Ownership Concentration, Nature of Property Rights and Performance of Manufacturing Enterprises

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Abstract. In the critical phase of expediting the transformation and modernization of China's manufacturing sector, the sales revenue of the high-tech manufacturing industry will increase by 12.1% in 2025. At the same time, the capital market has fully implemented the registration reform, and it is necessary to explore the optimal path of corporate governance to raise the profile of manufacturing firms. Equity allocation is a key mechanism of corporate governance and an important aspect of corporate development. A sample of Chinese A-share manufacturing companies that were listed between 2018 and 2023 on the Shanghai and Shenzhen stock markets is chosen for this study. Regression studies are used to examine the relationship between equity concentration and firm performance, with a particular emphasis on how varied ownership affects performance in SOEs versus non-SOEs. The results show that ownership concentration would promote the performance of manufacturing enterprises. The nature of the firms results in variations in the impact. There are differences in the nature of the firms. Non-state-owned manufacturing enterprises show a more significant impact of stock concentration on firm performance than state-owned manufacturing firms. The results of this study can help listed manufacturing companies and policy makers to optimise the equity structure.

1 Introduction

As a pillar of China's national economy, the manufacturing industry drives scientific and technological innovation, maintains employment stability, and enhances the country's international competitiveness. Currently, China's manufacturing industry is undergoing a significant transformation to become high-end, intelligent, and green. This transformation is not only facing external challenges, including restructuring the global industrial chain and overcoming technical barriers, but also confronting endogenous bottlenecks, such as a weak ability for independent innovation and inefficient resource allocation.

In this scenario, optimizing the corporate governance mechanism has become the core path to breaking through the development bottleneck. As the structural basis of the corporate governance system, the ownership structure has always been the focus of academic research.China started testing a new IPO method on the STAR Market in 2019. By reducing

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the percentage of state-owned stock and other steps to improve corporate governance, the reform optimizes the ownership structure based on national strategic needs. At the same time, it provides a real example for exploring the mechanism of ownership structure and enterprise performance. The reform of the registration system has led to a significant improvement in the underperformance of new companies at the time of application for listing and has also led to a higher quality of disclosure of information by already listed companies at the time of post-listing regulation [1]. The percentage of companies with a registration system that have gone public in 2022 was 83.41 percent [2]. Meanwhile, the threshold for listing has been lowered by the registration system, and the IPO approval rate has increased significantly. This change has made SMEs more active in applying for listing and injecting fresh blood into the capital market [3]. The comprehensive deepening of the reform has allowed state-owned shareholders to participate in the mixed ownership reform, which has enabled private enterprises to optimise their shareholding structure and improve their governance, resulting in a more efficient allocation of resources [4]. In 2023, China fully implemented the reform of its registration system, reformulated market access rules, upgraded the standards for information disclosure, and further strengthened its regulatory restraint mechanism. These measures have significantly altered the mechanism of ownership concentration in the performance of manufacturing enterprises and further highlighted the governance differentiation among enterprises with different property rights.

Property rights, as a core variable, directly affect the resource acquisition ability and strategic decision-making approach of enterprises. IPrivate enterprises continue to be at a disadvantage in comparison to state-owned enterprises in the current economic climate of China. The current financial system is more inclined to take into account the nature and size of enterprises. Funds are more likely to flow to State-owned enterprises and are very unevenly distributed. It is now common for private enterprises to be short of money [5,6]。 Conversely, the supervisory function of equity concentration may be compromised by state-owned enterprises, as a result of the ambiguity of residual control rights and the interference of administrative objectives. This can impede the performance improvement process through the equity check-and-balance mechanism.

Exploring the interactive impact of ownership concentration and the nature of property rights on the performance of manufacturing enterprises not only has significant theoretical importance but also holds considerable practical value. On the one hand, this may provide reference ideas for reorganizing state-owned businesses' combined ownership structure. Enhancing the effectiveness of corporate governance during the reform process requires investigating ways to modify the percentage of state-owned shares in conjunction with the attributes of property rights, aiming to establish a diversified equity check and balance mechanism. On the other hand, this is also expected to provide practical inspiration for private enterprises. By optimizing equity concentration, private enterprises can alleviate financing constraints and explore incentive and supervision mechanisms that are suitable for the characteristics of property rights, thereby reducing governance risks.

Based on this, This study examines how equity concentration affects manufacturing companies' financial performance under different property rights and non-state-owned property rights, both theoretically and empirically.

