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## CAN THE REVERSE MIXED REFORM IMPROVE THE LEVEL OF RISK-TAKING BY PRIVATE ENTERPRISES? <sup>1</sup>

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**ABSTRACT.** *As market risks and market competition continue to intensify, how to improve the risk-taking level of enterprises has attracted extensive attention from the academic community. To explore the relationship between reverse mixed reform and the risk-taking level of private enterprises, using a sample of Chinese A-share listed companies in Shanghai and Shenzhen from 2007 to 2022, and drawing on the signaling and principal-agent theories, the impact of reverse mixed reform of private enterprises on their level of risk-taking level was examined from two aspects of equity structure and high-level governance. Results show that reverse mixed reform significantly improves the level of private enterprise risk-taking, and*

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*it is more obvious at the high-level governance level. In terms of equity structure, reverse mixed reform improves the level of private enterprise risk-taking by alleviating credit discrimination. Meanwhile, high-level governance provides further evidence of the intermediary effect of agency costs. Private firm engagement in reverse mixed reform is moderated by factors such as industry competition and management power. Conclusions are useful additions to the study of the economic effects of mixed ownership reform and have a high policy reference value on how to stimulate the vitality of market players and better utilize the advantages of the integration of state-owned capital and private capital.*

**KEYWORDS:** private enterprises, reverse mixed reform, equity structure, top-level governance, risk-taking level

**JEL CLASSIFICATION:** M20, M41, G10.

## Introduction

Risk-taking reflects the willingness and tendency of the enterprise to pursue high profits and be willing to pay for them, which is manifested in the enterprise's choice of risky investment projects in investment decision-making. At the micro level, a higher level of risk-taking helps enterprises seize investment opportunities and improve financial performance (Cucculelli, Ermini, 2013; Min *et al.*, 2023); At the macro level, risk-taking is one of the key drivers of social capital accumulation and social productivity (Xu *et al.*, 2023). All along, mixed ownership economy with equity integration as the main feature has been an important form of economic organization in countries around the world, such as New Zealand and the United Kingdom, which emphasize the combination of market economy and social equity, which is reflected in the coexistence of private and public ownership in the equity structure of the enterprise (Lu, 2018), and France has further pushed forward the reform of mixed ownership to monopoly industries, such as through the introduction of external shareholders transformed Electricité de France. Following the Third Plenary Session of the 18th CPC Central Committee in 2013, the Chinese government has underscored the significance of advancing the mixed ownership economy, rolling out a succession of policy initiatives aimed at deepening comprehensive reforms and piloting mixed ownership reforms. Over the decade leading up to 2023, a substantial majority of central and local state-owned enterprises in China have transitioned to mixed ownership structures. Additionally, a significant proportion of private listed companies have welcomed state capital participation. These transformative steps have infused new vitality into the Chinese economy. At a critical juncture of national economic transformation, enhancing the risk-taking capabilities of private enterprises has become the key to promoting structural economic adjustments, fostering innovation-driven growth, and achieving high-quality development. Consequently, this study is centered on evaluating whether the ongoing implementation of mixed ownership reforms has indeed bolstered the risk management capabilities of private enterprises and discussing its potential as a new engine for economic growth.

Existing studies have primarily examined the economic impacts of the reverse mixed-ownership reform in private enterprises from two perspectives—resource and corporate governance effects. Regarding the resource effect, most studies have found that the reverse mixed-ownership reform significantly alleviates the financing constraints of private enterprises

(Zhu *et al.*, 2024), enabling them to obtain more bank loans (Song *et al.*, 2014; Yan *et al.*, 2023). On the one hand, Meanwhile, the mainstream view is that the participation of state-owned shareholders can improve the governance level of private enterprises (Grosman *et al.*, 2016; Wei, Song, 2020; Zhao, Yi, 2021). According to the principal-agent theory, due to the existence of agency problems, there is a conflict of interest between management and shareholders, and reducing agency costs can protect the interests of shareholders. After the participation of state-owned capital, it will impose shareholder governance and incentive effects on management, increasing the consistency of interests between shareholders and management, and thereby reducing the risk aversion of management caused by the mismatch between residual control rights and residual claim rights. Given the urgency of enhancing the risk-taking willingness of private enterprises, it is necessary to explore whether the currently vigorously promoted reverse mixed-ownership reform can alleviate the obstacles to enterprise development. The signaling theory and the principal-agent theory lay the theoretical foundation for analyzing the relationship between the reverse mixed-ownership reform of private enterprises and their risk-taking levels. According to the signaling theory, the more transparent the information disclosure of enterprises, the lower the degree of information asymmetry faced by external stakeholders, and the easier it is to obtain external investment. The intervention of state-owned capital, to a certain extent, means that private enterprises have gained the government's endorsement, sending a positive signal to the capital market, enhancing investor confidence, and bringing advantages in resource acquisition. Thus, this study expects that the reverse mixed-ownership reform will promote private enterprises' risk-taking levels.

This paper empirically investigates the economic impact of the "reverse mixed ownership reform" in privately-owned A-share listed companies in China, examining samples from the Shanghai and Shenzhen stock exchanges from 2007 to 2022. The study introduces an innovative research design that accurately assesses the economic effects of reverse mixed reforms in private enterprises, with a particular focus on the aspect of high-level governance. The analysis of the appointment of directors, supervisors, and executives reveals that governance reforms at this level significantly enhance the propensity for risk-taking in private enterprises, more so than equity structure reforms. Furthermore, the study broadens the scope of research on the economic outcomes of "reverse mixed ownership reform" by discussing the risk-taking behavior in private enterprises following the introduction of state-owned capital. The findings deepen the understanding of this subject and offer policy recommendations for the advancement of China's mixed-ownership economy. This research not only addresses a crucial aspect of China's basic economic system but also contributes to the ongoing economic reforms by providing insights on how to elevate the risk-taking capabilities of private enterprises and how to deepen the reforms of the mixed-ownership economy to leverage the benefits of ownership integration.

The structure of this study is delineated as follows: The first section provides a comprehensive literature review on the determinants of corporate risk-taking levels and the economic effects of the infusion of state-owned capital into companies, culminating in the formulation of the primary hypotheses of the investigation. The second section elaborates on the methodological framework employed for the research. The third section is devoted to reporting the outcomes of the empirical analysis in a detailed manner. Subsequent to this, the fourth section engages in an in-depth discussion of the empirical findings. The section 5 synthesizes the entirety of the study and discusses the broader implications of the research findings, highlighting their significance for future scholarly inquiry and practical applications.

## 1. Theoretical Analysis and Hypothesis Development

An enterprise's risk-taking level is reflected in its risk preferences while making investment decisions. The higher the risk-taking level, the more inclined the enterprise is to choose risky investment projects (Acharya *et al.*, 2011). The existing literature primarily discusses the influencing factors of enterprise risk-taking from two perspectives: corporate governance and the external environment.

Studies on corporate governance have primarily focused on executives' risk attitudes and controlling shareholders' characteristics. As the fundamental driver of enterprise decision-making, executives' risk attitude plays a crucial role in enterprise risk-taking. When executives are highly willing to take risks, their enterprises will choose investment plans with higher risks and positive expected net value. Meanwhile, from the perspective of the personal characteristics of executives, gender (Khaw *et al.*, 2016), age (Hisham and Chris, 2018), and overseas education experience (Sun *et al.*, 2023) affect risk attitude. In addition, higher salary levels, information acquisition capabilities and lower financing constraints reduce the risk aversion of senior executives, improving the level of enterprise risk-taking (Tao *et al.*, 2024; Zhang and Wu, 2023). Although the Company Law stipulates that the controlling shareholders may not interfere in the daily operation and management of listed companies, they have residual claims on the company's property, and their risk-taking level thus directly affects enterprise value (Jin *et al.*, 2023; Chen and Huang, 2023). Consequently, the controlling shareholders are motivated to intervene in the enterprise's risk-taking behavior.

Meanwhile, the decision-making and risk-taking capabilities of enterprises are significantly influenced by the quality of their external environment. Studies have shown that within the institutional context, the establishment of an investor protection framework is widely accepted as an effective deterrent against executives' tendency to avoid risk, thereby increasing the level of risks businesses are prepared to undertake. In contrast, strengthening creditors' rights has been associated with a reduction in risk-taking by firms (John *et al.*, 2008; Acharya *et al.*, 2011). From the perspective of the social environment, a company's social network bolsters its capacity for risk-taking, which not only enlarges the scale of its debt financing but also enhances its R&D capabilities (Guo *et al.*, 2024). Furthermore, media transparency, as a component of external oversight, can restrain managerial risk aversion and motivate companies to engage in projects with greater risk (Gao *et al.*, 2022).

However, despite extensive research on the economic effects of mixed ownership reform in state-owned enterprises, studies on the economic consequences of the reverse mixed ownership reform in private enterprises remain relatively scarce. Examining the dimensions of resource acquisition and corporate governance, it has been found that private enterprises engaging in reverse mixed reforms through the inclusion of state-owned capital can effectively mitigate credit discrimination stemming from ownership characteristics, enabling these enterprises to secure more substantial and longer-term bank loans (Song *et al.*, 2014). Furthermore, such reforms can also contribute to a reduction in financing costs (Li *et al.*, 2022) and an increase in government subsidies (Lin *et al.*, 2021). From the governance perspective, private enterprises can improve their governance structures by adopting the standardized organizational management and internal control systems from state-owned enterprises, a process referred to as the "boot-pulling effect" (Pan *et al.*, 2019). Additionally, the participation of state-owned capital in private enterprises can lead to a heterogeneous equity structure, which serves a supervisory function over the financialization of these enterprises (Zhao and Yi, 2021). Taking into account both resource acquisition and governance effects, further research has

indicated that reverse mixed reforms can significantly enhance private enterprises' R&D investments (Fu *et al.*, 2023; Xu *et al.*, 2023) and investment efficiency (Li *et al.*, 2023).

