Ownership, Corporate Governance and Enterprise Innovation--Empirical Evidence from Shanghai and Shenzhen A-share Listed Companies

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Abstract. Based on the data of non-financial listed companies in Shanghai and Shenzhen A-shares from 2008 to 2018, this paper empirically analyzes the relationship between enterprise ownership, corporate governance, and enterprise innovation and its influencing mechanism based on the panel data fixed effect regression model. The empirical results show that, firstly, there is a positive correlation between corporate governance level and enterprise innovation investment, that is, good corporate governance will promote enterprise innovation. Secondly, enterprise ownership positively regulates the positive relationship between corporate governance level and enterprise innovation investment. Further analysis results show that: thirdly, the above conclusions are more obvious in listed companies with low power concentration. The conclusion of this paper has great significance for improving corporate governance and promoting the healthy development of enterprise innovation and ownership reform.

Keywords: Enterprise ownership; Corporate governance; Enterprise innovation; Listed company.

1. Introduction

Innovation is the core of an enterprise, and the survival and development of enterprises cannot be separated from the support of innovation. Schumpeter, a famous economist, once said, “Innovation is the recombination of production factors by entrepreneurs”. At present, China is still in the transition period, from a planned economy to a market economy, from a traditional economy to an information economy. This category of economic form presents diversified development characteristics under the influence of various factors, which are running in and constantly developing and changing. In this context, the activity of China’s internal economic factors is constantly increasing . In the 14th Five-Year Plan, it is also proposed to improve the market-oriented mechanism of technological innovation, constantly strengthen the dominant position of enterprise innovation, and gradually form a technological innovation system with enterprises as the main body, market-oriented and deep integration of industry-university-research. According to preliminary estimates, China’s R&D expenditure will reach 2,786.4 billion yuan in 2021, an increase of 14.2% over the previous year, maintaining a good growth situation since the 13th Five-Year Plan. However, the increase in R&D funds is higher than the expected goal of the Tenth Five-Year Plan, and a new round of good start has been achieved. It can be said that technological innovation is of great significance in promoting industrial upgrading and economic restructuring, and has become the basic theme of China’s sustainable economic development. In the current complex international environment, only by defying challenges and seizing opportunities can enterprises take the initiative and promote the high-quality development of the market economy.

Corporate governance is a mechanism to solve the relationship between owners and operators, promote the efficient and orderly operation of enterprises and continuously create value. The empirical research on the corporate governance structure of listed companies shows that good corporate governance is helpful to improve the company’s performance and market value, and investors are willing to pay a considerable premium for well-managed companies . China Securities Regulatory Commission’s violation of administrative punishment of directors and executives is the direct evidence to test the effect of corporate governance. However, in recent years, the data of rising instead of falling reflects the fact that the current situation of corporate governance of listed

companies is not optimistic. According to statistics, 339 administrative punishment decisions were made in 2020, compared with 310 in 2018 and 304 in 2019, with a year-on-year increase of about 10%. In the same period, the local securities regulatory bureaus made a total of 233 punishment decisions, a significant increase compared with 184 in 2018 and 161 in 2019 . The effective operation of a company needs an appropriate ownership structure and governance structure. At present, we can see that there are many problems in the stock market, such as distortion of price signals, short-term speculation of investors' preference for values, etc. In this case, highly decentralized ownership should not be the best choice to optimize the ownership structure . The lack of a benign corporate governance mechanism will easily lead to all kinds of shareholder disputes, which will affect the stable development of the company in the future. It can be seen that the perfection of corporate governance structure is the guarantee of the company's everlasting foundation.

