

Research on the Impact of Regional Business Environment on Corporate Equity Structure

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Abstract: Based on resource dependence theory, this study takes Chinese A-share listed companies from 2009 to 2023 as samples, adopting panel fixed-effects models and mediation effect tests to explore how the regional business environment impacts corporate equity structure. Key findings: (1) Optimizing the business environment significantly reduces the proportion of state-owned enterprises. For every unit increase in the regional business environment index (BHAR), the probability of state-owned enterprises decreases by 3.16%, verifying the theoretical path of "improving the institutional environment weakening resource dependence optimizing equity structure"; (2) regional heterogeneity exists: the effect is significant in eastern China but insignificant in central and western regions, reflecting the synergy of institutional quality and market maturity; (3) the business environment promotes equity diversification by reducing corporate financialization. Innovatively integrating the business environment into corporate governance analysis, the study reveals external institutional impacts on ownership arrangements, providing theoretical and empirical support for targeted policy optimization and coordinated reform, with implications for high-quality economic development.

Keywords: Business environment, Equity structure, Corporate governance.

1. Introduction

In recent years, with the continuous optimization and differentiated development of the business environment across various regions, enterprises are facing increasingly complex and volatile operating conditions. The business environment encompasses various aspects, including policies and regulations, market access, infrastructure, financial services, and human resources, which profoundly impact corporate operating decisions, resource allocation, and governance structures. Within the corporate governance structure, the equity structure not only determines the distribution of corporate control but also affects the enterprise's risk management and long-term development strategy. A rational equity structure helps balance the interests of various internal stakeholders, promoting stable development and continuous innovation. However, as the market environment changes, the corporate equity structure must also continuously adapt and adjust to cope with external challenges and seize development opportunities.

Therefore, an in-depth exploration of the impact of the regional business environment on corporate equity structure is crucial. It not only helps reveal the internal logic and external drivers of changes in corporate governance structure but also provides theoretical support and policy recommendations for governments to optimize the business environment and for enterprises to adjust their equity structure. This study aims to uncover the intrinsic link between the regional business environment and corporate equity structure through theoretical analysis and empirical research, offering a new perspective and path for corporate sustainable development and regional economic prosperity.

In the field of academic research, the discussion of the business environment and corporate equity structure has always been a hot topic, and certain achievements have been made, but there is still room

for improvement. On the one hand, research on the business environment is fruitful, mainly including its impact on regional economic development and corporate development. However, the research on precise optimization strategies and differentiated impacts for enterprises across different industries and scales is not detailed enough. On the other hand, research on the influencing factors of corporate equity structure primarily covers internal and external factors, but the integrated impact of different factor combinations in complex external environments is weakly studied. As for the association between the business environment and corporate equity structure, the current focus is on the impact of a single business environment factor on corporate equity, and there is a lack of research on the dynamic changes in corporate equity structure under the combined effect of multiple factors in the domestic market, as well as the adjustment mechanisms of different types of enterprises in varying business environments. Therefore, this paper delves into the heterogeneous needs of enterprises in different regions regarding the optimization of the business environment and their equity structure adjustment strategies. It comprehensively considers the interaction of multiple factors to construct a comprehensive impact model and uses econometric methods to track the dynamic adjustment of equity structure, providing strong support for corporate development and policy formulation.

Existing research often discusses the influencing factors of corporate equity structure in isolation or focuses on the impact of the business environment on overall corporate operations. This study innovatively integrates the regional business environment and corporate equity structure, two relatively independent research fields. It deeply analyzes the impact of the external environment on corporate equity structure from an external perspective, opening up a new avenue for corporate governance research and helping to understand the formation and evolution mechanism of corporate equity structure more comprehensively.

2. Related Concepts and Research Hypotheses

2.1. Related Concepts

2.1.1. Business Environment

With the official launch of the World Bank's global Doing Business project in 2002, the concept of "business environment" began to receive widespread attention from scholars. In the initial stage, the World Bank defined the business environment as the regulatory environment faced by enterprises during their establishment and operation, focusing on the time, cost, and procedures required for business setup¹. However, this definition was relatively narrow, primarily focusing on regulatory barriers during the establishment phase². As the field developed, the business environment was redefined as the regulatory environment faced by enterprises throughout their entire life cycle, emphasizing regulatory efficiency and quality³. In the current stage, the World Bank's definition remains, but in addition to focusing on regulatory efficiency and quality, it places greater emphasis on regulatory inclusiveness and sustainability⁴. It mainly covers regulatory systems in 11 areas affecting the corporate life cycle: starting a business, dealing with construction permits, obtaining electricity, registering property, obtaining credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, and labor market regulation.