Therefore, the existing literature on enterprise risk-taking has predominantly focused on the determinants from within corporate governance structures and the external economic environment. Additionally, research has addressed the economic outcomes of reverse mixed ownership reforms in private enterprises, particularly in the realms of financing capacity, innovation activities, and investment efficiency. Despite this, there is a notable scarcity of empirical analysis on how reverse mixed ownership reforms might impact the propensity for risk-taking in private enterprises. This study aims to address this gap by theoretically examining the interrelation between reverse mixed ownership reforms and the level of risk-taking in private firms, as well as the underlying mechanisms that govern this relationship.

During China's period of economic transformation, the imperfect market and legal frameworks resulted in an institutional void (Khanna and Palepu, 2000; Li and Zhou, 2023), with the government taking a central role in the allocation of economic and financial resources. This “paternalistic approach” by the government enabled state-owned enterprises to access more financing and development opportunities compared to private enterprises, which encountered higher barriers when raising funds from state-owned banks or faced higher costs for bank loans (Ghosh and Olsen, 2009). The infusion of state-owned capital into private enterprises, which traditionally faced disadvantages in resource acquisition, allowed them to forge a symbiotic relationship with the government, thereby gaining more resources from state and banking institutions. According to signaling theory, the influx of state-owned capital transmits a positive signal to the capital market, which helps to alleviate the information asymmetry for external investors, enhance the resource-acquisition capabilities of enterprises, and mitigate the risk aversion that arises from a lack of resources. First, the government generally follows the principle of “selecting the best” when choosing to participate in enterprises, with the primary motivation being to control high-interest rate enterprises (Chatain and Denisa, 2017). Therefore, the introduction of state-owned capital sends a signal to the capital market that the private enterprise has received government support and is in good operating condition, which eliminates the problem of information asymmetry between banks and enterprises to some extent, leading to the alleviation of the banks' credit discrimination against private enterprises. Second, the existence of state-owned shareholders provides an implicit government guarantee for the enterprise, making them a community of interest. Therefore, companies with state-owned shareholders are more likely to receive support from state-owned enterprises during financial or operational difficulties; in critical times, the government may even intervene by implementing policies to provide assistance. The involvement of state-owned capital provides an implicit guarantee for corporate debt financing, thereby mitigating the lending risks for banks and helping to alleviate credit discrimination against private enterprises. The degree of risk-taking exhibited by a company in its choice of investment projects is inversely proportional to the likelihood of its management foregoing high-risk investment projects with positive expected net values. The act of risk-taking by a company is a resource-intensive undertaking with a strong dependency on the availability of resources (Fazzari *et al.*, 1988). Companies with less financial restraint are less likely to forgo investment opportunities with high earning potential due to insufficient funds. Consequently, the introduction of state-owned capital effectively eases the asymmetry of information between banks and companies, bolsters the financing capabilities of private enterprises, and enhances their level of risk-taking.

Currently, the shareholding ratio of professional managers in China's private listed companies is low, making it easy to form agency problem with shareholders. The agency problem is an important factor affecting the level of enterprise risk-taking. On the one hand, shareholders hold the cash flow right of the enterprise but assumes corporate responsibility within the limit of their capital contribution. Thus, they are motivated to urge the enterprise to maintain a high level of risk-taking to increase the opportunity of obtaining high returns; on the other hand, in a highly competitive manager market, management's income from enterprise venture capital is far less than the risk it bears (Mishra, 2011). For example, in the process of pursuing personal benefits associated with their control, company managers often opt to forego investment projects that, despite being high-risk, are forecasted to yield positive net returns. This preference for avoiding riskier investments reduces the corporation's engagement with high-risk ventures, thereby diminishing the company's overall propensity to take on risk. In this regard, the principal-agent theory notes that there is a natural inconsistency of interests between shareholders and management. Management will distort the enterprise's investment decisions for its benefit, such as abandoning the investment project with a net present value greater than 0 to avoid taking excessive risks. The reverse mixed-ownership reform enhances private enterprises' risk-taking capacity and mitigates the agency conflict between shareholders and management. At the regulatory level, the state mandates that state-owned enterprises (SOEs) ensure the legal rights and obligations of shareholders, focus on investment returns, and strengthen supervision and accountability mechanisms. In terms of internal governance, Xie *et al.* (2019) pointed out that the participation of state-owned capital contributes to the formation of a diversified equity structure, whereby state shareholders are motivated to oversee the management of private enterprises to prevent the loss of state assets. Externally, Hope *et al.* (2022) found that SOEs are subject to more intense public scrutiny compared to private enterprises, and the introduction of state-owned shares tends to draw the attention of small and medium shareholders, thereby fostering external oversight over management and reducing agency costs. The existing misalignment between management's control rights and income rights diminishes their incentive to invest in high-risk projects. Conversely, shareholders who hold equity capital are inclined to favor a high level of risk-taking by the enterprise to achieve substantial returns. Therefore, the level of enterprise risk-taking is, to some extent, the result of a game between management and shareholders. From the above analysis, private enterprises have introduced state-owned shareholders by implementing the reverse mixed reform, which has strengthened the checks and balances on management, reduced agency costs between shareholders and management, aligned management's investment decisions with the interests of shareholders, and ultimately improved the level of risk-taking of enterprises. Therefore, this study proposes Hypothesis 1.

*Hypothesis 1: All other conditions remaining the same, the reverse mixed reform significantly improves the level of risk-taking among private enterprises.*

## **2. Methodology**

### **2.1 Sample Selection and Data Sources**

Considering the impact of the new accounting standards introduced in 2007 on financial data, this study selects private A-share listed companies from Shanghai and Shenzhen from 2007 to 2022 as the research sample. As this study uses data for t-1 and t+1 years when calculating the level of enterprise risk-taking, the actual sample period was 2008–2021. To

obtain valid empirical results, this study screened the samples as follows: First, the samples that reflected transfers from state-owned to private enterprises during the sample period were deleted, as well as those whose starting year was that of a state-owned enterprise. Second, the financial and insurance industries data were deleted. Third, the ST and \*ST samples were deleted. Fourth, samples with asset-liability ratios greater than one and those with missing variables were deleted. Finally, 9,046 observations were obtained. This study winsorizes all continuous variables by 1%, and the reverse mixed reform data are obtained by manually collecting and organizing the data in the annual reports of listed companies. Other data are taken from the CSMAR database or calculated based on the database.

## 2.2 Modeling and Variable Definitions

To test the impact of the reverse mixed reform on the risk-taking levels of private enterprises, this study constructs the following multiple regression model:

$$Risk_{i,t} = \alpha_0 + \alpha_1 Mix1 + \alpha_i Controls_{i,t} + \sum ID + \sum Year + \varepsilon_{i,t} \quad (1)$$

where, the explanatory variable is the level of risk-taking (*Risk*). The existing literature primarily measures enterprise risk-taking levels through stock return (Ferris *et al.*, 2017; Chen and Huang, 2022) and earnings volatility (John *et al.*, 2008; Faccio *et al.*, 2016). Due to the synchronization of stock prices and the volatility of stock returns in the Chinese market, this method faces limitations for this study. Hence, this study selects earnings volatility as the measure of enterprise risk-taking. Specifically, the study takes every three years (t-1 to t+1) as the observation period and uses the volatility of return on total assets (*Risk1*) adjusted by industry and annual averages and the difference between the maximum and minimum return on total assets (*Risk2*) adjusted by industry and annual average during the observation period. The specific calculation formula is as follows:

$$Risk1_{i,t} = \sqrt{\frac{1}{T-1} \sum_{t=1}^T \left( AdjROA_{i,j,t} - \frac{1}{T} AdjROA_{i,j,t} \right)^2}, T = 3 \quad (2)$$

$$Risk2_{i,t} = Max(AdjROA_{i,j,t}, AdjROA_{i,j,t+1}, AdjROA_{i,j,t+2}) - Min(AdjROA_{i,j,t}, AdjROA_{i,j,t+1}, AdjROA_{i,j,t+2}) \quad (3)$$

$$AdjROA_{i,j,t} = \frac{EBIT_{i,j,t}}{Size_{i,j,t}} - \frac{1}{n_{jt}} \left( \sum_{k=1}^{n_{jt}} \frac{EBIT_{i,j,t}}{Size_{i,j,t}} \right) \quad (4)$$

where *AdjROA* denotes return on total assets, adjusted for industry and annual averages. Items *i, j*, and *t* refer to company, industry, and year, respectively. *EBIT* denotes earnings before interest, taxes, depreciation, and amortization, *Size* denotes the industry average of total assets, *n* indicates the total number of firms in an industry in a given year, and *T=3* refers to the number of rolling periods.

The main explanatory variable is the extent of reverse mixed reform, *Mix*. In terms of equity structure, the sum of the shareholding ratios of the top-10 Chinese shareholders, *Mix1*, is measured. Meanwhile, with respect to high-level governance, it is measured by the ratio of the number of directors and supervisors appointed by state-owned shareholders to the total number of directors, supervisors, and management, *Mix2*. The higher the values of *Mix1* and *Mix2*, the deeper the private enterprises' reverse mixed reform.