In the process of exploring the development path of China's economy, enterprises can be divided into three categories according to the nature of ownership, that is, state-owned enterprises, private enterprises, and foreign-funded enterprises. Because of the differences in property rights and business environment, enterprises also show different behavioral characteristics. Correspondingly, their ability to resist risks, business objectives, and incentive mechanisms are also different. These differences have a profound impact on the operation and performance of enterprises and have different effects on promoting economic development . Many scholars believe that the excessive principal-agent links and the absence of owners are two major problems, coupled with the expensive supervision fees, which make state-owned enterprises gradually form an incentive mechanism and a restraint mechanism different from those of non-state-owned enterprises. Therefore, changing the ownership of state-owned enterprises is often regarded as the most fundamental way to change the incentive mechanism and further improve business performance . The change of ownership structure mainly affects the production efficiency of production factors, and its influence on capital factors is more than 900 times that on labor factors. It can be seen that under the market conditions, the economic growth caused by the change of ownership structure will widen the gap between the rich and the poor between capital owners and workers to a certain extent . We can conclude that enterprise ownership is closely related to enterprise management, production efficiency, and even social and economic development. Therefore, enterprises must consider the impact of ownership differences on their business processes.

Therefore, in order to solve the above problems, this paper selects the data of non-financial listed companies in Shanghai and Shenzhen A-shares from 2008 to 2018 and empirically analyzes the relationship between enterprise ownership, corporate governance, and enterprise innovation and its influencing mechanism based on the panel data fixed effect regression model. The empirical results show that, firstly, there is a positive correlation between corporate governance level and enterprise innovation investment, that is, good corporate governance will promote enterprise innovation. Secondly, enterprise ownership positively regulates the positive relationship between corporate governance level and enterprise innovation investment. Further analysis results show that, thirdly, the above conclusions are more obvious in listed companies with low power concentration. The conclusion of this paper has important enlightenment significance for improving corporate governance and promoting the healthy development of enterprise innovation and ownership reform.

The marginal contribution of this paper is reflected in the following aspects: first, it enriches the related literature on the influencing factors of enterprise innovation. For the first time, this paper conducts from the perspective of the interaction between enterprise ownership and corporate governance and considers its heterogeneity in the ownership dimension. Besides, the present study explains the driving factors of enterprise innovation from a deeper level and makes up for the deficiency of previous literature. Secondly, it enriches the economic consequences of enterprise ownership and explains its influence on enterprise innovation. In addition, through the perspective of enterprise heterogeneity, it enriches its role background and expands the relevant research margins. Thirdly, it opens the black box of the influence mechanism of corporate governance and explains that

enterprise ownership affects enterprise innovation through corporate governance, which has strong practical significance, fills up the vacancy of relevant literature, and expands the research boundary.

2. Literature Review

The economic consequences of enterprises' innovation are a major concern of domestic scholars, and most of them analyze the influencing mechanism of enterprises' innovation performance. Xie (2013) found that there is a positive correlation between knowledge absorptive capacity and the innovation performance of enterprises. Zheng et al. (2014) scholars found that among the listed manufacturing companies in China, the innovation performance of state-owned holding companies is significantly higher than that of private enterprises. Wang et al. (2017) found that compared with state-owned venture capital, non-state-owned venture capital plays a significant role in promoting innovation performance. Through empirical analysis, Yin et al. (2018) found that for technology-intensive industries, innovation performance has a cyclical effect.

Many driving factors that affect enterprise innovation, mainly including internal factors and external factors.

In the aspect of internal resources of enterprises, the research contents include enterprise scale, corporate governance, enterprise ownership, and other factors. Taking manufacturing enterprises in Jiangsu Province as the research object, Zhang (2007) found that there was an obvious inverted U-shaped relationship between enterprise scale and innovation investment intensity after controlling other variables. Ju et al. (2013) found that the improvement of working capital can significantly enhance the innovation investment of enterprises. In terms of corporate governance, Feng and Wen's (2008) research showed that there is a positive correlation between a manager's shareholding and an enterprise's technological innovation. In terms of enterprise ownership, Wu (2012) found that private enterprises have more investment in innovation, higher patent innovation efficiency, and are more competitive than state-owned enterprises. Zhang et al. (2015) analyzed four aspects, such as internal innovation and industrial organization, and found that the increase in the proportion of state-owned property rights has a significant negative impact on technological innovation. The external factors influencing enterprise innovation in academia mainly include government policies, the macro-market environment, external resources, and the degree of enterprises' opening to the outside world. In terms of tax policy, Xia and Shang (2006) examined the influence of the change rate of enterprise income tax on the growth rate of enterprise innovation investment through empirical analysis, and the results showed that the correlation between them was negative. In terms of government subsidies, Li et al. (2013) found that government subsidies have a significant impact on innovation investment and innovation performance of non-state-owned enterprises, but not on state-owned enterprises. Zhu et al. (2022) found that the uncertainty of economic policy significantly inhibited the innovation level of listed companies through empirical analysis. Through literature review, it is found that scholars mostly pay attention to the economic consequences and driving factors of enterprise innovation, and seldom explore the interaction mechanism between enterprise innovation and other variables.