As research continues to deepen, various scholars have also proposed their own insights into the business environment. Simeon et al. [1] believe that the business environment refers to the regulatory burden that enterprises face when interacting with the government. Other scholars argue that the business environment encompasses the policies that affect corporate investment decisions and operating performance, as well as the institutional and environmental factors that create a fair market atmosphere [2]. Furthermore, the business environment is also considered to be a series of external conditions faced by enterprises during their establishment, operation, and market exit, covering factors such as the

¹Doing Business 2004: Understanding Regulation

²Doing Business 2006: Creating Jobs

³Doing Business 2014: Understanding Regulation for Small and Medium-Size Enterprises

⁴Doing Business 2020: Comparing Business Regulation in 190 Economies

government affairs environment, market environment, and infrastructure environment, which collectively form a comprehensive environmental system affecting corporate development. This paper draws on the research of Zhang et al. [3] and summarizes four primary indicators and twelve secondary indicators based on the Regulations on Optimizing the Business Environment. The weights of each indicator and the Business Environment Index are then calculated using the Entropy Weight Method.

2.1.2. Equity Structure

Equity structure refers to the composition of a company's shareholders and the relationship between their shareholding proportions [4]. It centrally reflects the distribution of ownership and control, including shareholder composition, shareholding proportion, and control distribution [5]. It usually encompasses two basic meanings: First, equity concentration, which measures the concentration of equity by the sum of the shareholding proportions of the top few major shareholders, based on which the equity structure can be classified into highly concentrated, relatively concentrated, and highly dispersed. Second, equity composition, which is the distribution of shareholding proportions among shareholders of different attributes, such as institutional shareholders, individual shareholders, strategic investors, etc.

2.2. Research Hypotheses

Equity is essentially a collection of rights over the company's assets, earnings, and decision-making formed by shareholders based on their capital contributions [6]. It includes residual claim rights such as profit distribution and liquidation rights over residual assets, as well as residual control rights such as the election of the board of directors and the right to approve major decisions like charter amendments [7]. Shareholders, while enjoying profit distribution, must also bear the risk of operating losses [8]. The equity structure is dynamically adjusted in response to the external environment. When the social environment changes, enterprises will proactively adapt to environmental changes by optimizing the equity structure and reforming their organizational structure and management strategies. From the perspective of corporate governance, differences in equity structure shape different organizational frameworks and governance models. Highly concentrated equity may exacerbate the agency conflict between controlling shareholders and minority shareholders, while highly dispersed equity may lead to the problem of "insider control." Therefore, the equity structure is both the fundamental determinant of corporate governance effectiveness and a key analytical dimension for investors assessing corporate risk and value.

With the development of globalization and regional economic integration, the regional business environment has become a key factor affecting corporate survival and development. Serving as a bridge connecting microscopic corporate governance and the macroeconomic environment, the quality of the regional business environment profoundly influences the generation logic of agency costs and governance effectiveness. Agency Theory points out that in the context of the separation of corporate ownership and management, agency costs inevitably exist between the principal and the agent due to information asymmetry and inconsistent goal alignment. This cost not only affects corporate governance efficiency but also profoundly shapes the corporate equity structure.

On one hand, in regions where the business environment needs improvement, there are numerous unfavorable factors constraining corporate development. From the perspective of transaction cost theory, in regions with an inferior business environment, government administrative approval processes are often cumbersome, and policies are vague and arbitrary. To obtain necessary operating permits and policy support, enterprises must expend considerable time and effort coordinating with government departments, and may even have to pay extra rent-seeking costs. Private enterprises, as a vulnerable group in the market, lack the bargaining power and resources to negotiate with government departments, and their transaction costs are significantly higher than those of state-owned enterprises (SOEs). Due to their inherent close ties with the government, SOEs can access policy information more conveniently and often enjoy "special treatment" during administrative approvals, resulting in relatively

lower transaction costs. This leads to high operating costs for private enterprises, severely impacting their profitability and reducing their investment willingness, which in turn results in a reduction of private capital investment in the enterprise's equity. Simultaneously, regions with a poor business environment often have an incomplete rule of law. The legitimate rights and interests of private enterprises are difficult to protect effectively, and they face enormous operating risks. Furthermore, when facing legal disputes, SOEs can rely on their good relationships with the government and judicial departments to resolve issues more efficiently and reduce losses from legal risks. This further undermines market confidence and investment enthusiasm of private enterprises, making it difficult for the proportion of private equity in the corporate equity structure to increase. Additionally, in terms of resource acquisition, resource allocation in regions with a poor business environment tends to favor SOEs. In a government-led resource allocation system, SOEs are more likely to obtain credit support, land resources, and policy subsidies, all key resources. Financial institutions, out of risk control and policy orientation considerations, are more willing to lend funds to SOEs, while private enterprises face problems of difficult and expensive financing. Even if financing is secured, private enterprises may be required to provide higher collateral and guarantees, further increasing their operating pressure. This unfairness in resource acquisition limits the development of private enterprises, making it difficult for them to expand production scale and undertake technological innovation, thus making them less competitive in the market. This hinders their ability to attract investors in the equity market, suppressing the growth of private equity. SOEs, relying on their resource advantages, can continuously obtain stable funding and resource support, expand their operational scale, increase market share, and attract more state capital and social capital, allowing state-owned equity to dominate the corporate equity structure.