Following the findings of Faccio *et al.* (2016), this study further controls the following control variables: company size (*Size*) is the natural logarithm of total assets, the gearing ratio (*Lev*) is total liabilities divided by total assets, profitability (*Roe*) is the return on net assets, cash

holdings (*Cash*) refers to cash equivalents divided by total assets, development capacity (*Growth*) is the annual growth rate of operating income, and the proportion of shares held by the largest shareholder (*Top1*) refers to the number of shares held by the largest shareholder divided by the total number of shares. In addition, the two-rights separation ratio (*Wedge*) refers to the ratio of control to ownership held by the beneficial owner, the size of the board of directors (*Board*) is the natural logarithm of the total number of members, the proportion of independent directors (*Indep*) is the number of independent directors divided by the number of board members, and dual is a binary variable that takes the value of one if the chairman is also the chief executive and zero if not. Furthermore, the age of the company (*Age*), Natural logarithm of the difference between 2023 and the year the company was founded. Finally, this study also controls the firm (*Id*) and year (*Year*).

### 3. Results Analysis

#### 3.1 Descriptive Statistics

*Table 1* reports the descriptive statistical results of all variables in Eq. (1). The mean and standard deviation of *Risk1* are 0.030 and 0.038, respectively, and those of *Risk2* are 0.057 and 0.070, respectively. As the standard deviations are greater than the mean values, the risk-taking levels of the sample companies differ. That is, the average value of *Mix1* is 0.025, the standard deviation is 0.058, and the minimum and maximum values are 0 and 0.343, respectively. The results are generally consistent with those of Wei and Song (2020). The mean value of *Mix2* is 0.027, with a median of 0, this means that compared with the participation of state-owned capital, the proportion of state-owned shareholders directly participating in corporate governance, such as appointing directors and supervisors to privately listed companies with equity participation, is relatively small. This also shows that most of the private enterprises "reverse mixed reforms" stays at the level of "mixing" and has not yet penetrated into the substantive stage of "reform".

**Table 1. Results of descriptive statistics**

Variables	<i>N</i>	<i>Mean</i>	<i>Sd</i>	<i>Min</i>	<i>Median</i>	<i>Max</i>
<i>Risk1</i>	9046	0.030	0.038	0.002	0.018	0.246
<i>Risk2</i>	9046	0.057	0.070	0.003	0.035	0.449
<i>Mix1</i>	9046	0.025	0.058	0	0	0.343
<i>Mix2</i>	9046	0.027	0.234	0	0	0.568
<i>Size</i>	9046	21.661	0.996	19.243	21.602	24.810
<i>Lev</i>	9046	0.374	0.193	0.048	0.357	0.943
<i>Roe</i>	9046	0.036	0.081	-0.406	0.0410	0.212
<i>Cash</i>	9046	0.179	0.126	0.012	0.145	0.618
<i>Growth</i>	9046	0.404	1.190	-0.773	0.141	10.293
<i>Top1</i>	9046	32.011	13.633	7.450	29.721	71.310
<i>Wedge</i>	9046	4.573	7.297	0	0	29.932
<i>Board</i>	9046	2.078	0.184	1.609	2.197	2.485
<i>Indep</i>	9046	0.381	0.055	0.333	0.364	0.571
<i>Dual</i>	9046	0.656	0.479	0	1	1
<i>Age</i>	9046	1.762	0.730	0.693	1.792	3.178

Source: created by the authors.

### 3.2 Benchmark Testing

Table 2 presents the benchmark regression results of Hypothesis 1. Columns (1) and (2) reflect the level of equity structure, and Columns (3) and (4) reflect high-level governance. Whether the level of corporate risk-taking is measured by *Risk1* or *Risk2*, *Mix1* and *Mix2* remain significantly positive. This indicates that the reverse mixed reform of private enterprises significantly improves their level of risk-taking. As a result, the study preliminarily verifies Hypothesis 1. The coefficient and significance level of *Mix2* are greater than those of *Mix1*, and the inter-group difference test shows that the respective *P*-values are 0.044 and 0.039, indicating that, compared with state-owned shareholders' equity participation, the reverse mixed reforms in the appointments of directors, supervisors, and senior executives to equity participation better improves the level of risk-taking of private enterprises.

**Table 2. Results of benchmark regression**

Variables	(1) <i>Risk1</i>	(2) <i>Risk2</i>	(3) <i>Risk1</i>	(4) <i>Risk2</i>
<i>Mix1</i>	0.024** (2.368)	0.045** (2.371)		
<i>Mix2</i>			0.069*** (5.577)	0.130*** (5.819)
<i>Size</i>	-0.012*** (-5.940)	-0.021*** (-5.899)	-0.013*** (-6.667)	-0.023*** (-6.628)
<i>Lev</i>	0.031*** (4.340)	0.057*** (4.385)	0.034*** (5.019)	0.064*** (5.080)
<i>Roe</i>	-0.195*** (-15.001)	-0.353*** (-15.070)	-0.196*** (-15.072)	-0.355*** (-15.145)
<i>Cash</i>	0.020*** (3.034)	0.036*** (3.051)	0.017*** (2.740)	0.032*** (2.757)
<i>Growth</i>	0.001** (2.518)	0.002** (2.557)	0.001*** (2.627)	0.002*** (2.667)
<i>Top1</i>	-0.000** (-2.058)	-0.000** (-2.048)	-0.000*** (-3.735)	-0.001*** (-3.745)
<i>Wedge</i>	-0.000 (-0.602)	-0.000 (-0.528)	-0.000 (-0.151)	-0.000 (-0.076)
<i>Board</i>	0.008 (1.241)	0.013 (1.192)	0.006 (0.932)	0.010 (0.882)
<i>Indep</i>	0.031* (1.718)	0.058* (1.688)	0.033* (1.836)	0.060* (1.805)
<i>Dual</i>	0.001 (0.457)	0.001 (0.424)	0.001 (0.483)	0.001 (0.450)
<i>Age</i>	-0.009 (-1.182)	-0.017 (-1.247)	-0.008 (-1.006)	-0.015 (-1.067)
<i>Constant</i>	0.255*** (5.770)	0.474*** (5.754)	0.272*** (6.330)	0.505*** (6.322)
<i>Year &amp; Id</i>	Yes	Yes	Yes	Yes
<i>N</i>	9046	9046	9046	9046
<i>Adj-R<sup>2</sup></i>	0.358	0.356	0.358	0.357

Note: \*\*\*, \*\*, and \* indicate significant at the 1%, 5%, and 10% levels, respectively; robust t-values adjusted for heteroskedasticity are in parentheses. The same is shown below.

Source: created by the authors.

### 3.3 Robustness Testing

#### 3.3.1 Instrumental Variables

When state-owned shareholders support private enterprises, they prefer companies with excellent performance, which normally implies a high level of risk-taking. Hence, this study may suffer from the endogeneity problem of mutual causality. Furthermore, although this study controls several factors affecting the level of enterprise risk-taking at the corporate finance and governance levels, it may have omitted some factors that simultaneously affect the level of private enterprise reverse mixed reform and risk-taking. This would lead to errors in the basic regression results. Therefore, following Fan *et al.* (2013), this study uses the number of ports in which listed companies are registered (*Sea\_Post*) as a metric for two-stage least-squares regression. The more ports that exist, the more developed the region's export-oriented economy and higher degree of marketization of resource allocation. Consequently, the motivation of local private enterprises to introduce state-owned capital based on property rights protection or political resources weakens. This phenomenon aligns with the principle of relevance. Additionally, the number of ports in a region is essentially a fixed value that does not directly impact the level of risk-taking of privately listed companies; it shows that instrumental variables (*Sea\_Post*) satisfy the principle of externality.

**Table 3. Results of instrumental variable regression**

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	First-stage <i>Mix1</i>	Second-stage <i>Risk1</i>	Second-stage <i>Risk2</i>	First-stage <i>Mix2</i>	Second-stage <i>Risk1</i>	Second-stage <i>Risk2</i>
<i>Sea_Post</i>	-0.011*** (-4.034)			-0.002*** (-3.001)		
<i>Mix1</i>		0.011* (1.783)			0.039*** (2.932)	
<i>Mix2</i>			0.022* (1.810)			0.081** (2.297)
<i>Size</i>	-0.020*** (-10.796)	-0.006*** (-8.417)	-0.010*** (-8.571)	0.002** (2.120)	-0.006*** (-8.417)	-0.010*** (-8.571)
<i>Lev</i>	0.053*** (6.074)	0.011*** (2.735)	0.020*** (2.805)	-0.007 (-1.421)	0.011*** (2.735)	0.020*** (2.805)
<i>Roe</i>	-0.117*** (-6.421)	-0.216*** (-19.643)	-0.392*** (-19.719)	-0.004 (-0.620)	-0.216*** (-19.643)	-0.392*** (-19.719)
<i>Cash</i>	-0.023* (-1.864)	0.017*** (5.158)	0.032*** (5.107)	0.030*** (4.109)	0.017*** (5.158)	0.032*** (5.107)
<i>Growth</i>	-0.004*** (-3.830)	0.002*** (3.511)	0.003*** (3.500)	-0.001 (-1.553)	0.002*** (3.511)	0.003*** (3.500)
<i>Top1</i>	-0.005*** (-35.324)	-0.000 (-0.923)	-0.000 (-0.856)	0.000*** (3.361)	-0.000 (-0.923)	-0.000 (-0.856)
<i>Wedge</i>	-0.001** (-2.251)	-0.000*** (-3.710)	-0.000*** (-3.650)	-0.001*** (-3.672)	-0.000*** (-3.710)	-0.000*** (-3.650)
<i>Board</i>	-0.005 (-0.492)	0.003 (1.250)	0.006 (1.231)	0.013** (2.191)	0.003 (1.250)	0.006 (1.231)
<i>Indep</i>	-0.018 (-0.594)	0.016* (1.884)	0.030* (1.895)	0.008 (0.513)	0.016* (1.884)	0.030* (1.895)
<i>Dual</i>	0.001 (0.202)	0.000 (0.385)	0.000 (0.316)	0.004** (1.969)	0.000 (0.385)	0.000 (0.316)
<i>Age</i>	0.010*** (23.584)	0.001*** (11.819)	0.002*** (11.974)	0.002*** (5.248)	0.001*** (11.819)	0.002*** (11.974)
<i>Constant</i>	0.007 (0.145)	0.141*** (9.790)	0.266*** (10.013)	-0.102*** (-4.064)	0.141*** (9.790)	0.266*** (10.013)
<i>Year &amp; Id</i>	YES	YES	YES	YES	YES	YES
<i>N</i>	9046	9046	9046	9046	9046	9046
<i>Adj-R<sup>2</sup></i>	0.437	0.328	0.325	0.028	0.328	0.325