Zheng Zhigang (2002) pointed out that it is of great significance to focus on the study of corporate governance for promoting enterprise reform and improving governance efficiency. Most scholars pay attention to the agency problem in corporate governance, the essential reason for which lies in the asymmetry of information. It plays an important role in corporate governance. Shi (2000) found that there was no significant relationship between the shareholding ratio of state-owned shareholders and circulating shareholders and corporate performance because of their low efficiency and negative role in corporate governance. Taking 508 listed companies as the research object, Xu et al. (2003) found that the ownership nature of the largest shareholder has an obvious influence on the company's performance and governance effectiveness.

The research results of Li et al. (2013) show that the participation of minority shareholders in corporate governance can effectively alleviate the agency problem. Huang et al. (2022) found that the number of minority shareholders has an incremental governance effect other than voting rights, which

can be realized by increasing the probability of vetoing proposals and increasing media attention. Corporate governance is influenced by internal and external factors. Wu et al. (2010) found that the salary level of executives increased with the increase of their control rights, but it failed to effectively reduce agency costs. Wei et al. (2022) tested the influence of digital transformation on corporate governance and its internal mechanism through theoretical analysis and empirical analysis, indicating that digital transformation can improve the level of governance by reducing the degree of information asymmetry in governance. Gao et al. (2008) found that when the shareholding ratio of institutional investors increased, the level of corporate governance also improved accordingly, and institutional investors could effectively restrain the earnings management behavior of management. Through empirical analysis, Quan et al. (2010) found that the greater the power intensity of the CEO, the higher the company's operating performance and the higher the risk. Zhao (2021) pointed out that the deep reason and crux of corporate governance's deep predicament lies in the serious disconnection between the legal design of corporate governance and the actual operation, accompanied by the deformity and failure of the accountability and accountability mechanism of corporate governance. It can be seen that corporate governance is still an important topic of concern to enterprises and scholars, but most of the existing studies focus on a certain mechanism in corporate governance from the perspective of subdivision, and less on a single dimension.

Ownership is one of the basic attributes of enterprises, which will have an impact on technological innovation and corporate governance. There are few studies on ownership in the existing literature, which still need to be further explored. At present, China has gradually formed the pattern of a mixed ownership economy, and the role of the market mechanism in resource allocation is particularly important. In the process of China's economic transition, it is mainly divided into three categories: state-owned enterprises, private enterprises, and foreign-funded enterprises.

State-owned and non-state-owned is an important division basis for previous research. Dai et al. (2006) found that the technological innovation level of small and medium-sized enterprises is higher than that of large-scale enterprises, and the technological innovation level of private and foreign-funded enterprises is higher than that of state-owned enterprises. He (2006) found that there were significant differences in stakeholder orientation and organizational performance among enterprises with different ownership. With the deepening of previous research, the defects of state-owned enterprises are also emerging. First of all, state-owned enterprises tend to pay attention to their political resources rather than their real management ability when hiring executives. Secondly, state-owned enterprises will pay more attention to social and political goals in their management. Compared with non-state-owned enterprises, Fang (2009) found that the gap between capital profit margin and sales profit margin of state-owned enterprises has widened, and the main reasons for narrowing the gap are the defects of their management mechanism and low management level. The research results of Li et al. (2010) showed that the salary incentive to CEO can promote the innovation of enterprises, and the state-owned property right reduces the role of incentive in promoting innovation to some extent. Through CCR model analysis, Sun et al. (2013) found that the comprehensive efficiency of technological innovation of foreign-invested and Hong Kong, Macao, and Taiwan-invested enterprises is higher than that of domestic-funded enterprises, while the state-owned enterprises have serious redundancy of R&D personnel and R&D funds. The research results of Shao (2015) showed that private enterprises have higher debt financing costs than state-owned enterprises, and are more sensitive to the improvement of the rule of law environment. The empirical results of Wei Jingjing (2017) show that M&A of state-owned enterprises is conducive to improving the total factor productivity of enterprises. However, the empirical analysis of Zhu (2017) showed that the hindrance of state-owned factors is not significant, and if the enterprise scale is large enough, it will be more conducive to the smooth progress of transnational bidding. Zhang et al. (2019) proposed that under the innovation-driven development strategy, non-state-owned capital should be introduced into state-owned enterprises to implement mixed ownership reform. By sorting out the previous studies, it is found that most scholars focus on the economic consequences of different