On the other hand, a favorable business environment creates advantageous conditions for the development of private enterprises. By reducing administrative approval procedures, increasing policy transparency, perfecting the rule of law, and building a fair, competitive market and a stable resource supply system, it lowers the operating costs and risks for private enterprises and enhances their return on investment. This attracts more private capital investment, thereby promoting the optimization and enhancement of the regional private equity structure. First, a good business environment can effectively reduce transaction costs for enterprises. Reducing administrative approval procedures and increasing policy transparency allow enterprises to handle various formalities more quickly and efficiently, saving substantial time and effort costs. Policy transparency and stability also enable enterprises to more accurately predict policy changes and formulate long-term development strategies, lowering the risk cost due to policy uncertainty. Simultaneously, in a sound legal environment, the legitimate rights and interests of private enterprises are fully protected, allowing them to operate with greater confidence, actively expand their business, and engage in long-term investment. Third, from the perspective of Resource Dependence Theory, a good business environment builds a stable resource supply system and an effective regulatory mechanism, reducing the risk of private enterprises' dependence on external resources. A complete market system enables private enterprises to acquire key resources, such as capital, technology, and talent, at a lower cost and higher efficiency. When private enterprises can stably obtain resources and reduce resource dependence risk in a favorable business environment, their return on investment will significantly increase. Higher returns on investment attract more private capital to the region and into private enterprises, thereby promoting the optimization and enhancement of the local private equity composition. In addition, a favorable business environment can also attract external private enterprises to relocate, increasing the number and scale of private enterprises in the region and further promoting the development of the private equity structure.

Based on the above analysis, this study proposes hypothesis 1:

The optimization of the regional business environment increases the composition of local private equity.

The Resource Dependence Theory suggests that for survival and development, enterprises must interact and exchange with the external environment to acquire the necessary key resources. As a vital

component of the external environment, the quality of the business environment directly determines the difficulty and cost of corporate resource acquisition. In regions with a poor business environment, enterprises face higher resource acquisition costs and uncertainty. To avoid risks and seek stable returns, enterprises may be more inclined to adopt a financialization strategy, allocating financial assets to store liquidity and gain financial investment returns. However, this financialization behavior is often accompanied by a reduction in investment in the enterprise's primary business, which may weaken the enterprise's core competitiveness and long-term sustainable development capability. A favorable business environment, on the other hand, implies a more complete market system, more efficient government services, a fairer competitive environment, and richer innovation resources, which help enterprises lower operating costs, improve production efficiency, and expand market space, thereby reducing their reliance on financial assets. Furthermore, a good business environment can enhance the enterprise's financing capability and lower financing costs, allowing enterprises to access funds more conveniently for investment and expansion in their primary business. This means more capital will flow toward primary business investment and the development of the real economy, which helps boost the enterprise's core competitiveness and profitability, thereby attracting more private capital.

Based on the above analysis, this study proposes hypothesis 2:

The degree of financialization is a mediating variable through which the regional business environment affects the corporate equity structure. The optimization of the regional business environment can reduce the degree of corporate financialization, which in turn increases the local private equity composition.

3. Data Sources and Model Design

3.1. Data Sources

This paper uses data from Chinese A-share listed companies from 2009 to 2023 to empirically analyze the relationship between the equity structure of A-share listed companies and the regional business environment. The research data are primarily sourced from the CSMAR, WIND, and RESSET databases. To exclude the interference of abnormal data, financial enterprises, ST enterprises, and *ST enterprises were removed from the sample, and 1% winsorization was applied. The data were processed according to the research theme, and after removing invalid data, the final effective sample size is 36,094.

3.2. Variable Description

3.2.1. Explained Variable

SOE is the corporate equity structure and is the dependent variable in this paper. Following the research of Mao and Quan [9], it is proxied by the proportion of private shareholding. The proportion of private shareholding, as the dependent variable, can directly reflect the differential impact of private and state-owned shareholding on corporate behavior and economic outcomes.

3.2.2. Explanatory Variable

BHAR represents the regional business environment and is the independent variable in this paper. Drawing on the research of Zhang et al. [3], the business environment is divided into four aspects: Market Environment, Government Affairs Environment, Legal and Policy Environment, and Humanistic Environment. Twelve secondary indicators were established based on the *Regulations on Optimizing the Business Environment*, and the weights of the secondary indicators, primary indicators, and the total value were calculated using the Entropy Weight Method. A larger value indicates a better regional business environment. The specific indicators are shown in Table 1, comprising four primary indicators, twelve secondary indicators, and twenty-four assessment contents.

Table 1.
Business Environment Indicators.

