How can the participation of private enterprises promote the high-quality development of state-owned mixed enterprises?

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Abstract

The participation of private capital in the mixed ownership reform of SOEs is an important measure to maintain and increase the value of state-owned assets. From the theoretical perspective of sharing economy, this paper uses Chinese data to study the impact of private enterprise participation on the high quality of state-owned mixed enterprises. This paper draws the following conclusions: (1) The participation of private enterprises can significantly improve the development quality of state-owned mixed enterprises, and this conclusion is also valid after dealing with the endogenous problem of the model. (2) The empirical results of profit-sharing heterogeneity show that when SOEs are willing to share their profits with private enterprises, private enterprises may show high vitality, which has a more obvious effect on improving the development quality of state-owned mixed enterprises. Therefore, in the process of reform, SOEs should be encouraged to transfer part of their profits to private enterprises, and at the same time, efforts should be made to create a good environment for the development of private enterprises, so that private entrepreneurs can fully stimulate their own entrepreneurial spirit.

Keywords: Sharing economy; high-quality development; participation in private enterprises; reform of mixed ownership of SOEs

Introduction

As a socialist country, public ownership is the basic economic system of China, and state-owned enterprises (Hereinafter referred to as "SOEs") are the basic conditions for public ownership. As a socialist country, public ownership is the basic economic system of China, and SOEs are the basic conditions for public ownership. Under the realistic background of solid promotion of common prosperity, making state-owned economy bigger and stronger is a key measure to ensure that the goal of common prosperity can be realized smoothly. Because SOEs are the micro embodiment of state-owned economy, the core means of making state-owned economy bigger and stronger is to ensure that state-owned enterprises can become bigger and stronger. However, because SOEs can get the funds needed for development more easily than private enterprises, some policies of the state and banks are more inclined to give preferential treatment to state-owned enterprises.

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These seemingly favorable conditions for the development of enterprises have led to many problems in SOEs. For example, inefficient allocation of resources, lack of competition, duplication of construction and so on. Problems at SOEs are a further drag on the national economy. Because private enterprises do not have the same political and resource advantages as SOEs, the development of private enterprises needs to fully consider the cost issue and be more efficient in resource allocation. In addition, private enterprises are not restricted by political advantages and have higher enthusiasm for innovation. These advantages of private enterprises can just fill the shortcomings of SOEs, and form the effect of mutual complement and common development. It is not difficult to draw the following point of view, in order to make state-owned capital bigger and stronger, the key is to make SOEs stronger, and one way to make SOEs stronger is to let private enterprises participate in the reform of state-owned enterprises, and give full play to the advantages of both SOEs and private enterprises.

In view of this, this paper uses the data from 2007 to 2020 and the two-way fixed effect model to empirically test the impact of private enterprise participation on the development quality of state-owned mixed enterprises from the perspective of sharing economy, and further discusses the heterogeneous impact of benefit sharing. The research framework is shown in Figure 1. Compared with the current research, the research conclusion of this paper has the following innovations: (1) This paper answers the important practical question of how to improve the development quality of SOEs. (2) using the one-stage lag of the core explanatory variable as the instrumental variable and the two-step optimal GMM estimation for endogeneity test can effectively exclude the interference of endogeneity problem and reverse causality. Thus, accurate empirical results can be guaranteed.
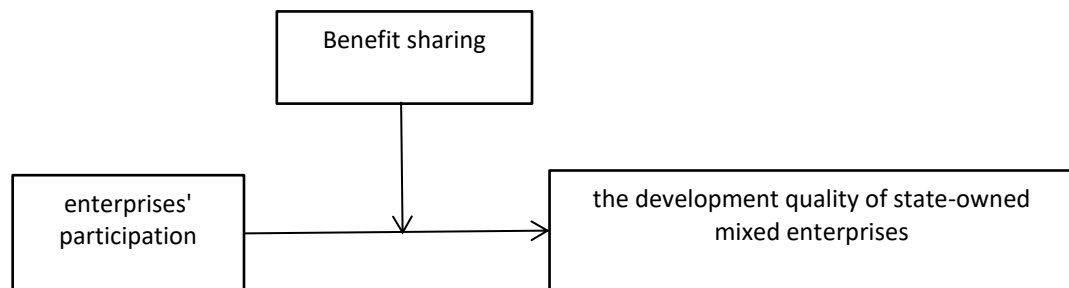