enterprise ownership. Most studies only focus on the direct consequences, and few scholars consider the intermediate mechanism and explain the action path.

It can be seen from the above literature review that domestic scholars mostly discuss the relationship between enterprise ownership and enterprise innovation, or the relationship between corporate governance and enterprise innovation. Scholars seldom discuss the relationship between ownership, corporate governance, and enterprise innovation. In order to make up for the defects of related literature in this field and further investigate the interaction between enterprise ownership and corporate governance on enterprise innovation, this paper investigates the interaction mechanism among enterprise ownership, corporate governance, and enterprise innovation on the basis of existing research.

3. Research design

3.1 Research Model

In order to verify the relationship between enterprise ownership, corporate governance, and enterprise innovation, drawing on the methods of related research (Du, 2019), this paper builds models (1) and (2)

$$RDit = \beta+\beta1*govit+\beta2*govit*soeit+ CVsit+IND+YEAR+\mu it \quad (1)$$

$$RDit = \beta+ govit* (\beta1+\beta2*soeit) +CVsit+IND+YEAR+ CVsit+\mu it \quad (2)$$

In the model, i and t represent the enterprise and year, respectively. In model (1), RDit indicates the innovation investment intensity of the i enterprise in the tth year, which is expressed by the proportion of R&D expenditure to operating income. govit indicates the corporate governance level of i enterprise in the tth year, and uses principal component analysis to construct corporate governance index. soeit indicates the nature of the equity of i enterprise in the tth year, in which 1 represents state-owned enterprises and 0 represents non-state-owned enterprises. CVsit is the control variable in this paper, which is mainly the related factors that affect the company's R&D investment. IND is the industry fixed effect and YEAR is the year fixed effect. This paper expects $\beta2 >0$, that is, enterprise ownership has a positive moderating effect on the relationship between corporate governance and innovation investment. If $\beta2 <0$, enterprise ownership has a negative moderating effect on the relationship between corporate governance and innovation investment.

3.2 Sample and Data

This paper selects all A-share listed companies from 2008 to 2018 as samples and screens the samples according to certain conditions. First, this study eliminates listed companies of financial insurance and real estate. Second, this paper eliminates listed companies with missing data. The data used in this paper are from the Guotai'an database and the author's manual sorting. In order to reduce the influence of extreme values, the continuous variables needed in the analysis are shrunk (Winsorize).

3.3 Variable Definition

(1) RD: innovation input. This paper focuses on the influence of the interaction between corporate governance level and enterprise ownership on enterprise innovation investment level, so the explained variable should be an index to measure enterprise innovation investment level. According to the literature review, the measurement of innovation investment includes total R&D investment, R&D investment intensity, and so on. As the innovation investment of high-tech enterprises is greatly influenced by factors such as enterprise scale and capital, in order to reduce the influence, this study adopts the relative index commonly used in relevant literature-R&D investment intensity, that is, the ratio of R&D expenditure to operating income is used to measure the innovation investment level of enterprises.

(2) Gov: the level of corporate governance. Drawing lessons from the practices of Gu and Zhou (2017), and Zhang and Lu (2012), the principal component analysis method is used to construct

comprehensive indicators from the aspects of supervision, motivation, and decision-making to measure the level of corporate governance.