Primary Indicator and Weight	Goal	Secondary Indicator and Weigh	Assessment Content	Calculation Method
Market Environment (28.21%)	Fair Competition	Financing (3.85%)	Financing Quota	Increment of Provincial Social Financing Scale / GDP
		Innovation (3.85%)	R&D Investment	Internal Expenditure on Provincial Research and Experimental Development (R&D) Funds / GDP
			Scientific Research Institutions	Number of Provincial Ordinary Higher Education Institutions (Organizations)
			R&D Output	Innovation Index
		Fair Competition (10.26%)	Entrepreneurial Vitality	Entrepreneurial Enterprise Value Index
			Share of Non-State-Owned Economy	Fixed Asset Investment by Non-State-Owned Enterprises / Fixed Asset Investment by Domestic Enterprises
		Resource Acquisition (3.85%)	Water Price	Unit Price of Non-Residential Tap Water
			Land Price	Commercial Land Price
			Human Capital	Population Inflow Rate
			Transportation Services	Transportation Operation Index
		Market Intermediary (6.41%)	Law Firms	Number of Law Firms / Number of Enterprises
			Accounting Firms	Number of Accounting Firms / Number of Enterprises
			Leasing and Business Services Enterprises	Number of leasing and business services enterprises/number of enterprises
Government Affairs Environment (35.9%)	Efficient and Honest	Government Care (6.41%)	Government Concern for Enterprises	Government Concern Index
		Government Honesty (6.41%)	Government Honesty	Government Integrity Index
		Government Efficiency (23.08%)	Government Expenditure	General Public Budget Expenditure / GDP
			E-Government Level	E-Service Capability Index
Legal and Policy Environment (30.77%)	Just and Transparent	Policy Transparency (14.1%)	Government Transparency	Government Transparency Index
		Judicial Justice (16.67%)	Judicial Quality	Judicial Civilization Index
Humanistic Environment (5.13%)	Open and Inclusive	Openness to the Outside World (1.28%)	Trade Dependency	Customs Import and Export Value / GDP
			Foreign Enterprise Count	Number of Foreign Direct Investment Enterprises / Number of Enterprises
			Foreign Investment Degree	Outward Non-Financial Investment Amount / GDP
		Social Credit (3.85%)	Credit Market Construction	Score of Credit Information Sharing Platform
			Commercial Institution Credit Awareness	Credit Utilization Awareness of Commercial Institutions

3.2.3. Control Variables

This paper controls for a series of factors that may affect the enterprise's property rights nature. These primarily include: Firm Age, measured by the logarithm of (firm listing period + 1); Firm Size (Size), measured by the logarithm of total firm assets; Leverage (Lev), measured by total liabilities divided by total assets; Equity Multiplier (EM), the reciprocal of the shareholder equity ratio; Return on Equity (ROE), net profit divided by average shareholder equity; Duality (Dual), whether the Chairman and CEO are the same person; Board Size (Board), the logarithm of the number of board members; and Independent Director Proportion (Indep), the ratio of independent directors to the total number of board members.

3.3. Model Design

Based on the previous analysis, the following econometric model is constructed:

$$Soe_{it} = \alpha + \beta_1 BHAR_{it} + \beta_2 X_{it} + \theta_i + \eta_t + \varepsilon_{it} \quad (3)$$

Where Soe is the proportion of private shareholding, BHAR is the regional business environment, and X is the control variables, including Firm Age, Firm Size, Leverage, Equity Multiplier, Return on Equity, Duality, Board Size, and Independent Director Proportion. α is the constant term, θ_i is the firm-specific fixed effect, controlling for the influence of unobservable factors of individual firms that do not change over time, η_t is the year fixed effect, and ε is the error term.

3.4. Descriptive Statistics

The descriptive statistics presented in Table 2 indicate that the number of observations (Obs) for Soe is 36,094, representing the total data points in the sample. The mean (Mean) of Soe is 40.55464, suggesting that private shareholding accounts for approximately 40.55% within the sample. The mean of BHAR observations is -0.00121, with a standard deviation of 0.064254, reflecting considerable variation in the business environment across different regions. Descriptive statistics were also calculated for the control variables. The mean of Firm Size (*Size*) is 22.2294, with a standard deviation of 1.284274, indicating that the enterprises in the sample are generally large, with relatively small differences in size. The mean of the Debt-to-Asset Ratio (*Lev*) is 0.42221, with a standard deviation of 0.20251, suggesting that the average debt-to-asset ratio of the enterprises is moderate, though there is some variation among different firms. Other control variables also display their respective statistical characteristics.

In summary, the descriptive statistics in Table 2 provide basic information about the nature of corporate property rights, the regional business environment, and each control variable. This data is helpful for a preliminary understanding of the sample conditions and the characteristics of each control variable, providing an important reference for subsequent analysis and research.

Table 2.
Descriptive Statistics.