Source: created by the authors.

The relevant regression results are listed in *Table 3*. According to the second-stage regression results, the main conclusions of this study remain valid after considering the endogeneity problem of mutual causality. Furthermore, the Wald F-statistics are all greater than 10, indicating that *Sea\_Post* actually passes the weak instrumental variable test.

### 3.3.2 Heckman's Two-stage Model

Considering possible sample selection error, this study follows Wei and Song (2020) and uses the Heckman two-stage model to test the benchmark regression results. The first-stage regression model uses the top-10 state-owned shareholders (*mix\_dum*) as the explanatory variable and the provincial marketization index (*Market*) as the explanatory variable. The other control variables remain unchanged. The Inverse Mills Ratio (*IMR*) is calculated from the results of the first-stage regression and substituted into model (1) for the second-stage regression. These results are listed in *Table 4*, where Column (1) shows that The higher the degree of marketization of a region, the lower the willingness of local enterprises to participate in mixed ownership reforms. This is evidenced by the signs and significance of the correlation coefficients in Columns (2)-(5). After accounting for potential sample selection errors, the main conclusions of this study remain valid.

**Table 4. Results of Heckman two-stage regression**

Variables	(1)	(2)	(3)	(4)	(5)
	First-stage	Second-stage	Second-stage	Second-stage	Second-stage
	<i>Mix dum</i>	<i>Risk1</i>	<i>Risk2</i>	<i>Risk1</i>	<i>Risk2</i>
<i>Market</i>	-0.017** (-2.121)				
<i>Mix1</i>		0.020** (2.102)	0.035** (2.023)		
<i>Mix2</i>				0.028*** (2.892)	0.085*** (3.101)
<i>Size</i>	-0.007*** (-11.134)	-0.009*** (-3.193)	-0.016*** (-3.143)	-0.011*** (-4.647)	-0.021*** (-4.612)
<i>Lev</i>	0.011*** (3.197)	0.016 (1.466)	0.030 (1.497)	0.023** (2.392)	0.044** (2.438)
<i>Roe</i>	-0.221*** (-27.826)	-0.195*** (-8.226)	-0.358*** (-8.285)	-0.195*** (-8.245)	-0.356*** (-8.312)
<i>Growth</i>	0.010* (1.871)	0.011 (0.808)	0.022 (0.855)	0.008 (0.548)	0.015 (0.594)
<i>Board</i>	0.001*** (3.413)	0.001 (1.606)	0.002 (1.565)	0.001* (1.650)	0.002 (1.616)
<i>Indep</i>	-0.000 (-0.203)	-0.000 (-0.978)	-0.000 (-1.052)	-0.000 (-1.630)	-0.000* (-1.681)
<i>Top1</i>	-0.000*** (-2.717)	-0.000*** (-2.631)	-0.001*** (-2.603)	-0.001*** (-2.823)	-0.001*** (-2.799)
<i>Bm</i>	0.004 (0.917)	0.016 (1.629)	0.029 (1.589)	0.015 (1.501)	0.026 (1.460)
<i>Opinion</i>	0.019 (1.347)	0.024 (0.712)	0.041 (0.660)	0.027 (0.835)	0.047 (0.783)
<i>IMR</i>	0.001 (1.052)	0.005 (1.472)	0.009 (1.533)	0.005 (1.547)	0.010 (1.607)
<i>_cons</i>	0.001*** (5.876)	-0.012 (-1.182)	-0.022 (-1.226)	-0.011 (-1.153)	-0.021 (-1.199)
<i>N</i>	9046	9046	9046	9046	9046
<i>Ind &amp; Year</i>	Yes	Yes	Yes	Yes	Yes
<i>Adj-R<sup>2</sup></i>	-	0.317	0.317	0.327	0.327

Source: created by the authors.

### 3.3.3 Mitigating Bias in Key Variables

To avoid the adverse impact of measurement errors applied to the explained variable and the enterprise risk-taking level calculated using the return on equity, This study also refers to Faccio *et al.* (2011) to re-measure the level of corporate risk-taking in terms of the volatility of the 3-year ROA adjusted for industry and annual averages (*Risk3*) and the difference between the maximum and minimum 3-year ROA adjusted for industry and annual averages (*Risk4*) over the sample period, and then substituting them into the model (1) for the regression. The correlation regression results are listed in *Table 5*, which indicates that *Mix1* and *Mix2* remain significantly positive, indicated the robustness of the main conclusions of this study.

**Table 5. Regression results for mitigating bias in key variables**

Variables	(1)	(2)	(3)	(4)
	<i>Risk3</i>	<i>Risk3</i>	<i>Risk4</i>	<i>Risk4</i>
<i>Mix1</i>	0.018** (2.264)	0.033** (2.130)		
<i>Mix2</i>			0.274*** (2.997)	0.510*** (3.033)
<i>Size</i>	-0.012*** (-4.842)	-0.022*** (-4.822)	-0.014*** (-6.435)	-0.025*** (-6.429)
<i>Lev</i>	0.033*** (3.325)	0.062*** (3.368)	0.040*** (4.346)	0.074*** (4.409)
<i>Roe</i>	-0.200*** (-12.629)	-0.364*** (-12.645)	-0.200*** (-12.604)	-0.363*** (-12.623)
<i>Cash</i>	0.020** (2.275)	0.038** (2.322)	0.017** (1.969)	0.033** (2.016)
<i>Growth</i>	0.001 (1.585)	0.001 (1.568)	0.001 (1.626)	0.002 (1.615)
<i>Top1</i>	-0.000** (-2.226)	-0.001** (-2.286)	-0.000*** (-2.822)	-0.001*** (-2.854)
<i>Wedge</i>	-0.000 (-1.235)	-0.000 (-1.144)	-0.000 (-1.323)	-0.000 (-1.234)
<i>Board</i>	0.011 (1.437)	0.020 (1.413)	0.010 (1.383)	0.019 (1.358)
<i>Indep</i>	0.015 (0.646)	0.027 (0.640)	0.017 (0.777)	0.032 (0.771)
<i>Dual</i>	0.004* (1.773)	0.007* (1.794)	0.004* (1.787)	0.008* (1.809)
<i>Age</i>	-0.010 (-0.995)	-0.019 (-1.031)	-0.009 (-0.923)	-0.017 (-0.960)
<i>Constant</i>	0.237*** (4.271)	0.437*** (4.275)	0.266*** (5.238)	0.491*** (5.252)
<i>Year &amp; Id</i>	YES	YES	YES	YES
<i>N</i>	9046	9046	9046	9046
<i>Adj-R<sup>2</sup></i>	0.372	0.370	0.383	0.381

Source: created by the authors.

### 3.3.4 Explanatory Variables Lagged by One Period

Considering that the reverse mixed reform of private enterprises may have a lag effect on their risk-taking level and to further alleviate the endogeneity problem, the study presents the regressions of variables with a one-phase lag in Columns (1)-(4) of *Table 6*. The coefficients

of *Mix1* and *Mix2* are all significantly positive, thus the main conclusions of this study unchanged after taking into account the lag effect.