Figure 1: Diagram of the research's framework

Literature review

In 1936, Keynes put forward the idea of mixed economy. In 1941, Hansen systematically elaborated the connotation of mixed economy; In 1992, Nordhaus further proposed that all economies are some form of mixed economy. In the 1990s, the idea of mixed economy gradually entered the vision of the Chinese government and attracted attention, and the mixed ownership reform came into being in China, which immediately attracted great attention from experts and scholars. At present, on the mixed ownership reform, International research results are covered the reform of SOE, corporate governance, and the impact of the mixed reform on the performance of SOE. The specific research results are as follows:

The reform effects

Scholars have done a lot of research on the impact of the mixed reform on corporate governance, and they believe that the mixed reform can optimize the corporate management system and make up for the defects of external governance. Good governance structure can improve corporate performance (Omaliko & Okpala, 2023), at the

same time,it can improve business innovation ability, which is conducive to the sustainable development of the company (Kant, Dejene & Garuma, 2023). The introduction of non-public shareholders is conducive to weakening the control ability of local governments over SOE , optimizing the governance mechanism of SOE, promoting scientific and diversified investment entities , and accelerating the optimization speed of capital structure of soe. Most scholars believe that mixed ownership reform can promote the performance level of SOE, and there is heterogeneity (Liao, Wang, Zhu, & Zhao,2022). The diversified ownership structure of enterprises, especially the addition of non-public capital, will improve the performance of SOE, and, on the mixed ownership reform, local SOE has a significantly better effect on the improvement of corporate profit performance than that of central enterprises . Compared with monopolistic industries, the effect of mixed reform on promoting innovation of soes is more significant in soes in competitive industries. Some scholars have found that the diversification of corporate ownership structure is conducive to the reasonable allocation of human, material and financial resources, and is also a way to maintain the stability of the macro system and remove institutional obstacles.

Motivation and reform barriers

The main motivations of private enterprises' participation are to provide opportunities for private enterprises to enter monopoly industries, eliminate the status difference, get equal treatment, and alleviate financing constraints. The lack of human knowledge and technology will reduce the quality of products, hinder business growth, and hinder economic development (Inuwa& Usman, 2022). From the perspective of capital market environment, state-owned enterprises have stronger strength in resources, talents, and technology, etc. Adequate capital will improve the financial performance of the company (Hussain & Rasheed, 2022).The fundamental driving force for private enterprises to participate in the mixed reform of SOE is to make use of the advantages of state-owned capital to achieve mutual benefit and win-win situation. At present, there are still many barriers for private enterprises to participate in the reform , such as the pressure of local government performance, the power inequality of the main body, and the crowding out effect of industrial policies . In addition, some scholars have proposed that there are problems such as "national struggle" and "original sin theory".

Policy suggestions

The study pointed out that the reform should fully take into account the institutional constraints and economic environment faced by different enterprises . Improving the governance environment according to local conditions can provide good conditions and external environment foundation for the mixed reform to promote the innovation of enterprises (Wang, Zou, Zheng & Jiang, 2019) .Proper reform of the fiscal and taxation systems (Becker, Roper & Vanino, 2023), the establishment and improvement of de-administration laws and regulations, and the acceleration of the improvement of the modern enterprise system can provide good institutional support (Zhao, 2023). At the same time, improving the relevant mechanism and system of factor marketization can further deepen the mixed reform of SOE. In the selection of mixed reform objects, we should meet the conditions of complementary advantages and related resources, so as to achieve "national progress". Therefore, it is necessary not only to clarify the positioning of soes in their respective fields, but also to identify the resources, advantages and disadvantages of both soes and their mixed-reform targets . Some studies have shown that mixed reform is an effective way for enterprises to promote the organic integration of different capitals.(Xia, Ling & Liu, 2023). Enterprises should give full play to the checks and balances of non-state-owned shareholders, and realize complementary equity advantages and equity balances by sharing control rights, so as to improve the current governance situation and reduce the policy burden (Wang, Hu, Liao & Xu, 2023).

