology can be constructed, which can real-time upload node information of major shareholders, audit institutions, and regulatory departments, and automatically trigger abnormal leverage operation

warnings using smart contracts. On the other hand, it is necessary to improve the enterprise big data portrait system, integrate cross departmental data such as taxation, customs, and electricity, and establish a heat map of leverage manipulation risks for multi shareholder enterprises. For example, for enterprises with a frequency of shareholder related transactions exceeding 150% of the industry average, the priority of regulatory inspections will be automatically increased.

The conclusion of this study has important reference value for deepening the supply side reform of finance. Regulatory authorities need to realize that the traditional single checks and balances perspective of corporate governance rules is no longer suitable for the new normal of multi shareholder games, and a new regulatory paradigm of "structural governance behavioral regulation technological empowerment" should be established. This not only helps to curb the financial risk contagion caused by leverage manipulation, but also lays a solid governance foundation for the healthy development of the capital market under the background of registration system reform. Subsequent research can further explore the heterogeneity of multi shareholder governance effects under different property rights and industry characteristics, providing more refined theoretical support for classified regulation.

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