Variable	Obs.	Mean	Std. dev.	Min.	Max.
Soe	36,094	40.55464	25.69377	0	95.99
BHAR	36,094	-0.00121	0.064254	-0.3348	0.893014
FirmAge	36,094	2.941174	0.334571	1.098612	3.688879
Size	36,094	22.2294	1.284274	19.31286	26.45228
Lev	36,094	0.42221	0.20251	0.027795	0.934305
EM	36,094	2.078595	1.216872	1.02163	10.78947
ROE	36,094	0.053998	0.149302	-2.17486	0.417857
Dual	36,094	0.285671	0.45174	0	1
Board	36,094	2.122281	0.196164	1.609438	2.70805
Indep	36,094	0.375406	0.053103	0.25	0.6

4. Empirical Analysis

4.1. Multicollinearity

To prevent multicollinearity issues among the selected variables, a Variance Inflation Factor (VIF) test was conducted. Generally, when the VIF is less than 10, it indicates that there is no multicollinearity issue between the variables. As shown in Table 3, the VIF values for all variables are less than 10, indicating that there is no multicollinearity problem among the variables selected in this paper.

Table 3.
Multicollinearity.

Variable	VIF	1/VIF
Lev	3.52	0.284343
EM	3.38	0.29547
Board	1.58	0.634427
Size	1.51	0.662474
Indep	1.46	0.687074
ROE	1.21	0.825773
Dual	1.07	0.938919
FirmAge	1.05	0.94931
BHAR	1.02	0.976839
Mean VIF	1.76	

4.2. Correlation Analysis

Correlation analysis primarily measures the correlation between the selected variables. As shown in Table 4, variables such as property rights nature, business environment, firm age, firm size, leverage, equity multiplier, return on equity, duality, board size, and proportion of independent directors all show significant correlation, as their correlation coefficients are all substantial (three asterisks usually imply a correlation coefficient close to 1, indicating a strong correlation). These significant correlation coefficients indicate a strong correlation among the selected research variables, further suggesting that the data used is appropriate.

Table 4.
Correlation Analysis.

	Soe	BHAR	FirmAge	Size	Lev	EM	ROE	Dual	Board	Indep
Soe	1									
BHAR	0.064***	1								
FirmAge	-0.168***	-0.039***	1							
Size	-0.282***	-0.038***	0.192***	1						
Lev	-0.307***	-0.054***	0.131***	0.481***	1					
EM	-0.255***	-0.051***	0.110***	0.376***	0.825***	1				
ROE	0.093***	0.138***	-0.068***	0.102***	-0.191***	-0.309***	1			
Dual	0.294***	0.029***	-0.068***	-0.173***	-0.143***	-0.116***	0.005	1		
Board	-0.261***	-0.014***	0.004	0.249***	0.157***	0.122***	0.042***	-0.194***	1	
Indep	0.076***	0.010*	-0.008	0.003	-0.018***	-0.010*	-0.012**	0.115***	-0.539***	1

4.3. Benchmark Regression

This paper employs a fixed-effects model for regression analysis on the dependent variable BHAR, progressively incorporating fixed effects and control variables. The regression results are presented in Table 5. Column (1) of Table 5 indicates that, without including fixed effects and control variables, the regression coefficient for the independent variable BHAR is 0.2556, which is significantly positive at the 1% level, suggesting that the business environment positively influences the proportion of regional private equity. Columns (2) to (4) of Table 5 include fixed effects and control variables, and the independent variable BHAR remains significantly positive at the 1% level. This demonstrates that optimizing the business environment enhances the private equity composition of enterprises. The model's goodness-of-fit reflects its explanatory power over the data. R-squared indicates the proportion of variance in the sample explained by the model relative to the total variance; a value closer to 1 signifies a better fit. In the regression result of Column (4) in Table 5, the R-squared is 0.911, meaning the model explains 91.1% of the variance, indicating a relatively good fit. Overall, the direction of influence and the significance level of the independent variable remain consistent across the columns, demonstrating the robustness of the model estimates and further supporting that the business environment impacts the private equity composition of enterprises. Therefore, Hypothesis 1 is supported.

Table 5.
Benchmark Regression.

Variables	(1)	(2)	(3)	(4)
	Soe	Soe	Soe	Soe
BHAR	0.2556*** (0.0203)	0.0495*** (0.0082)	0.0335*** (0.0079)	0.0338*** (0.0079)
FirmAge			-0.2977*** (0.0107)	-0.2962*** (0.0107)
Size			0.0137*** (0.0018)	0.0134*** (0.0018)
Lev			-0.1333*** (0.0083)	-0.1325*** (0.0083)
EM			0.0012 (0.0011)	0.0011 (0.0011)
ROE			0.0498*** (0.0047)	0.0495*** (0.0047)
Dual				0.0112*** (0.0019)
Board				0.0083 (0.0066)
Indep				-0.0117 (0.0184)
Individual Fixed Effect	No	Yes	Yes	Yes
Time Fixed Effect	No	Yes	Yes	Yes
Constant	0.4059*** (0.0013)	0.4028*** (0.0005)	1.0260*** (0.0466)	1.0106*** (0.0490)
Observations	36,094	36,094	36,094	36,094
R-squared	0.004	0.901	0.909	0.911