Theoretical Analysis

The theory and logic of private enterprises' participation affecting the development quality of state-owned mixed enterprises

Compared with non-state-owned capital, SOEs and state ownership capital have the characteristics of low efficiency (Goldeng, Leo & Benito, 2008). Driven by political goals, state-owned enterprises often repeat construction and over-investment. Although investment behavior can achieve economic growth, over-investment leads to overcapacity and greatly reduces production efficiency (Dollar & Wei, 2007). Due to the above characteristics of SOEs, The utilization of resources is not high, which hinders its high-quality development. After the mixed reform of SOEs, the shares held by non-state-owned shareholders increased. Due to the improvement of ownership balance inside enterprises, the efficiency of resource utilization of State-owned Mixed Enterprises has been greatly improved. The participation of non-state-owned shareholders in the reform of SOEs gives full play to the advantages of non-state-owned capital , the competitive power of SOEs will be enhanced, and the innovation ability will be improved (Zhang, Yu & Chen, 2020). Scholars believe that after private shareholders enter state-owned enterprises, they have certain decision-making and control rights, in order for them to increase the operational effectiveness of State-owned Mixed Enterprises by utilizing the adaptable mechanism of operation and administration of private firms (Kang & Kim,2012). Consequently, the deep participation of private enterprises in the mixed reform of SOEs and the deep mixing of capital of different natures can maximize the activation of the advantages of different capital and raise the rate at which company resources and output are utilized.In view of this, the research assumption of this article hypothesis 1.

Hypothesis H1: After private enterprises participate in the mixed reform of SOEs, their High-quality Development level can be significantly improved.

Interest sharing heterogeneity

One of the core goal of SOEs is to enlarge and strengthen state-owned investment. SOEs can achieve this goal through mixed ownership reform. At the same time, it can also convey a responsible corporate image to the public, improve the favor of investors, and ease financing constraints (Wan & Yu, 2022). On the other hand, Compared with private capital, state-owned capital has political advantages, can obtain more preferential policies, and has access to many monopoly industries (Li, Xu, Mclver, Liu & Pan, 2022). Driven by the motivation of pursuing profit maximization, private capital is motivated to share the high monopoly profits of SOEs and participate in the reform. Therefore, based on the above logic of obtaining political resource advantages, when state-owned enterprises tend to share profits with private capital, private capital will have stronger motivation to participate in the mixed ownership reform of SOEs, and it will be more conducive to releasing the development potential of non-state capital, So as to improve the development quality of state-owned mixed enterprises. Therefore, the research hypothesis 2 of this paper is proposed.

Hypothesis H2: The influence of private enterprise participation on the high-quality development of state-owned mixed enterprises has the heterogeneity of profit sharing. Specifically, when SOEs have a high willingness to share their profits with private enterprises, the participation of private enterprises can more significantly promote the development quality of state-owned mixed enterprises.

Data Specification, Variable Design and Model Settings

Data Specification

The purpose of this part is to explain to the reader the way to obtain the data in this article. In our paper, all the relevant data mainly comes from the following two approaches: (1) The data of the shareholding ratio of private shareholders and whether private executives have the management decision-making power of the enterprise are found manually from the annual report of the enterprise. (2) Indicators of the quality of enterprise development, as well as indicators of control variables, these data are obtained from the CSMAR database. According to the nature of the research object and data in this paper, the above data are processed in the following steps. Step 1: Compared with the data before 2007, the data on corporate governance structure published after 2007 is more complete, so this paper retains the samples after 2007. Step 2: process samples with abnormal data. Step 3: delete samples with missing values. Finally, 5894 non-equilibrium panel data samples were obtained from 2007 to 2020.

Variable Design

(1) The development quality of state-owned mixed enterprises. This indicator is the explained variable of this paper, and scientific selection of indicator measurement indicators is the key to carry out this research. According to the Solow model, the output level of an economy is determined by the input of labor, the input of physical capital, and total factor productivity. Due to the diminishing marginal effect of the input of labor and physical capital, the development level of the economy cannot be sustained only by the input of these two elements, that is, it is difficult to achieve high-quality development. The development level of total factor productivity (TFP) can produce a multiplier effect on the input of labor and material capital, magnifying the output result of the input of these two production factors. Therefore, the level of TFP of an economy indirectly reflects the level of its development quality. Therefore, this paper uses the TFP of state-owned mixed enterprises to measure its high-quality development level.

The measurement methods of enterprise total factor productivity include OLS method, fixed effect method, parameter method and semi-parameter method, but all of them need to set production function in advance. Therefore, the production function set in the article is as follows:

$$lnY_{it} = \beta_0 + \beta_1 lnk_{it} + \beta_2 lnnum_{it} + \beta_3 lnm_{it} + tfp_{it} \qquad (1)$$

Among them, Y_{it} indicates the total output value of enterprise i and t, and uses the company's sales revenue as an alternative variable. K_{it} indicates that the actual capital of the enterprise i and the year of t is obtained through the fixed assets, num_{it} indicates the size of business employment, The number of employees in i and t years is used as a substitute variable, m_{it} says firms actually invest in intermediate products in years i, t, Obtained by the cash deflator of investment price index paid for goods purchased and services received, tfp_{it} represents the total factor productivity of an enterprise in years i, t.