**Table 6. Regression results for explanatory variables lagged by one period**

Variables	(1)	(2)	(3)	(4)
	<i>Risk1<sub>t+1</sub></i>	<i>Risk2<sub>t+1</sub></i>	<i>Risk1<sub>t+1</sub></i>	<i>Risk2<sub>t+1</sub></i>
<i>Mix1</i>	0.025*** (2.874)	0.046*** (2.879)		
<i>Mix2</i>			0.033*** (3.000)	0.062*** (3.059)
<i>Size</i>	-0.003* (-1.736)	-0.007* (-1.846)	-0.005** (-2.347)	-0.009** (-2.444)
<i>Lev</i>	0.011 (1.408)	0.021 (1.507)	0.014* (1.922)	0.028** (2.020)
<i>Roe</i>	-0.151*** (-10.847)	-0.277*** (-10.712)	-0.152*** (-10.880)	-0.278*** (-10.742)
<i>Cash</i>	-0.005 (-0.756)	-0.010 (-0.747)	-0.008 (-1.098)	-0.014 (-1.089)
<i>Growth</i>	0.001** (2.362)	0.002** (2.338)	0.001** (2.380)	0.002** (2.357)
<i>Top1</i>	-0.000*** (-3.300)	-0.001*** (-3.201)	-0.001*** (-4.441)	-0.001*** (-4.328)
<i>Wedge</i>	-0.000 (-0.602)	-0.000 (-0.557)	-0.000 (-0.451)	-0.000 (-0.409)
<i>Board</i>	0.002 (0.293)	0.003 (0.199)	0.001 (0.151)	0.001 (0.054)
<i>Indep</i>	0.009 (0.473)	0.014 (0.396)	0.010 (0.533)	0.016 (0.455)
<i>Dual</i>	-0.001 (-0.429)	-0.002 (-0.460)	-0.001 (-0.385)	-0.002 (-0.416)
<i>Age</i>	-0.015 (-1.159)	-0.029 (-1.191)	-0.014 (-1.033)	-0.026 (-1.063)
<i>Constant</i>	0.130*** (2.890)	0.257*** (3.023)	0.144*** (3.234)	0.282*** (3.362)
<i>Year &amp; Id</i>	Yes	Yes	Yes	Yes
<i>N</i>	8249	8249	8249	8249
<i>Adj-R<sup>2</sup></i>	0.246	0.248	0.251	0.253

Source: created by the authors.

### 3.4 Mediating Testing

In the theoretical analysis section, the paper identifies the improvement of private firms' resource-acquisition capabilities and governance levels as two potential paths by which the main conclusions of the paper are established. To empirically test the rationality of these two paths, the study follows Baron and Kenny (1986), and uses the mediating effect method to build the following model:

$$Debt / Agency_{i,t} = \alpha_0 + \alpha_1 Mix1 + \alpha_i Controls_{i,t} + \sum Id + \sum Year + \varepsilon_{i,t} \tag{5}$$

$$Risk_{i,t} = \alpha_0 + \alpha_1 Mix1 + Sa / Agency_{i,t} + \alpha_i Controls_{i,t} + \sum Id + \sum Year + \varepsilon_{i,t} \quad (6)$$

Here, *Debt* refers to the debt financing capacity of enterprises. According to Du *et al.* (2017), *Debt* is measured by the proportion of total bank loans to total assets. Furthermore, *Agency* refers to agency cost. According to Li *et al.* (2017), *Agency* is measured by the management expense rate. Office expenses, business entertainment, and other costs are important components of management expenses; these expenses are closely related to the agency behavior of enterprise management (Cadman *et al.*, 2020). Hence, the agency cost is measured using the management expense rate.

Table 7 reports the regression results of the intermediary effect of debt financing. From Columns (1) and (4), the reverse mixed reform of private enterprises can significantly improve debt financing capacity of private enterprises. From the correlation coefficient symbols and significance values of Columns (2), (3), (5) and (6), the improvement of the enterprise's debt financing ability provides an intermediary effect in improving its risk-taking capacity following the reverse mixed reform. In addition, this study conducts the Sobel mediation effect test, and the results show that the *P*-value is less than 0.05 under all measurement methods, further validating the mediation effect of financing constraints.

**Table 7. Regression results of the intermediary effect of debt financing**

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Debt</i>	<i>Risk1</i>	<i>Risk2</i>	<i>Debt</i>	<i>Risk1</i>	<i>Risk2</i>
<i>Mix1</i>	0.165*** (4.004)	0.013* (1.762)	0.025* (1.783)			
<i>Mix2</i>				0.256*** (2.839)	0.040** (2.175)	0.080** (2.175)
<i>Debt</i>		0.062*** (3.362)	0.113** (2.360)		0.020** (2.192)	0.036** (2.192)
<i>Size</i>	-0.047*** (-6.092)	-0.016*** (-8.084)	-0.029*** (-8.031)	-0.110*** (-6.247)	-0.015*** (-7.755)	-0.015*** (-7.755)
<i>Lev</i>	-0.018 (-0.956)	0.032*** (4.632)	0.059*** (4.697)	-0.032 (-0.737)	0.032*** (4.749)	0.032*** (4.749)
<i>Roe</i>	-0.047* (-1.843)	-0.204*** (-16.280)	-0.370*** (-16.455)	-0.125** (-2.287)	-0.203*** (-15.922)	-0.203*** (-15.922)
<i>Cash</i>	0.009 (0.458)	0.017** (2.353)	0.032** (2.371)	0.024 (0.530)	0.017** (2.402)	0.017** (2.402)
<i>Growth</i>	-0.001 (-0.648)	0.001** (2.378)	0.002** (2.434)	-0.002 (-0.592)	0.001** (2.451)	0.001** (2.451)
<i>Top1</i>	0.001* (1.772)	-0.000*** (-3.019)	-0.001*** (-3.010)	0.001 (1.508)	-0.000*** (-3.183)	-0.000*** (-3.183)
<i>Wedge</i>	0.000 (0.309)	-0.000 (-0.376)	-0.000 (-0.306)	0.000 (0.370)	-0.000 (-0.388)	-0.000 (-0.388)
<i>Board</i>	-0.020 (-1.430)	0.003 (0.598)	0.006 (0.552)	-0.048 (-1.534)	0.004 (0.661)	0.004 (0.661)
<i>Indep</i>	-0.024 (-0.685)	0.032* (1.805)	0.059* (1.770)	-0.053 (-0.661)	0.033* (1.831)	0.033* (1.831)
<i>Dual</i>	-0.002 (-0.656)	0.001 (0.463)	0.001 (0.427)	-0.006 (-0.655)	0.001 (0.494)	0.001 (0.494)
<i>Age</i>	-0.002 (-0.258)	-0.012* (-1.709)	-0.023* (-1.770)	0.003 (0.151)	-0.012* (-1.657)	-0.012* (-1.657)
<i>Constant</i>	-2.387*** (-14.404)	0.061 (0.995)	0.113 (0.990)	-1.814*** (-4.767)	0.209*** (4.530)	0.209*** (4.530)
<i>Year &amp; Id</i>	YES	YES	YES	YES	YES	YES
<i>N</i>	9046	9046	9046	9046	9046	9046
<i>Adj-R<sup>2</sup></i>	0.257	0.369	0.364	0.263	0.364	0.359
<i>Sobel</i>	-	0.030	0.022	-	0.011	0.010

Source: created by the authors.

Table 8 reports the agency cost mediation effect regressions, where Columns (1) and (4) show that *Mix1* is negative but non-significant and *Mix2* is significantly negative, indicating that when state-owned shareholders only hold equity in private enterprises, it has difficulty forming effective checks and balances on management. However, appoint directors, supervisors, and senior executives can form effective constraints on management, reducing agency costs. Furthermore, when using *Mix1* as an explanatory variable, the Sobel test shows that the P-values all exceed 0.1, indicating that the intermediary effect of agency costs is not tenable at this time. When using *Mix2* as an explanatory variable, the relevant coefficients are significant and pass the Sobel test, indicating that agency costs play a significant role in setting the intermediary effect. These regression results show that the mixed ownership reform of private enterprises participating only in shares but not in corporate governance has difficulty exerting the needed governance effects, which essentially applies diversification without change.

**Table 8. Regression results of the intermediary effect of agency cost**

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Agency</i>	<i>Risk1</i>	<i>Risk2</i>	<i>Agency</i>	<i>Risk1</i>	<i>Risk2</i>
<i>Mix1</i>	-0.034 (-1.492)	0.025*** (4.090)	0.047*** (4.123)			
<i>Mix2</i>				-0.069** (-2.152)	0.020** (2.431)	0.036** (2.444)
<i>Agency</i>		-0.011*** (-2.981)	-0.019*** (-3.011)		-0.014*** (-3.555)	-0.025*** (-3.557)
<i>Size</i>	0.019** (2.468)	-0.009*** (-4.741)	-0.016*** (-4.721)	0.020** (2.579)	-0.010*** (-4.775)	-0.018*** (-4.759)
<i>Lev</i>	-0.008 (-0.318)	0.021*** (2.955)	0.039*** (2.998)	-0.022 (-0.774)	0.027*** (3.265)	0.051*** (3.339)
<i>Roe</i>	-0.022 (-0.684)	-0.219*** (-18.075)	-0.397*** (-17.915)	-0.004 (-0.129)	-0.229*** (-18.589)	-0.415*** (-18.440)
<i>Cash</i>	-0.017 (-0.745)	0.016*** (2.588)	0.029** (2.547)	-0.015 (-0.589)	0.015** (2.322)	0.028** (2.313)
<i>Growth</i>	-0.002 (-1.087)	0.001 (1.623)	0.002* (1.666)	-0.002 (-1.095)	0.001 (1.633)	0.002 (1.633)
<i>Top1</i>	0.000 (0.570)	-0.000** (-2.163)	-0.000** (-2.120)	0.000 (0.785)	-0.000** (-2.285)	-0.001** (-2.301)
<i>Wedge</i>	-0.003*** (-3.392)	0.000 (1.564)	0.000 (1.635)	-0.003*** (-3.156)	0.000 (1.241)	0.000 (1.342)
<i>Board</i>	0.027 (0.904)	0.009 (1.472)	0.016 (1.447)	0.035 (1.038)	0.009 (1.412)	0.016 (1.337)
<i>Indep</i>	-0.008 (-0.085)	0.054*** (2.961)	0.101*** (2.997)	0.017 (0.165)	0.029 (1.624)	0.054* (1.647)
<i>Dual</i>	-0.233*** (-22.245)	-0.001 (-0.367)	-0.001 (-0.373)	-0.231*** (-20.403)	-0.002 (-1.196)	-0.004 (-1.177)
<i>Age</i>	0.030** (2.049)	-0.006 (-1.215)	-0.013 (-1.310)	0.048*** (3.233)	-0.004 (-0.469)	-0.008 (-0.493)
<i>Constant</i>	0.482*** (2.611)	0.174*** (3.903)	0.321*** (3.866)	0.488** (2.372)	0.213*** (3.898)	0.394*** (3.903)
<i>Year&amp;Id</i>	YES	YES	YES	YES	YES	YES
<i>N</i>	9046	9046	9046	9046	9046	9046
<i>Adj-R<sup>2</sup></i>	0.286	0.371	0.367	0.286	0.371	0.367
<i>Sobel</i>	-	0.254	0.198	-	0.013	0.024

Source: created by the authors.