2 Research hypothesis

According to property rights theory, different property rights arrangements will affect the subject's behavioral motivation and economic performance. Through the arrangement of property rights structures, transaction costs can be reduced or eliminated, thereby improving resource allocation and promoting sustained economic growth. Jeffrey N. Gordon and Mark J. Roe believe that there is path dependence in the corporate governance model; that is, the

initial ownership structure of the company directly affects the subsequent ownership structure and corporate governance [7]. In Jensen and Meckling's investigation of corporate agency issues, they discovered that it works well to increase the percentage of shares owned by insiders who control the company. This boosts business value, lowers management expenses, and encourages managerial incentives. The phenomena of closed corporations outperforming listed companies is frequently explained by this theory [8]. Companies with concentrated shareholdings typically perform better, according to research by Nguyen et al. With distinct highlights, state-owned and foreign-owned businesses can each impact corporate performance [9]. The ownership structure of Italian corporate firms is characterized by a high degree of concentration, as discovered by Caselli et al., who observed them. Additionally, they discovered that the presence of controlling shareholders or concentrated ownership is generally associated with improved performance [10]. Some scholars believe that ownership concentration is not completely positively correlated with enterprise performance: Demsetz and Villalonga report that there is no significant relationship between ownership structure and firm performance [11]. Du Xuefeng et al. discovered that there is no significant correlation between enterprise performance and ownership concentration in Sichuan Province through an empirical study of the performance of state-owned enterprises and their ownership structure. However, there is a significant negative correlation between the proportion of state-owned shares and enterprise performance [12]. Paolo Sona and others found an inverted U-shaped relationship between insider ownership and corporate performance by examining the relationship between corporate governance and earnings management at the corporate and national levels in the Spanish corporate sector [13]. Some scholars also believe that equity concentration is negatively correlated with corporate performance. For example, Hu Jie and Hu Ying found that the concentration of the top five shareholders' equity is rather unfavourable to the company's performance. When the gap between the top two shareholders' holdings widens, performance follows [14]. Zahid and his team noticed that the concentration of corporate power in the hands of a few had a detrimental effect. This is reflected in both stock market performance and financial statement figures [15]. Nevertheless, the majority of the current literature concentrates on a singular relationship between firm performance and equity concentration. This paper employs the first perspective by introducing various property rights and investigating the resulting performance outcomes, in accordance with the current state of manufacturing firms in China.

Accordingly, the hypothesis is proposed as follows:

H1: Under the condition of keeping other conditions unchanged, equity concentration is positively correlated with the financial performance of manufacturing enterprises

H2: The disparities in firm ownership types result in a more pronounced impact of heightened equity concentration on the performance of non-state-owned manufacturing firms relative to state-owned manufacturing firms

3 Materials and methods

3.1 Date collection

This paper utilizes the CNRDS database as its data source. The research sample consists of A-share listed manufacturing enterprises in Shanghai and Shenzhen, with a sample period spanning from 2018 to 2023. The St sample and absent value sample have been eliminated. Finally, 2360 listed manufacturing companies are obtained as effective samples, with a total of 11906 sample observations. Stata18.0 was used for empirical analysis.

3.2 Explanatory Variable

The specific definitions of the explanatory and control variables in this paper are shown in Table1 below.

Table 1. Definition of main variables

Variable Type	Variable Name	Variable Symbol	Calculation Method
explained variable	Corporate performance	Roe	Roe=net profit x 2/(initial balance of shareholders' equity ＋ final balance of shareholders' equity)
Explanatory variable	Equity concentration	Top1	Top1= Capital ownership of the principal shareholder/Total equity
Controlled Variable	Nature of property rights	State	When the ultimate de facto controller is the state or government,State = 1 ,otherwise，State = 0
	Company age	Age	Age =Sample year-listing year
	asset size	Size	Size= ln（ total assets ）
	Asset liability ratio	Lev	Lev =（Total liabilities as of year-end/Total assets as of year-end）
	Cash flow position	Cash	Cash= Net cash flow from operating activities/Total assets at the beginning of the period
	Growth opportunities	GO	GO=Tobin Q value= market value / total assets
	R&d investment ratio	Rdspe	Rdspe = R&D investment/Operating income

3.3 Model specification

According to the theoretical analysis in the previous section, the following model is constructed:

$$Roe = \alpha_0 + \alpha_1 Top1 + \alpha_2 State + \alpha_3 Age + \alpha_{45} Size + \alpha_5 Lev + \alpha_6 Cash + \alpha_7 Go + \alpha_8 Rdspe + \varepsilon_{i,t} \quad (1)$$

Among these variables is a constant， Roe is the explanatory variable enterprise performance, Top1 is the ownership concentration of the explained variable, and the other variables are control variables. ε is a random error.