(2) Participate in private enterprises. This variable is used as the core interpretation variable in this article. To participate in the mixed reform, private enterprises should not only participate in the mixed reform in form (share participation), but also participate in the mixed reform in the governance structure. However, formal participation in the mixed reform (share participation) is the premise of all these, so this paper uses the proportion of shares held by private capital in state-owned mixed enterprises to measure the participation of private enterprises.

(3) Control variables: Control variables play a very important role in eliminating confounding factors, so it is crucial to select control variables in the model. In this paper, the following control variables are selected: Return on equity (roe), Return on total assets (*roa*), The market value of the enterprise (*tobinq*), The growth of enterprises (*growth*), Leverage (*lev*), Government subsidy (*subsidy*). In addition, this article also introduces annual fixed effects (μ_t) and industry fixed effects (φ_i) to control the impact of the industry and year. Table 1 details the category, name, symbol and description of variables in detail.

Table 1. Variable definitions

Variable class	Variable name	Variable symbol	variable description
Explained variables	high-quality development	tfp	full factor productivity: fixed effect method calculation can be obtained
Explain variables	Private enterprise participation	p_owner	obtain manually from the company's annual report
	government subsidy	subsidy	government subsidy amount/total corporate assets
	Total asset yield	roa	net profit/total asset amount
	Net asset yield	roe	net profit/total shareholder equity total value
	Corporate value	tobinq	market value/asset total
Control variables	Enterprise Growth	growth	Total assets at the end of the period-the total asset of the early period/the total asset of the early period
	Leverage	lev	Total liabilities/total assets
	Annual fixed effect	μ_t	——
	Industry fixed effect	φ_i	——

Model Setting

The setting of the econometric model is an important part of testing the research hypotheses in this paper. In order to test the research hypotheses proposed in this paper, we set the following econometric model:

$$tfp_{it} = \beta_0 + \beta_1 p\_owner_{it} + \beta_i controls + \varphi_i + \mu_t + \varepsilon_{it} \qquad (2)$$

Among them,tfp_{it} is the explained variable, and p_owner_{it} is the core explanatory variable, *controls* is a set of all the control variables, mainly including *growth*$_{it}$、 *tobinq*$_{it}$、 *roa*$_{it}$、 *roe*$_{it}$、 *lev*$_{it}$ 、 *subsidy*$_{it}$ and so on.φ_i represents the industry fixed effect, μ_t represents the annual fixed effect, and ε_{it} represents the random disturbance term.

Empirical Test

Description Statistics

We looked at the statistical characteristics of the data before the empirical analysis. There are two main functions: first, to see whether the statistical distribution of the data is reasonable, whether there are extreme values, outliers, and sample selection problems. Second, it provides a preliminary support for the research hypothesis proposed in our theoretical analysis. Table 2 reports the results of descriptive statistics of the variables.

Table 2. Descriptive Statistics

variable	N	mean	sd	min	p50	max
tfp_fe	5894	1.101	0.543	0.091	0.976	7.140
p_owner	5894	11.49	10.72	0.002	7.814	83.23
sub	5894	0.002	0.006	0	0	0.225
roa	5894	0.038	0.056	-0.448	0.0320	0.477
roe	5894	0.070	0.170	-3.854	0.070	1.726
tobinq	5894	1.829	1.179	0.706	1.458	17.93
growth	5894	0.119	0.635	-0.772	0.073	45.46
lev	5894	0.501	0.195	0.029	0.513	1.034

From the point of view of the number of samples, the number of samples in this paper is 5894, which is a non-balanced panel data. The mean value of tfp_fe is 1.101, the maximum value of tfp_fe is 7.140, the minimum value of tfp_fe is 0.0910 and the standard deviation of tfp_fe is 0.543. The statistical characteristics of tfp_fe show that there are significant differences in the development quality of different state-owned mixed enterprises. The mean value of *p_owner* is 11.49, the maximum value of *p_owner* is 83.23, the minimum value of *p_owner* is 0.002, and the standard deviation of *p_owner* is 10.72. The statistical characteristics of the participation of *p_owner* indicate that there are certain statistical differences between different private enterprises in participating in the mixed reform of SOEs. The median value of *p_owner* is 7.814. The statistical characteristics of the median value of *p_owner* indicate that private enterprises are not very active in participating in SOEs to carry out mixed reform.