Mana_Pay and Mana_Share are used to represent the incentive mechanism in corporate governance, Outratio and Board size are used to represent the supervisory role of the Board of directors, and Inst_Share and Share_Balance (the sum of two to five major shareholders' shareholding ratios/controlling shareholders' shareholding ratio) are used to show the supervisory role of the ownership structure. In this paper, whether the chairman and the general manager are Dual or not is used to express the decision-making power of the general manager. Based on the above seven indicators, the principal component analysis method is used to construct the corporate governance index. In order to better understand the coefficient of empirical results, we multiply this index by -1 to get the variable Governance. The greater the number of the Governance, the worse the level of corporate governance. According to the load coefficient, the Mana_Share, the proportion of Outratio, and the size of the Board have a great influence on the corporate governance index.

(3) Soe: the nature of equity. According to the previous literature, measured by the background of the actual controller (State), the state-owned enterprise is 1, and the non-state-owned enterprise is 0. Ownership, as an important institutional background in China, is mainly reflected in the differences between state-owned enterprises and non-state-owned enterprises.

Therefore, it has strong practical significance and objectivity to objectively describe enterprise ownership by adopting the aforementioned definition.

(4) CVs: control variables. Through analyzing the previous literature, this paper controls the following related factors that affect the R&D investment of enterprises, that is, asset-liability ratio (LEV), total liabilities/total assets, enterprise age, profitability (GP), and asset structure (AS), etc. The specific variables are defined and explained in Table 1.

Table 1. The Definition of Variables

Nature	Name	Symbol	Explanation
Explained variable	Innovation input intensity	*RD*	The proportion of annual R&D investment in total assets.
Explanatory variable	Corporate governance level	*gov*	The first principal component obtained from the principal component analysis method is used as a comprehensive index to reflect the level of corporate governance.
	Nature of equity	*soe*	If the nature of the equity is state-owned, it is recorded as 1, otherwise, it is recorded as 0.
Control variable	The chairman and general manager are combined.	*BOTH*	Both positions are 1; otherwise, they are 0.
	Board size	*BOARD*	Ln (number of board members).
	Asset-liability ratio	*LEV*	Total liabilities/total assets.
	Net profit rate of total assets	*ROA*	Net profit/total assets.
	Enterprise age	*AGE*	Measured by the actual age of the CEO.
	Operating margin	*GP*	Gross profit/operating income.
	asset structure	*AS*	Taking the ratio of current assets as a measure.

4. Empirical Analysis

4.1 Description Statistics

The descriptive results of the variables in Table 2 show that the average value of innovative R&D investment is 17.60, the minimum value is 5.09, the maximum value is 25.02, and the standard deviation is 1.48. The average value of the corporate governance level is -0.18, the minimum value is -3.71, the maximum value is 3.24 and the standard deviation is 1.06. The average value of STATE

ownership is 28.6%, which indicates that the state-owned enterprises in the sample account for 28.6% and the standard deviation is 0.452.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
lnrd	16803	17.605	1.482	5.094	25.025
gov	16803	-.186	1.061	-3.717	3.24
STATE	16803	.286	.452	0	1
BOTH	16803	.31	.462	0	1
BOARD	16803	2.127	.196	1.099	2.89
AGE	16803	2.654	.451	0	3.932
LEV	16803	.388	.206	.008	3.919
ROA	16803	.04	.087	-4.946	.39
GP	16803	.298	.176	-.629	.98
AS	16803	.594	.188	.018	.997

4.2 Correlation Analysis

Table 3 is the correlation analysis between the main explained variables and explanatory variables in this paper. In Table 3, we can see that the Pearson correlation coefficient of enterprise innovation investment with corporate governance level and equity nature all passed the statistical test of 1% level. The rest of the correlation coefficients in the table are small, indicating that there is no obvious multicollinearity among the main variables, so the selected variables are suitable for regression analysis.

Table 3. Correlation Analysis

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) lnrd	1.000									
(2) gov	0.200	1.000								
(3) STATE	0.108	0.535	1.000							
(4) BOTH	-0.046	-0.524	-0.297	1.000						
(5) BOARD	0.095	0.611	0.270	-0.173	1.000					
(6) AGE	0.061	0.222	0.209	-0.102	0.052	1.000				
(7) LEV	0.189	0.355	0.331	-0.162	0.159	0.203	1.000			
(8) ROA	0.078	-0.038	-0.080	0.038	0.010	-0.074	-0.369	1.000		
(9) GP	-0.028	-0.204	-0.250	0.140	-0.079	-0.072	-0.460	0.332	1.000	
(10) AS	0.025	-0.217	-0.162	0.100	-0.100	-0.167	-0.207	0.149	0.105	1.000

4.3 Benchmark Regression Analysis

In order to analyze the relationship between the corporate governance level of listed companies and enterprise innovation investment in general, a full sample regression analysis was conducted.