### 3.5 Moderation Effect Testing

#### 3.5.1 Degree of Industry Competition

High industry competition indicates that enterprises have more investment opportunities and require more economic resources. However, business risk is also high, implying that management is more sensitive to risk-taking. In this case, Participation of State-owned shareholders can help enterprises obtain additional resource support, leading to more investment opportunities, reduced risk sensitivity, and higher enterprise risk-taking. Therefore, this paper holds that the higher the degree of industry competition, the more state-owned shareholders' participation can improve the level of risk bearing of private enterprises.

**Table 9. Moderation test based on the degree of industry competition**

Variables	(1) <i>Risk1</i>	(2) <i>Risk2</i>	(3) <i>Risk1</i>	(4) <i>Risk2</i>
<i>HHI_Mix1</i>	0.002** (2.088)	0.004** (2.082)		
<i>Mix1</i>	0.022*** (2.778)	0.042*** (2.822)		
<i>HHI</i>	0.003 (1.212)	0.006 (1.046)	0.002 (1.307)	0.004 (1.345)
<i>HHI_Mix2</i>			0.008* (1.928)	0.014** (1.989)
<i>Mix2</i>			0.029*** (5.454)	0.061*** (4.458)
<i>Size</i>	-0.012*** (-6.510)	-0.023*** (-6.481)	-0.013*** (-6.861)	-0.024*** (-6.822)
<i>Lev</i>	0.033*** (4.873)	0.062*** (4.947)	0.035*** (5.126)	0.064*** (5.193)
<i>Roe</i>	-0.194*** (-15.122)	-0.353*** (-15.200)	-0.195*** (-14.968)	-0.354*** (-15.035)
<i>Cash</i>	0.018*** (2.769)	0.034*** (2.781)	0.017*** (2.742)	0.032*** (2.761)
<i>Growth</i>	0.001** (2.500)	0.002** (2.541)	0.001*** (2.627)	0.002*** (2.667)
<i>Top1</i>	-0.000** (-2.286)	-0.001** (-2.290)	-0.000*** (-3.565)	-0.001*** (-3.572)
<i>Wedge</i>	-0.000 (-0.512)	-0.000 (-0.437)	-0.000 (-0.286)	-0.000 (-0.212)
<i>Board</i>	0.006 (1.078)	0.011 (1.025)	0.006 (0.932)	0.010 (0.882)
<i>Indep</i>	0.032* (1.798)	0.060* (1.768)	0.033* (1.867)	0.062* (1.836)
<i>Dual</i>	0.001 (0.370)	0.001 (0.336)	0.001 (0.386)	0.001 (0.351)
<i>Age</i>	-0.009 (0.029)	-0.017 (-0.036)	-0.008 (0.020)	-0.015 (-0.042)
<i>Constant</i>	0.166*** (4.668)	0.310*** (4.689)	0.163*** (4.596)	0.304*** (4.599)
<i>Year &amp; Id</i>	YES	YES	YES	YES
<i>N</i>	9046	9046	9046	9046
<i>Adj-R<sup>2</sup></i>	0.361	0.358	0.362	0.359

Source: created by the authors.

We measure the industry's competitive environment using the industry concentration index (*HHI*), with the specific calculation method of using the proportion of the sum of the top-

10 enterprise operating revenue items to the total operating revenue of the industry. Industry concentration is inversely proportional to the strength of competition. The interactive terms *HHI\_Mix1* and *HHI\_Mix2* are then generated and substituted into Eq. (1) for regression (Table 9). There, it is shown that when measuring the degree of risk-taking with *Risk1* and *Risk2*, *HHI\_Mix1* and *HHI\_Mix2* are significantly positive, respectively, indicating that the higher the degree of competition in the industry. The more private enterprises' reverse mixed reform has benefits in terms of access to resources.

### 3.5.2 Management Power

The previous study found that a private enterprise's reverse mixed reform can improve its risk-taking level by reducing agency costs. However, when management has greater power, the mismatch between management and shareholder interests deepens. Hence, management has more discretion in the company's decision-making. As a result, management's interests outweigh the overall corporate aims, leading to a more risk-averse culture. Hence, it will be more difficult for private enterprises to form effective incremental checks and balances on management through reverse mixed reforms.

**Table 10. Moderation test based on management power**

Variables	(1) <i>Risk1</i>	(2) <i>Risk2</i>	(3) <i>Risk1</i>	(4) <i>Risk2</i>
<i>Power_Mix1</i>	-0.027*** (-6.302)	-0.048*** (-5.426)		
<i>Mix1</i>	0.027*** (4.474)	0.051*** (4.539)		
<i>Power</i>	-0.017*** (-5.075)	-0.037*** (-6.188)	-0.009*** (-3.837)	-0.022*** (-3.891)
<i>Power_Mix2</i>			-0.031*** (-3.928)	-0.059*** (-3.866)
<i>Mix2</i>			0.032*** (3.484)	0.059*** (3.502)
<i>Size</i>	-0.008*** (-5.220)	-0.015*** (-5.236)	-0.008*** (-5.138)	-0.014*** (-5.142)
<i>Lev</i>	0.015** (2.531)	0.028** (2.578)	0.015** (2.500)	0.027** (2.535)
<i>Roe</i>	-0.234*** (-20.775)	-0.425*** (-20.900)	-0.234*** (-20.847)	-0.426*** (-20.972)
<i>Cash</i>	0.016*** (2.809)	0.030*** (2.775)	0.016*** (2.830)	0.029*** (2.798)
<i>Growth</i>	0.001 (1.138)	0.001 (1.138)	0.001 (1.321)	0.001 (1.326)
<i>Top1</i>	-0.000*** (-2.941)	-0.001*** (-2.919)	-0.000*** (-2.997)	-0.001*** (-2.968)
<i>Wedge</i>	0.000 (0.264)	0.000 (0.304)	0.000 (0.323)	0.000 (0.379)
<i>Board</i>	0.011** (1.985)	0.020* (1.937)	0.011* (1.939)	0.019* (1.891)
<i>Indep</i>	0.039** (2.381)	0.072** (2.339)	0.039** (2.392)	0.072** (2.351)
<i>Dual</i>	0.001 (0.555)	0.002 (0.558)	0.001 (0.570)	0.002 (0.572)
<i>Age</i>	0.000 (0.029)	-0.000 (-0.036)	0.000 (0.020)	-0.000 (-0.042)
<i>Constant</i>	0.166*** (4.668)	0.310*** (4.689)	0.163*** (4.596)	0.304*** (4.599)
<i>Year &amp; Id</i>	YES	YES	YES	YES
<i>N</i>	9046	9046	9046	9046
<i>Adj-R<sup>2</sup></i>	0.388	0.384	0.386	0.382

Source: created by the authors.

According to Tong *et al.* (2022) and Zhang *et al.* (2023), In this study, we analyze four variables, namely, whether to hold two positions at the same time, board size, Ratio of inside directors to all directors, and whether the CFO is a director, to get the composite indicator of the management's power (*Power*), and generate the interaction terms of *Power\_Mix1* and *Power\_Mix2*, and then substituting them into the model (1) to carry out the regression, and the relevant regression results are shown in *Table 10*. It can be seen that the coefficients of *Power\_Mix1* and *Power\_Mix2* are significantly negative; hence, the above conjecture was confirmed.

#### **4. Discussion**

Within the scope of mixed-ownership reform, the specific demands of state-owned shareholders are of paramount importance for corporate structural transformation. These demands not only spur corporate innovation but also set higher benchmarks for the enterprises' ability to shoulder risks. This research focuses on examining the changes in the risk-taking capacity of private enterprises amidst the reverse mixed ownership reform, thereby enhancing the theoretical resources within the academic field.

First, this study reveals that equity participation and appointment of executives by state-owned shareholders substantially enhances private enterprises' risk-taking capacity, marking a significant contribution to the scholarly literature. Specifically, the involvement of state-owned capital has been shown to markedly improve the private enterprises' capability to acquire resources and elevate their governance standards (Li *et al.*, 2022; Xu *et al.*, 2023). This evidence substantiates the assertion that state-owned capital infusion into private enterprises escalates their propensity to undertake risk.

Second, participation of state-owned shareholders has been identified as a pivotal mechanism for enhancing the risk-taking capacity of private enterprises, primarily through the improvement of their resource acquisition capabilities. Historical and institutional contexts in China have led to significant disparities between state-owned and private enterprises regarding access to financial resources, with private firms frequently encountering credit discrimination. The study reveals that the introduction of state-owned capital can significantly bolster the market reputation of private enterprises, thereby facilitating an improved ability to acquire resources. Thus, the infusion of state-owned capital effectively amalgamates the benefits of different ownership systems, resulting in a synergistic effect that maximizes outcomes with minimal inputs.