Related analysis and multiple common linear tests

In order to check whether there are multiple common linear problems between the variables, the relevant analysis of the relevant nature is performed. The empirical results of correlation analysis are reported in table 3.
According to the results reported in Table 3, The correlation coefficient between roa and roe is relatively high, reaching more than 0.9. The reason is that both roa and roe are indicators that reflect corporate profitability. The former is obtained by dividing total profits by total assets, and the latter is obtained by dividing net profits by total assets, so there is a relatively high correlation between the two. The correlation coefficients of other variables are relatively low, below 0.5. This result indicates that the degree of correlation between the variables in the model is relatively low, and the possibility of multicollinearity in the econometric model in this paper is low. The multicollinearity problem may lead to the inefficiency of the model set up in the paper, and the result will make the estimated results of the model unreliable.
Therefore, it is necessary to further eliminate the problem of multicollinearity. In this paper, the model is tested by multicollinearity, and the empirical results are reported in table 4.

Table 3.   Correlation Analysis

	tfp_fe	p_owner	roa	roe	tobinq	growth	lev	subsidy
tfp_fe	1.0000	0.1404*	0.3255*	0.4317*	-0.2900*	0.1655	0.1875*	-0.0294*
p_owner	0.1132**	1.0000	0.1351*	0.1568*	0.0062	0.0978	0.0050	0.0317**
roa	0.3071**	0.0873*	1.0000	0.9082**	0.2420**	0.3238**	-0.3838**	0.0375*
roe	0.2451**	0.0761*	0.7317*	1.0000	0.1208**	0.3795**	-0.0404**	0.0324
tobinq	-0.1238**	0.0015	0.2407*	0.0720**	1.0000	0.0041	-0.3722**	0.1295**
growth	0.0261**	0.0157	0.07992*	0.0774**	-0.0086	1.0000	0.1217**	0.0212*
lev	0.1407**	0.0065	-0.3570**	-0.1385**	-0.3169**	0.0500**	1.0000	0.0133
subsidy	-0.0442**	0.0048	0.0179	0.0095	0.0394**	-0.0069	-0.0313*	1.0000

Note:* $p < 0.05$ ** $p < 0.01$; the lower triangle is the results of the Pearson correlation analysis, and the upper triangle is the analysis of the Spearman correlation.

Table 4: Multicollinearity Test

Index variable	VIF	1/VIF
p_owner	1.01	0.9904
roa	2.62	0.3822
roe	2.27	0.4414
tobinq	1.15	0.8685
growth	1.01	0.9864
lev	1.27	0.7893
subsidy	1.00	0.9981
mean_vif	1.47	

According to the results of the reporting in Table 4, we can see that in the multicollinearity test, the VIF value is the maximum of 2.62. The data of the empirical results of the multicollinearity test is much less than 10, which shows that the model of this paper is very unlikely to be affected by multicollinearity, so we do not need to worry about the problem of multicollinearity in the model.

Base Regression

Before the empirical analysis, we used the Hausmann test to determine whether the empirical model should choose a random effects model or a fixed effects model. The original assumption of the Hausmann test is that the random effects model is better. The p value of the Hausmann result in this paper is 0.00, which strongly rejects the null hypothesis that the random effects model is better, so the fixed effects model should be chosen. Therefore, the two way fixed effects model is used in this paper for empirical test and the test results are reported in Table 5.
According to the empirical results in Table 5, it can be found that in the univariate regression model, the regression coefficient of the core explanatory variable is 0.0056, which is significant at the level of 1%, which is the same as the expected results of the theoretical analysis in this paper, and preliminarily indicates that the research hypothesis H1 in this paper is correct. However, we know that without the addition of control variables to eliminate confounding factors, the results can be biased. Therefore, we also made a multiple regression model. From this result, the regression coefficient of the core explanatory variable is still significantly positive, which is consistent with the theoretical expectation of the paper, and further verifies the correctness of the research conclusion of the paper. Although the regression coefficient of the core explanatory variables in the multiple regression model is smaller than that of the core explanatory variables in the univariate regression model, the direction and significance

of the coefficients in the two models are consistent, so the research hypothesis of this paper will not be affected. Moreover, the goodness of fit in the multiple regression model is higher, which indicates that the multiple regression model has better explanatory ability, and it is more appropriate to choose the multiple regression model.