3.4 Descriptive statistics

Observing the explained variables, the average value of enterprise performance (ROE) is 0.044, the standard deviation is 0.718, and the range is large. This indicates a significant disparity in the financial performance of manufacturing enterprises across different sample enterprises. Some enterprises experience negative financial performance and are operating at a loss.

According to the explanatory variables, the average value of equity concentration (Top1) is 31.656, with a standard deviation of 13.77, a minimum of 0 and a high of 89.99. This

demonstrates a considerable discrepancy in stock concentration among listed manufacturing companies. And Table 2 shows that the largest shareholder owns the most stock of state-owned firms. Conversely, the equity concentration of non-state-owned enterprises is uneven. These differences align with the reality of varying ownership concentrations in manufacturing enterprises.

The mean value of the nature of ownership (state-owned) is 0.247, which suggests that the majority of the samples are non-state-owned enterprises. This is consistent with the situation of manufacturing enterprises in China, as indicated by the control variables.The majority of the sample enterprises have a long duration, as evidenced by the average value of company age (age) of 11.095 and the standard deviation of 7.422.The wide range of asset size (size) suggest that manufacturing firms have a wide scale gap, which is in line with the circumstances facing Chinese manufacturing enterprises. As demonstrated by the average value of 41.1%, the asset liability ratio (Lev) of the majority of enterprises is regarded as normal. Currently, the average value of the cash flow position (cash) is 0.065, with a large range and standard deviation, indicating that the cash flow of manufacturing enterprises is unstable. Growth opportunities (GO) and R&D investment ratio (Rdspe) are quite different. This suggests that the development of manufacturing businesses in China is highly unique, which aligns with the actual situation in China.

Table 2. Descriptive statistical analysis of variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Roe	11906	.044	.718	-71.367	14.021
Top1	11906	31.656	13.77	0	89.99
State	11906	.247	.431	0	1
Age	11906	11.095	7.422	2	33
Size	11906	22.308	1.186	17.95	27.64
Lev	11906	.411	.191	0	2.849
Cash	11906	.065	.099	-2.685	4.636
GO	11906	2.031	1.447	0	28.641
Rdspe	11906	5.397	6.618	-73.41	342.34

3.5 Correlation analysis

To initially test the relationship between the performance of listed manufacturing enterprises and the indicators of ownership concentration and control variables, a correlation analysis is conducted first. The majority of the variables' absolute correlation coefficient values are less than 0.5, according to the results of the analysis, indicating that there is no substantial covariance issue.

4 Empirical results

4.1 Baseline results

To verify whether Hypothesis 1 is valid, this paper conducts regression analysis on the manufacturing enterprises in the entire sample using the model, as shown in Table 3. The coefficient of equity concentration for improving company performance is 0.000979. This finding is significant at the 5% level, demonstrating that equity concentration has a major contributing influence. The empirical results support hypothesis 1.

In addition, It is evident from the table's regression results that company age, asset size, asset liability ratio, cash flow position, growth opportunities and R&d investment ratio all have a hugely positive effect on manufacturing companies' operational effectiveness.

Table 3. Regression results

VARIABLES	ROE
Top1	0.000979**
	(0.000490)
State	-0.0134
	(0.0179)
Age	-0.00385***
	(0.00111)
Size	0.0546***
	(0.00664)
Lev	-0.496***
	(0.0377)
Cash	0.327***
	(0.0691)
GO	0.0186***
	(0.00473)
Rdspe	-0.00651***
	(0.00100)
Constant	-0.979***
	(0.141)
Observations	11,906
R^2	0.030

4.2 Further analysis: the heterogeneous effect of the nature of ownership on the performance of manufacturing firms

Grouping analysis is necessary to test hypothesis 2. In this study, manufacturing enterprises are classified as either state-owned (State=1) or non-state-owned (State=0) based on the nature of property rights (State) as a grouping criterion. The heterogeneity study is then performed to see how the performance of manufacturing firms under various ownership attributes is impacted by equity concentration. Table 4 displays the specific results of the heterogeneous regression.