Third, an essential underlying mechanism by which reverse mixed ownership reform affects the risk-taking level of enterprises is the improvement in governance levels. The principal-agent conflict, a prevalent issue in modern corporate structures, leads to an imbalance between the control and the financial benefits of managers, prompting companies to limit risk-oriented capital endeavors to protect their reputation. This study highlights that state-owned capital can assume a surrogate governance function, particularly through its role in the appointment of top executives in private firms, thereby mitigating agency conflicts between shareholders and management. This effect is most pronounced when state-owned shareholders are involved in appointing directors (Song *et al.*, 2014). Thus, the infusion of state-owned capital and the integration of diverse ownership systems may offer a novel direction for future corporate reform and the alleviation of the principal-agent dilemma.

Fourth, reflecting on the findings of Pan *et al.* (2019) and Li *et al.* (2022), there is a consensus that the integration of various ownership systems in the reform of mixed ownership structures should not only quantify the number of diverse shareholders introduced but also delve

into the substantial enhancement of shareholder powers. Specifically, in private enterprises that have embarked on mixed ownership reforms with the inclusion of state-owned shareholders, it is critical to safeguard the rights of state-owned capital shareholders. The protection of these rights, particularly the pivotal right to elect directors, is essential for state-owned shareholders to significantly influence the improvement of corporate governance.

Fifth, for private enterprises facing a high degree of competition and possessing low management power, reverse mixed reform improves their risk-taking level. On the one hand, this supports the findings of the path test in this study, on the other hand, the result also shows that private enterprises require external resource support and internal governance optimization when facing fierce industry competition and serious agency problems (Shu, Duan, 2023; Quan, Duan, 2023). Simultaneously, this finding demonstrates that the reverse mixed reforms of private enterprises can help resolve the dilemmas faced by private Chinese enterprises, improve their competitiveness, and strengthen their management checks and balances.

For China's economy in transition, there is an urgent need to improve the innovation ability and international market competitiveness of enterprises through "creative destruction," which puts forward certain requirements on the risk-taking level of enterprises. This study verifies the role of state-owned shareholders in improving the risk-taking level of private enterprises from the perspective of equity structure change and shows that "reverse mixed reform" is one of the important ways for private enterprises to improve their risk-taking level. It emphasizes the pressing need for businesses in China's transitioning economy to bolster innovation and enhance competitiveness in the international market through the process of "creative destruction", which necessitates a higher capacity for risk-taking within enterprises. By examining changes in equity structure, this research validates the positive influence of state-owned shareholders in elevating the risk-taking capabilities of private firms. It also identifies "reverse mixed reform" as a crucial method for private enterprises to augment their capacity to assume and manage risk, which reveals that private enterprises can make adjustments to their equity structure, and introduce heterogeneous shareholders to improve the ability of resource acquisition and the consistency of interests between management and shareholders, as well as to enhance the competitiveness of private enterprises. This suggests that private enterprises can make adjustments to their shareholding structure to improve resource acquisition and the alignment of interests between management and shareholders, to enhance their risk-taking level and better participate in market competition.

## **Conclusion and Managerial Implications**

### ***Main Findings***

This study focuses on private enterprises listed on China's A-share market from 2007 to 2022, thoroughly examining the impact of reverse mixed ownership reform (reverse mixed reform) on corporate risk-taking attitudes. The research utilizes a variety of econometric models to affirm that reverse mixed reform significantly enhances the risk-taking levels of enterprises, particularly in terms of equity structure and senior management governance. Instrumental variables and Heckman's two-stage method were employed to control for potential endogeneity bias, ensuring the reliability of the conclusions. Mediation effect analysis reveals that reverse mixed reform bolsters the risk-taking capacity in equity structures by enhancing the debt financing capability of private enterprises. In addition, reverse mixed reform further strengthens risk-taking by reducing agency costs. Moreover, the moderation effect analysis of the reform's

improvement on risk-taking suggests that the effects are more pronounced in industries with intense competition or where management wields less authority.

### ***Managerial Implications***

Based on the above conclusions, the managerial implications of this study for how to better develop a mixed ownership economy are:

First, in the advancement of the mixed-ownership economy, regulators should pay more attention to guiding capital integration between state-owned and private shareholders. Numerous studies have confirmed the positive impact of state capital's entry into the private sector, contributing to improvements in resource allocation, as well as significantly increasing the propensity of private firms to undertake risks. This underscores the effectiveness of reverse mixed-ownership reform in leveraging the strengths of diverse ownership structures. Nevertheless, regulatory bodies have primarily focused on the mixed-ownership reform of state-owned enterprises (SOEs), issuing various policy documents. This situation indicates that government departments should take a more active role in guiding private enterprises to join the mixed-ownership reform movement. For instance, establishing a special fund aimed at mixed reforms for private enterprises and introducing financial or tax incentives could enhance the motivation and willingness of private enterprises to participate in mixed reforms.

Second, private enterprises that introduce state-owned capital should guarantee the right to speak of state-owned shareholders and deepen the mixed ownership reform. This study shows that compared with equity integration, at the high-level governance level, "reverse mixed reform" can better promote the improvement of private enterprises' risk bearing level. In addition, the governance path of "reverse mixed reform" affecting private enterprises' risk bearing level is only established at the high-level governance level. This revelation should grasp the essence of "reform" in the mixed ownership reform, and the participating enterprises should actively appoint representatives of state-owned shareholders, directors and supervisors to participate in enterprise management, give full play to the advantages of different ownership, and further promote the development of mixed ownership economy.

Third, the state-owned shareholders should take the market and internal factors into consideration when choosing the object of participation. Concretely, state-owned enterprises should pay full attention to factors such as the industry and corporate governance of the participating enterprises when selecting the objects of participation. At the same time, it is revealed that the relevant departments should actively guide state-owned capital to participate in high-quality private enterprises with higher competition and smaller agency problems in the industry, which will be conducive to better realize the effective integration of different ownership economies and improve the efficiency of mixed reform.

### ***Limitations and Future Directions***

As the sample examined in this study was limited to China's A-share listed companies, the conclusions may not be sufficiently generalizable to other global economies. Future research should examine multinational and non-listed companies to further test the universality of these conclusions. In addition, the present study delves into how state-owned capital can enhance a firm's propensity for risk-taking by leveraging resource allocation and governance efficacy. It also suggests that there may be other, as yet unidentified, pathways of influence. These potential pathways warrant further investigation and definition to serve as vital strategic underpinnings for the amalgamation of the diverse advantages of ownership forms during the implementation of mixed ownership reforms.

## References

- Acharya, V.V., Amihud, Y., Litov, L. (2011), "Creditor rights and corporate risk-taking", *Journal of Financial Economics*, Vol. 102, No 1, pp.150-166.
- Baron, R., Kenny, D. (1986), "The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51, No 6, pp.1173-1182.
- Cadman, B., Carrizosa, R., Peng, X.X. (2020), "Compensation disclosures and corporate governance through shareholder voting", *Journal of Management Accounting Research*, Vol. 32, No 3, pp.27-48.
- Chatain, O., Denisa, M. (2017), "Estimating value creation from revealed preferences: Application to value-based strategies", *Strategic Management Journal*, Vol. 38, No 10, pp.1964-1985.
- Chen, Y.Z., Huang, S.H. (2023), "CEO reputation and corporate risk-taking: Managerial competence or managerial defence", *Emerging Markets Finance & Trade*, Vol. 59, No 14, pp.1-26.
- Chen, Z.H., Huang, X. (2022), "Local gender imbalance and corporate risk-taking", *Journal of Economic Behavior & Organization*, Vol. 198, pp.650-672.
- Cucculelli, M., Ermini, B. (2013), "Risk attitude, product innovation, and firm growth: Evidence from Italian manufacturing firm", *Economics Letters*, Vol. 2, pp.45-59.
- Du, J.H., Bian, C., Gan, C. (2017), "Bank competition, government intervention and SME debt financing", *China Finance Review International*, Vol. 7, No 4, pp.478-492.
- Faccio, M., Marchica, M.T., Mura, R. (2011), "Large shareholder diversification and corporate risk-taking", *Review of Financial Studies*, Vol. 24, pp.3601-3641.
- Faccio, M., Marchica, M.T., Mura, R. (2016), "CEO gender, corporate risk-taking, and the efficiency of capital allocation", *Journal of Corporate Finance*, Vol. 39, pp.193-209.
- Fan, J., Wong, T., Zhang, T. (2013), "Institutions and organizational structure: The case of state-owned corporate pyramids", *The Journal of Law, Economics, and Organization*, Vol. 29, No 6, pp.1217-1252.
- Fazzari, S., Hubbard, R.G., Petersen, B.C. (1988), "Financing constraints and corporate investment", *Brookings Papers on Economic Activity*, No 1, pp.141-195.
- Ferris, S.P., Javakhadze, D., Rajkovic, T. (2017), "CEO social capital, risk-taking and corporate policies", *Journal of Corporate Finance*, Vol. 47, pp.46-71.
- Fu, J., Sun, Y., Lei, L. (2023), "Can reverse mixing reform promote innovation inputs? Evidence from China", *Technology Analysis & Strategic Management*, available at, <https://doi.org/10.1080/09537325.2023.2283551>, referred on 09/11/2023.
- Gao, X., Xu, W., Li, D. (2022), "Media coverage and corporate risk-taking: International evidence", *Journal of Multinational Financial Management*, Vol. 65, pp.100-138.
- Ghosh, D., Olsen, L. (2008), "Environmental uncertainty and managers' use of discretionary accruals", *Accounting, Organizations and Society*, Vol. 34, No 2, pp.188-205.
- Grosman, A., Okhmatovskiy, I., Wright, M. (2016), "State control and corporate governance in transition economies: 25 years on from 1989", *Corporate Governance: An International Review*, Vol. 24, No 3, pp.200-221.
- Guo, L., Su, Z.Q., Xiao, Z. (2024), "Alcohol culture and corporate risk-taking", *Research in International Business and Finance*, Vol. 67, pp.102-127.
- Hisham, F., Chris, M. (2018), "The influence of CEO demographic characteristics on corporate risk-taking: Evidence from Chinese IPOs", *European Journal of Finance*, Vol. 24, No 16, pp.1528-1551.
- Hope, O., Jiang, S., Vyas, D. (2022), "Government transparency and firm-level operational efficiency", *Journal of Business Finance & Accounting*, Vol. 49, No 5, pp.752-777.
- Jin, Y.G., Dong, N.Y., Tian, G.L. (2023), "Wisdom of the masses: Employee education and corporate risk taking", *Economic Modelling*, Vol. 2023, pp.118.
- John, K., Litov, L., Yeung, B. (2008), "Corporate governance and risk-taking", *The Journal of Finance*, Vol. 63, No 4, pp.1679-1728.
- Khanna, T., Palepu, K. (2000), "Is group affiliation profitable in emerging markets? An analysis of diversified indian business groups", *The Journal of Finance*, Vol. 55, pp.867-891.
- Khaw, K.L., Liao, J., Tripe, D., Wongchoti, U. (2016), "Gender diversity, state control, and corporate risk-taking: Evidence from China", *Pacific-Basin Finance Journal*, Vol. 39, pp.141-158.
- Li, C.F., Zhou, P. (2023), "Do air pollution levels influence enforcement by regulators? Evidence from China", *Management System Engineering*, Vol. 2, No 1, pp. 14.
- Li, K.H., Xiang, Y.Y., Zhou, C.B. (2023), "Promote or inhibit: State-owned equity participation and family firms' innovation investment", *Journal of Innovation & Knowledge*, Vol. 8, No 2, pp.100-134.