Note: Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

4.4. Robustness Check

4.4.1. Replacing the Dependent Variable

To further examine the credibility of the regression results, this paper conducts a robustness check by replacing the dependent variable. The specific results are shown in Table 6, Column (1). We replaced the original dependent variable "Soe" with the proportion of state-owned shareholding "FSoe." The regression procedure remained consistent, and the regression result is significant at the 1% statistical level, indicating that the business environment significantly impacts the corporate equity structure. Specifically, Column (1) of Table 6 is largely consistent with the previous findings, where BHAR is negatively correlated with "FSoe" as expected, indicating that the estimation results are robust.

4.4.2. Lagged One Period

Column (2) of Table 6 presents the regression results after using the independent variable lagged by one period (L. BHAR). This test is performed to account for potential endogeneity. From the regression results, it can be seen that even with the lagged dependent variable, the coefficient of the explanatory variable remains significantly negative and is statistically significant at the 1% level. This indicates that the business environment one year later still impacts the nature of enterprise ownership, and the conclusion of this paper has not fundamentally changed, suggesting the regression results remain robust.

Table 6.
Robustness Check.

Variables	(1)	(2)
	Replacing the Dependent Variable	Lagged One Period
	FSoe	Soe
BHAR	-0.0271*** (0.0091)	
L.BHAR		0.0243*** (0.0083)
Size	0.0693*** (0.0103)	-0.3192*** (0.0126)
Lev	-0.0009 (0.0020)	0.0192*** (0.0020)
EM	0.0368*** (0.0108)	-0.1144*** (0.0093)
ROE	0.0067*** (0.0016)	-0.0005 (0.0013)
Dual	-0.0154*** (0.0054)	0.0431*** (0.0048)
Board	-0.0118*** (0.0023)	0.0093*** (0.0021)
Indep	0.0354*** (0.0086)	0.0097 (0.0073)
Individual Fixed Effect	Yes	Yes
Time Fixed Effect	Yes	Yes
Constant	0.0262 (0.0579)	0.9344*** (0.0569)
Observations	36,094	30,407
R-squared	0.942	0.913

4.5. Heterogeneity Analysis

The economic, social, and political environments vary significantly across different regions, which directly influence the impact of the business environment on the nature of corporate property rights. Table 7 presents the impact of the business environment on the nature of corporate property rights for

enterprises in different regions. Columns (1) and (2) of Table 7 show that in enterprises in the Eastern and Central regions, the business environment has a significant impact on the nature of corporate property rights, being significant at the 1% and 5% statistical levels, respectively. This indicates that a better business environment leads to more private enterprises. However, the result for the Western region is not significant. The Eastern and Central regions, as the forefront of China's reform and opening-up, have seen significant optimization of their business environments in recent years. This benefits from improvements in the policy environment, legal environment, market environment, and many other aspects, providing more convenient conditions for enterprise establishment and operation. The optimization of the business environment reduces corporate operating costs and enhances corporate competitiveness, thereby attracting more investment and further promoting the emergence and development of private enterprises. Private enterprises have greater autonomy, aim for profitability in their operations, and can flexibly respond to market changes and seize business opportunities. The Eastern region has provided more policy support and preferential treatment to private enterprises, such as tax reductions and financing support, in the process of promoting economic development, which further stimulates the entrepreneurial enthusiasm and development momentum of private enterprises. Compared to the Eastern region, the business environment in the Western region is relatively lagging, and aspects such as the policy environment, legal environment, and market environment still need further improvement.

Compared to the eastern regions, the business environment in the western regions is relatively lagging, with policy, legal, and market environments still needing further improvement. To a certain extent, this restricts the establishment and operation of private enterprises, leading to their comparatively slower development in these areas.

In the western regions, state-owned enterprises (SOEs) often occupy a pivotal position and have a significant impact on the regional economy. Due to greater government intervention, SOEs have relatively weaker decision-making autonomy and market competitiveness, which, to some extent, affects the overall improvement of the regional business environment. Meanwhile, there are certain differences and conflicts between SOEs and private enterprises regarding resource acquisition and market competition, further restricting the development of private enterprises in these regions.

The western regions also exhibit significant differences from the eastern and central regions in terms of economic foundation and industrial structure. The eastern and central regions possess a solid economic foundation and are undergoing faster optimization and upgrading of their industrial structures, providing broader space and opportunities for the development of private enterprises. In contrast, the western regions have a relatively weak economic foundation and a comparatively monolithic industrial structure, which, to some extent, limits the development potential and scope for private enterprises.

Table 7.
Heterogeneity Analysis.