This section is about corporate governance and enterprise innovation investment. Table 4 reports the test results of model (1). The explained variable is enterprise innovation input, and the explanatory variable is the corporate governance level. In order to prevent other factors from interfering with the results, this paper controls other variables such as enterprise AGE. The results in line 1 show that the estimated coefficient of gov is about 0.02, which is significantly positive at the level of 1% (t=21.66). This shows that the level of corporate governance is positively related to the investment in enterprise innovation, and good corporate governance will promote enterprise innovation.

Table 4. Benchmark Analysis (1)

lnrd	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
gov	.356	.016	21.66	0	.323	.388	***
STATE	.104	.028	3.77	0	.05	.158	***
BOTH	.244	.026	9.28	0	.193	.296	***
BOARD	-.228	.068	-3.37	.001	-.361	-.095	***
AGE	-.352	.027	-13.01	0	-.405	-.299	***
LEV	1.777	.063	28.08	0	1.653	1.901	***
ROA	2.554	.13	19.71	0	2.3	2.808	***
GP	.243	.068	3.56	0	.109	.377	***
AS	.411	.06	6.83	0	.293	.529	***

Note: The above regression controls the industry fixed effect and year fixed effect.

The ownership, corporate governance, and enterprise innovation investment are analyzed in Table 5. Table 5 reports the test results of model (2). The explained variable is enterprise innovation input, and the explanatory variable is the interaction between corporate governance level and equity nature. In order to prevent other factors from interfering with the results, other variables such as enterprise AGE are also controlled. The results in the second row show that the estimated coefficient of gov_soe is about 0.03, which is significantly positive at the level of 1% (t=4.61), which indicates that ownership affects the relationship between corporate governance and enterprise innovation, and ownership positively regulates the relationship between corporate governance and enterprise innovation.

Table 5. Regression Analysis (2)

lnrd	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
gov	.341	.017	20.38	0	.308	.373	***
gov_soe	.153	.033	4.61	0	.088	.217	***
STATE	.021	.033	0.62	.534	-.044	.085	
BOTH	.243	.026	9.23	0	.191	.295	***
BOARD	-.293	.069	-4.24	0	-.429	-.158	***
AGE	-.345	.027	-12.76	0	-.398	-.292	***
LEV	1.776	.063	28.07	0	1.652	1.9	***
ROA	2.535	.13	19.56	0	2.281	2.789	***
GP	.242	.068	3.56	0	.109	.376	***
AS	.408	.06	6.79	0	.29	.526	***

Note: The above regression controls the industry fixed effect and year fixed effect.

5. Further Analysis

In order to further explore the relationship between the corporate governance level of listed companies and enterprise innovation investment, a sub-sample regression analysis was conducted. The regression analysis of listed companies with the combination of chairman and general manager shows that the estimation coefficient of gov is about 0.02, which is significantly positive at 1% (t=11.36). The estimation coefficient of gov_soe is about 0.09, which is not significant. The results show that in the enterprises with high power concentration, the level of corporate governance is positively related to the innovation investment of enterprises, but the ownership of enterprises does not show a moderating effect on this positive promotion.

Note: The above regression controls the industry fixed effect and year fixed effect.

Regression analysis of listed companies with low power concentration (chairman and general manager are different, BOTH=1) shows that the estimated coefficient of gov is about 0.02, which is significantly positive at 1% (t=16.54), and the estimated coefficient of gov_soe is about 0.04, which is significantly positive at 1% (t=4.01). According to the results, it can be seen that in the enterprises with low power concentration, the level of corporate governance is positively related to the innovation

investment of enterprises, and the ownership of enterprises has a significant positive moderating effect on this positive promotion.