- Li, W.G., Yu, M.G., Zhong, H.J. (2017), "Centralized enterprise board pilot, agency cost and corporate performance of state-owned listed companies", *Management World*, No 8, pp.123-135+153.
- Li, X., Li, X.L., Wang, Z.T. (2022), "Can mixed-ownership reform of state-owned enterprises restrain excessive perquisite consumption by executives", *Emerging Markets Finance and Trade*, Vol. 59, No 3, pp.641-655.
- Lin, Y.J., Fu, X., Fu, X.L. (2021), "Varieties in state capitalism and corporate innovation: Evidence from an emerging economy", *Journal of Corporate Finance*, Vol. 67, pp.101-119.
- Lu, J. (2018), "Mixed-ownership reform under multiple structures-from micro-resource allocation to macro-institutional stabilization", *The Economist*, No 8, pp.11-19.
- Min, J., Li, Z.Q., Zhang, Y.D., Yang, J.B. (2023), "Automotive manufacturing enterprise financial risk evolution monitoring and early warning simulation: based on the perspective of value chain analysis", *Management System Engineering*, Vol. 2, No 1, pp.10.
- Mishra, R. (2011), "Multiple large shareholders and corporate risk taking: Evidence from East Asia", *Corporate Governance: An International Review*, Vol. 19, No 6, pp.507-528.
- Pan, A.L., Liu, X., Wu, Q. (2019), "Cross-ownership mergers and acquisitions, institutional environment and debt financing cost of private enterprises", *Accounting Research*, No 5, pp.3-10.
- Quan, Y.F., Duan, M.S. (2023), "Emission reductions, industrial competitiveness, and spillover effects under China's regional emission trading systems: Evidence from the iron and steel sector", *Journal of Environmental Management*, Vol. 344, pp.118-141.
- Shu, H., Duan, J.Y. (2023), "The relationship between social responsibility fulfilment and industry competitiveness: Empirical evidence from construction industry in China", *Plos One*, Vol. 18, No 11, pp.e0295181.
- Song, Z.J., Feng, L.M., Tan, X.M. (2014), "State-owned equity, private entrepreneurs' political participation and corporate finance facilitation-empirical evidence from privately held listed firms in China", *Financial Studies*, No 12, pp.133-147.
- Sun, Z., Hamish, A., Jing, C. (2023), "Managerial foreign experience and corporate risk-taking: Evidence from China", *International Review of Financial Analysis*, Vol. 86, pp.102-125.
- Tao, Y.Q., Kong, D.M., Nan, S. (2024), "Social credit and corporate risk-taking: Evidence from China", *Research in International Business and Finance*, Vol. 69, pp.102-126.
- Tong, T., Chen, X.Y., Tarlok, S. (2022), "Corporate governance and the outward foreign direct investment: Firm-level evidence from China", *Economic Analysis and Policy*, Vol. 76, pp.962-980.
- Wei, L., Song, H. (2020), "The impact of state-owned equity participation on cash holdings of private firms", *Financial Science*, Vol. 9, pp.28-39.
- Xie, F., Anderson, H.D., Liao, L. (2019), "Does residual state ownership increase stock return volatility? Evidence from China's secondary privatization", *Journal of Banking & Finance*, Vol. 100, pp.234-251.
- Xu, H.Y., Shen, Y.Q., Wu, Y.X., Xu, P. (2023), "Total factor productivity and regional difference of tourism industry of listed companies", *Management System Engineering*, Vol. 2, No 1, pp. 6.
- Xu, J.C., Zhang, H.X., Wu, W.Q. (2023), "One novel mixed ownership reform and green innovation in private firms: Evidence from China", *Emerging Markets Review*, Vol. 57, pp.101-116.
- Yan, L.N., Nie, Z., Deng, Y.J. (2023), "Can reverse mixed-ownership reform reduce the cost of equity financing of private enterprises?", *Emerging Markets Finance and Trade*, Vol. 60, pp.20-32.
- Zhang, L., Liu, C.Y., Zhang, J. (2023), "Party leadership, corporate governance and stock price crash risk: Evidence from China", *International Review of Financial Analysis*, Vol. 88, pp.102-132.
- Zhang, Y., Wu, K. (2023), "Bankruptcy court establishment and corporate risk-taking", *Finance Research Letters*, Vol. 58, pp.104-114.
- Zhao, X.Y., Yi, C.J. (2021), "Can state-owned equity involvement curb the derealization of real enterprises?: The moderating role of the pro-clean government-business relationship", *Economic Management*, Vol. 43, No 7, pp.61-74.
- Zhu, R.Y., Xin, X.H., Tan, K. (2024), "Reverse mixed ownership reform: Does state-owned capital injection inhibit corporate leverage manipulation?", *Finance Research Letters*, Vol. 59, pp.104-114.

**AR ATVIRKŠTINĖ MIŠRI REFORMA GALI PAGERINTI PRIVAČIŲ ĮMONIŲ PRISIIMAMOS RIZIKOS LYGĮ?**

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**SANTRAUKA**

Kadangi rinkos rizika ir rinkos konkurencija toliau intensyvėja, tai klausimas, kaip pagerinti įmonių prisiimamos rizikos lygį, sulaukė didelio akademinės bendruomenės dėmesio. Siekiant iširti ryšį tarp atvirkštinės mišrios reformos ir privačių įmonių prisiimamos rizikos lygio, naudojant Kinijos A akcijų biržoje kotiruojamų bendrovių Šanchajuje ir Šendžene imtį 2007–2022 m. ir remiantis signalizavimo bei atstovaujamojo ir agento teorijomis, buvo išnagrinėtas atvirkštinės mišrios privačių įmonių reformos poveikis jų prisiimamos rizikos lygiui iš dviejų nuosavo kapitalo struktūros ir aukšto lygio valdymo aspektų. Rezultatai rodo, kad atvirkštinė mišri reforma gerokai pagerina privačių įmonių prisiimamos rizikos lygį, ir tai yra akivaizdžiau aukšto lygio valdymo lygmeniu. Kalbant apie nuosavo kapitalo struktūrą, atvirkštinė mišri reforma pagerina privačių įmonių prisiimamos rizikos lygį, nes mažina diskriminaciją dėl kreditavimo. O aukšto lygio valdymas yra dar vienas įrodymas, kad agentūrų išlaidos daro tarpinį poveikį. Privačių įmonių įsitraukimą į atvirkštinę mišrią reformą moderuoja tokie veiksniai kaip pramonės konkurencija ir valdymo galia. Išvadoms yra naudingi mišrios nuosavybės reformos ekonominio poveikio tyrimo papildymai ir turi didelę politinę pamatinę vertę, kaip skatinti rinkos dalyvių gyvybingumą ir geriau panaudoti valstybinio ir privataus kapitalo integracijos privalumus.

*REIKŠMINIAI ŽODŽIAI:* privačios įmonės; atvirkštinė mišri reforma; nuosavo kapitalo struktūra; aukščiausio lygio valdymas; rizikos prisiėmimo lygis.