Variables	(1)	(2)	(3)
	East	Mid	West
	Soe	Soe	Soe
BHAR	0.0341*** (0.0091)	0.0448** (0.0217)	0.0194 (0.0228)
FirmAge	-0.3030*** (0.0123)	-0.2884*** (0.0317)	-0.2119*** (0.0277)
Size	0.0139*** (0.0021)	0.0104** (0.0052)	0.0116*** (0.0044)
Lev	-0.1158*** (0.0100)	-0.1482*** (0.0221)	-0.1264*** (0.0206)
EM	0.0016 (0.0015)	-0.0011 (0.0028)	0.0001 (0.0022)
ROE	0.0485*** (0.0053)	0.0470*** (0.0129)	0.0402*** (0.0118)
Dual	0.0106*** (0.0022)	0.0035 (0.0053)	0.0174*** (0.0056)
Board	0.0033 (0.0079)	0.0209 (0.0160)	0.0282 (0.0182)
Indep	-0.0472** (0.0229)	0.1325*** (0.0436)	-0.0104 (0.0434)
Individual Fixed Effect	Yes	Yes	Yes
Time Fixed Effect	Yes	Yes	Yes
Constant	1.0696*** (0.0578)	0.9224*** (0.1378)	0.6761*** (0.1280)
Observations	25,476	5,848	4,769
R-squared	0.911	0.901	0.914

Note: Robust standard errors in parentheses

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

4.6. Mechanism Test

Resource Dependence Theory emphasizes that enterprises depend on resource controllers to exchange and acquire essential resources for their survival. Optimizing the business environment involves reducing the difficulty and cost associated with corporate resource acquisition, thereby decreasing the enterprise's dependence on external resource controllers. A superior business environment significantly lowers institutional transaction costs through measures such as streamlining approval processes and enhancing government service quality. These costs include compliance costs and rights protection costs that increase due to cumbersome regulations, overly high standards, or incomplete systems. Reducing institutional transaction costs enables enterprises to utilize resources more efficiently, diminishes excessive dependence on external resources, and consequently reduces the motivation for corporate financialization. Business environment optimization fosters fairness in market competition, allowing enterprises to acquire market resources such as capital, technology, and talent more equitably. In such an environment, enterprises are less reliant on financial means to raise funds or acquire other resources, which decreases the demand for corporate financialization. Improving the level of the business environment can significantly lower corporate credit costs, including reducing credit risk, enhancing the quality of internal control, and easing financing constraints. These measures facilitate access to low-cost, high-efficiency financing, reducing reliance on high-risk financial instruments and lowering the degree of corporate financialization. Enhancing the business environment involves measures such as improving laws and regulations and increasing enforcement efficiency, which reduces market entry barriers and creates more opportunities for private enterprises. In this context, private enterprises find it easier to establish and operate, leading to an increase in their number within

the region. A favorable business environment can stimulate social entrepreneurial vitality and encourage greater participation in entrepreneurial activities.

The degree of corporate financialization in this paper is measured by the ratio of financial assets to total assets. Table 8 shows the regression results. Column (2) of Table 8 indicates that the explanatory variable BHAR is negatively significant at the 10% statistical level, suggesting that the business environment reduces corporate financialization, which in turn increases the share of private equity; thus, Hypothesis 2 is supported.

Table 8 presents the results of the mechanism test. Column 1 displays the benchmark regression for Soe, while Column 2 shows the regression with financialization (*Fin*) as the dependent variable.

Table 8.
Mechanism Test.

Variables	(1)	(2)
	Soe	Fin
BHAR	0.0338*** (0.0080)	-0.0097* (0.0055)
FirmAge	-0.2962*** (0.0107)	0.0372*** (0.0057)
Size	0.0134*** (0.0018)	-0.0073*** (0.0010)
Lev	-0.1325*** (0.0084)	-0.0364*** (0.0049)
EM	0.0011 (0.0012)	-0.0002 (0.0008)
ROE	0.0495*** (0.0047)	-0.0053** (0.0026)
Dual	0.0112*** (0.0020)	-0.0013 (0.0012)
Board	0.0083 (0.0066)	0.0005 (0.0038)
Individual Fixed Effect	Yes	Yes
Time Fixed Effect	Yes	Yes
Constant	1.0131*** (0.0493)	0.1192*** (0.0274)
Observations	36,094	36,094
R-squared	0.911	0.683

5. Conclusion and Policy Recommendations

5.1. Conclusion

This study, based on data from China's A-share listed companies from 2009 to 2023, systematically examined the mechanism and heterogeneity of the impact of the regional business environment on corporate equity structure through a fixed-effects model and a mediating effect test. The following core conclusions were drawn: First, the optimization of the business environment significantly promotes the diversification of corporate equity structure. The improvement of the regional business environment has a significant positive effect on increasing the proportion of private enterprises. For every 1-unit increase in the Business Environment Index (BHAR), the proportion of state-owned enterprises decreases by 3.16%, indicating that a favorable business environment creates a fairer market competition environment for private enterprises by reducing institutional transaction costs and broadening financing channels. This finding validates the core tenet of the Resource Dependence Theory, namely that the quality of the external environment directly influences a firm's resource acquisition methods and governance structure choices. Second, regional heterogeneity is significant. The effect of business environment optimization on equity structure is significant at the 5% level in the Eastern region, but it did not pass the significance test in the central and western regions. This disparity stems from the more

comprehensive financial market system, higher level of government service efficiency, and more vibrant venture capital ecosystem in the Eastern region. Third, the mediating effect via the financialization path is significant. The mechanism test reveals that optimizing the business environment indirectly promotes the optimization of the equity structure by reducing the degree of corporate financialization.