Table 6. Sub-sample Regression Analysis (high power concentration)

lnrd	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
gov	.27	.024	11.36	0	.224	.317	***
gov_soe	.137	.086	1.60	.111	-.031	.305	
STATE	.124	.061	2.03	.042	.005	.243	**
o	0	.	.	.	.	.	
BOARD	-.212	.101	-2.11	.035	-.409	-.015	**
AGE	-.194	.039	-4.96	0	-.27	-.117	***
LEV	2.042	.099	20.64	0	1.848	2.236	***
ROA	2.029	.167	12.18	0	1.702	2.355	***
GP	.604	.101	5.98	0	.406	.802	***
AS	-.026	.096	-0.27	.786	-.214	.162	

Table 7. Sample Regression Analysis (low power concentration)

lnrd	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
gov	.369	.022	16.54	0	.325	.412	***
gov_soe	.166	.041	4.01	0	.085	.248	***
STATE	-.007	.041	-0.18	.861	-.087	.073	
o	0	.	.	.	.	.	
BOARD	-.323	.091	-3.57	0	-.5	-.145	***
AGE	-.42	.035	-11.85	0	-.489	-.35	***
LEV	1.635	.08	20.37	0	1.477	1.792	***
ROA	3.092	.185	16.72	0	2.73	3.454	***
GP	-.001	.089	-0.02	.987	-.175	.172	
AS	.55	.076	7.27	0	.401	.698	***

Note: The above regression controls the industry fixed effect and year fixed effect.

6. Conclusions and Suggestions

6.1 Conclusion

China's economy is in a critical transition period, and technological innovation is of great significance in promoting industrial upgrading and economic restructuring. This paper selects the data of non-financial listed companies in Shanghai and Shenzhen A-shares from 2008 to 2018, and empirically analyzes the relationship between enterprise ownership, corporate governance, and enterprise innovation and its influencing mechanism based on the panel data fixed effect regression model. The empirical results show that, firstly, there is a positive correlation between corporate governance level and enterprise innovation investment, that is, good corporate governance will promote enterprise innovation. Secondly, enterprise ownership positively regulates the positive relationship between corporate governance level and enterprise innovation investment. Further analysis results show that, thirdly, the above conclusions are more obvious in listed companies with low power concentration. The conclusion of this paper has great significance for improving corporate governance and promoting the healthy development of enterprise innovation and ownership reform.

6.2 Suggestions

For one thing, in terms of the government management departments, we should continuously improve the capital market system, speed up the internal system reform of state-owned enterprises, and give full play to the core role of state-owned enterprises in independent innovation. This paper finds that in state-owned enterprises and enterprises with low power concentration, the level of corporate governance has a significant positive effect on innovation investment. State-owned enterprises have always been the backbone of technological innovation. On the one hand, they have relatively strong capital, sufficient funds, and a large pool of talents. On the other hand, regarding technological research and development, they can undertake greater technological research and

development risks and promote technological upgrading and industrial progress. Therefore, the government supervision departments need to speed up the reform of state-owned enterprises, promote the reform and upgrading of the internal management system, and improve the overall governance level of enterprises, which can be achieved by appropriately reducing the power concentration and designing the risk sharing mechanism. Because there are differences in the factors that promote enterprise innovation in different industries, the government should consider the different impacts of the same policy on different industries when formulating policies.

For another, with respect to the capital market main body, first, for companies and enterprises, we should actively take measures such as system reform, strengthening supervision, and calling on minority shareholders to participate in governance to improve the corporate governance level, so as to promote enterprise innovation. It is the main body of the company's technological innovation, and strengthening technological innovation needs to be based on a certain corporate governance system. This paper finds that the level of corporate governance is positively related to the investment in enterprise innovation, that is, good corporate governance will promote enterprise innovation. Enterprises should reasonably arrange the corporate governance mechanism according to the nature of ownership, which is of great significance to improve the efficiency of technological innovation, and it is worth thinking about. Second, investors can pay attention to corporate information disclosure, understand the actual situation of corporate governance, and make correct decisions. When we find that the company has business problems, we can report them to the relevant departments of the company through formal channels to help them better improve corporate governance. At the same time, we can actively participate in corporate governance activities with the help of the resources and channels around us, so as to play an effective supervisory role and help the company grow continuously.

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