The coefficient of equity concentration in state-owned manufacturing companies, 0.00247, is statistically negligible, according to the results of the heterogeneity analysis. This indicates that there is no discernible impact of equity concentration on state-owned firms' operational performance. For non-state-owned manufacturing companies, the situation is different; their coefficient of 0.000697 is significant at the 1% level. This suggests that there is a positive correlation between the two and that business performance improves when stock is concentrated in non-SOEs. The analysis above demonstrates that the equity concentration of non-state-owned manufacturing enterprises promotes improvements in their business performance. The concentration of ownership in non-state-owned manufacturing companies has a greater effect on their operational performance than it does on state-owned manufacturing companies. Thus, hypothesis 2 is confirmed.

Table 4. Heterogeneity analysis

VARIABLES	ROE	
	State=1	State=0
Top1	0.00247	0.000697***
	(1.33)	(2.98)
Age	-0.00703*	-0.00236***
	(-1.94)	(-4.18)
Size	0.0582***	0.0492***
	(2.62)	(14.72)
Lev	-0.770***	-0.396***
	(-5.53)	(-21.91)
Cash	0.524	0.310***
	(1.46)	(10.16)
GO	-0.000833	0.0219***
	(-0.04)	(10.11)
Rdspe	-0.00589	-0.00645***
	(-1.13)	(-14.55)
Constant	-0.923*	-0.910***
	(-1.93)	(-12.82)
Observations	2942	8964
R^2	0.0181	0.1199

4.3 Additional analysis

Table 5. Robustness test

VARIABLES	ROE		
	All Observations	State=1	State=0
Top1	0.00146***	0.00114	0.00216***
	(3.29)	(1.58)	(3.41)
Age	-0.00566***	-0.00643***	-0.00584***
	(-4.08)	(-2.60)	(-3.49)
Size	0.0538***	0.0462**	0.0611***
	(6.03)	(2.54)	(6.00)
Lev	-0.346***	-0.364***	-0.329***
	(-7.69)	(-4.29)	(-6.10)
Cash	0.201***	0.324***	0.183***
	(3.96)	(6.69)	(3.49)
GO	0.0112***	0.00869***	0.0118***
	(4.48)	(3.27)	(3.91)
Rdspe	-0.00358*	-0.00365	-0.00337
	(-1.65)	(-1.07)	(-1.44)
Constant	-1.010***	-0.787**	-1.205***
	(-5.53)	(-2.20)	(-5.71)
Observations	11906	2942	8964
F	25.62	15.29	20.53

Estimates may become unstable due to outliers. This study removed 1% from each end of the sample to guarantee steady results. A cluster regression test was then conducted. The higher the level of clustering, the weaker the implied assumptions and the more robust the regression results. Consequently, the clustering is adjusted to the time level for the regression in this research. The regression results in Table 5 reveal that the coefficient on ownership

concentration is significantly positive for the full sample of firms, and the coefficient is also significantly positive for non-state-owned firms. In contrast, the coefficient for state-owned enterprises is not significant, which provides steady support for the basic conclusion of this paper.

5 Conclusion

Based on the data of A-share Manufacturing Listed Companies in Shanghai and Shenzhen from 2018 to 2023, the above research investigates the relationship between ownership concentration and manufacturing enterprise performance from the perspective of property rights. The results of the empirical test indicate that ownership concentration has a positive impact on the performance of manufacturing enterprises. Secondly, under different nature of firms, equity concentration affects performance more significantly in non-state-owned manufacturing firms and less significantly in state-owned manufacturing firms.

The following is the paper's enlightenment based on the conclusions mentioned above: Non-state-owned enterprises can moderately concentrate equity to improve decision-making efficiency, but they need to restrict the power of major shareholders through the articles of association. In hybrid reform, state-owned enterprises can try the state-controlled, state checks and balances approach, while learning from the market experience of non-state shareholders to improve their own governance efficiency. Strengthen information disclosure and supervision of major shareholders' behavior (such as capital occupation review) for non-state-owned enterprises with high equity concentration and encourage state-owned enterprises with dispersed equity to moderately concentrate equity through marketization and mergers and acquisitions.

However, this analysis has some limitations. On the one hand, this paper only uses data from listed manufacturing enterprises, so it is impossible to verify whether these results also apply to unlisted enterprises and other industries, such as servers and high-tech industries. On the other hand, this study focuses solely on Chinese manufacturers and does not include manufacturers from other countries. Different countries have varying national conditions and limitations, so the conclusions of this paper may not apply to other countries. Subsequent research may extend to additional nations and diversify the sample, as well as disaggregate the industry, so enhancing the applicability of the findings.

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