5.2. Policy Recommendations

5.2.1. Develop Differentiated Strategies for Promoting Business Environment Optimization

The Eastern region should focus on institutional openness, pilot a negative list management model, improve the private equity secondary market, and promote the linkage between regional equity trading centers and the STAR Market (Science and Technology Innovation Board). For example, it can draw on Shenzhen's "instant approval" enterprise registration system to compress the average time required for enterprise establishment. Simultaneously, the central and western regions need to strengthen infrastructure and legal guarantees and establish a cross-regional compensation mechanism for the business environment. It is suggested that the coverage rate of "all-in-one" government services be incorporated into the local government assessment system, and special funds be set up to compensate for the increased institutional costs resulting from raised environmental standards.

5.2.2. Improve the Synergistic Mechanism between Business Environment and Corporate Governance

At the policy level, there is a need to link the reform in simplifying administration and delegating power, combining decentralization and management, and optimizing services with the revision of the Company Law, and to embed ESG information disclosure requirements into the business environment evaluation system. Financial regulation should guide the development of regional equity markets and provide policy support to private enterprises registered in exemplary business environment zones, such as filing-based registration for bond issuance quotas and a green channel for board transfers. At the same time, it is crucial to establish a sound legal and regulatory system, strengthen the protection of investors' rights and interests, and reduce corporate legal risks. Furthermore, supervision over major shareholders should be intensified to prevent them from harming the interests of minority shareholders through actions like tunneling, thereby maintaining a fair market competition environment.

5.2.3. Focus on the Construction of Informal Institutions

In addition to formal laws and regulations, attention should also be paid to the construction of informal institutions, such as enhancing social trust and strengthening corporate culture. This will help form a more open and inclusive corporate cultural atmosphere, facilitating the rational adjustment and optimization of the corporate equity structure. Moreover, enterprises should be encouraged to innovate their equity structure based on their own development needs and the characteristics of the local business environment, while adhering to laws and regulations.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

- [1] D. Simeon, L. P. Rafael, L. D. S. Florencio, and S. Andrei, "The regulation of entry," *Quarterly Journal of Economics*, vol. 117, no. 1, pp. 1-37, 2002.

- [2] M. Hallward-Driemeier and D. Stewart, *How do investment climate conditions vary across countries, regions and types of firms?* Washington DC: World Bank, 2004.
- [3] S. B. Zhang, B. Kang, and Z. X. Zhang, "Evaluation of the business environment in Chinese provinces: Indicator system and quantitative analysis," *Economic Management*, vol. 42, no. 04, pp. 5-19, 2020.
- [4] S. Claessens, S. Djankov, and L. H. P. Lang, "The separation of ownership and control in East Asian corporations," *Journal of Financial Economics*, vol. 58, no. 1-2, pp. 81-112, 2000. [https://doi.org/10.1016/S0304-405X\(00\)00067-2](https://doi.org/10.1016/S0304-405X(00)00067-2)
- [5] M. Faccio and L. H. P. Lang, "The ultimate ownership of Western European corporations," *Journal of Financial Economics*, vol. 65, no. 3, pp. 365-395, 2002. [https://doi.org/10.1016/S0304-405X\(02\)00146-0](https://doi.org/10.1016/S0304-405X(02)00146-0)
- [6] M. C. Jensen and W. H. Meckling, "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Journal of Financial Economics*, vol. 3, no. 4, pp. 305-360, 1976. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- [7] W. Tan, X. Chen, M. Teng, W. An, and C. Wu, "Navigating the green transition: Assessing the impact of Chinese green public procurement on corporate pollution emissions," *International Journal of Climate Change Strategies and Management*, vol. 17, no. 2, pp. 25-46, 2025. <https://doi.org/10.1108/IJCCSM-09-2024-0161>
- [8] R. L. Porta, F. Lopez-De-Silanes, and A. Shleifer, "Corporate ownership around the world," *Journal of Finance*, vol. 54, no. 2, pp. 471-517, 1999. <https://doi.org/10.1111/0022-1082.00115>
- [9] Q. Mao and X. Quan, "Can reverse mixed reform promote green innovation in Chinese private enterprises?," *Finance Research Letters*, vol. 76, p. 106982, 2025. <https://doi.org/10.1016/j.frl.2025.106982>