Table 5. The empirical results of private enterprise participation and state-owned mixed enterprise development quality

		Single factor return（1）	Multiple Regression（2）
p_owner		0.0056***	0.0034***
		（9.63）	（6.45）
roa			3.9791***
			（14.30）
roe			-0.0928
			（-1.27）
tobinq			-0.0585***
			（-5.78）
growth			-0.0165
			（-1.40）
lev			0.7424***
			（17.22）
subsidy			-1.8828**
			（-2.32）
Constant		0.5333***	0.3725***
		（7.97）	（5.51）
	φ_i	YES	YES
	μ_t	YES	YES
Obs		5894	5894
Adj-R^2		0.176	0.319

Note:*, **, and *** indicate that the T value test is significant at 10%, 5%, and 1%.

In addition, from the regression coefficient of control variables, the regression coefficient of roa is significantly positive, indicating that the better the business performance, the higher the development quality of the enterprise. The regression coefficient of government subsidies is significantly negative, indicating that government subsidies drag down the development quality of enterprises. The explanation for this is that if enterprises accept government subsidies, they need to help the government bear some social responsibilities (such as stable employment), which may lead to redundancy of enterprises, which is not conducive to the improvement of the development quality of enterprises.

Heterogeneity Test

In order to test the research assumptions of H2,use the proportion of the chairman as an alternative variable as a interest sharing (*share*). Share = 1 indicates that the chairman's shareholding ratio is above the median, which is defined as a high degree of benefit sharing. Share = 0 means that the chairman's shareholding ratio is below the

median, which is defined as the low degree of interest sharing. And introduce it to the regression model. See Table 6 for the empirical results.

Table 6. Empirical results on the quality of private enterprise participation and state-owned mixed enterprise development under the condition of heterogeneity of profit sharing

VARIABLES	Share=1 tfp_fe	Share=0 tfp_fe
p_owner	0.0057***	0.0033***
	(0.002)	(0.001)
roa	1.2045	3.4537***
	(1.828)	(0.302)
roe	1.8705*	-0.0778
	(1.097)	(0.087)
tobinq	-0.0384**	-0.0685***
	(0.016)	(0.009)
growth	-0.0929	-0.0145
	(0.090)	(0.010)
lev	1.0851***	0.6331***
	(0.188)	(0.046)
sub	-1.6405	-1.4718*
	(1.362)	(0.859)
Constant	0.2871**	0.5234***
	(0.119)	(0.057)
Observations	802	4,512
R-squared	0.596	0.311
φ_i	Yes	Yes
μ_t	Yes	Yes

The first column in Table 6 reports the empirical results of the impact of private enterprise participation on the development quality of state-owned mixed enterprises with high profit sharing degree. According to this result, we can see that in state-owned mixed enterprises with a high degree of profit sharing, the impact of private enterprises' participation on them is 0.0057, which is very significant at 1% significance level; in state-owned mixed enterprises with a low degree of profit sharing, the impact of private enterprises' participation on them is 0.0033, which is very significant at 1% level. Moreover, the effect of the former is greater than that of the latter, indicating that in state-owned mixed enterprises with a high degree of profit sharing, the effect of private enterprise participation is greater, which proves the research hypothesis H2 in this paper. A very important reason for this result may be that the main goal of private enterprises is to pursue profits, so the purpose of private enterprises participating in the mixed reform of state-owned enterprises is also to obtain more profits. Only when SOEs are willing to share their profits with private enterprises, private enterprises will have higher enthusiasm and vitality to participate in the mixed reform, and can produce obvious effects. This result tells us an important revelation that in order for the SOE mixed reform to achieve significant results, SOEs should take the initiative to share their profits with private influences.

Endogenous Test

The endogeneity problem is an important and very difficult cause for the deviation of research conclusions. In order to eliminate the endogeneity problem, the one-stage lag of *p_owner* was used as the instrumental variable, and the two-step optimal GMM estimation was used for empirical test. Table 7 shows the empirical results of endogenous processing. We can find that after dealing with endogeneity, the effect of private enterprises' participation on the development quality of state-owned mixed enterprises in the first column is 0.0038, which is very significant, indicating that private enterprises' participation can still significantly improve the development quality of state-owned mixed enterprises. The regression results of the second and third columns show that in the state-owned mixed enterprises with a higher degree of profit sharing, the participation of private enterprises has a greater impact on its development quality. All these results show that the conclusions of this paper are robust, and the research hypotheses proposed in this paper are supported by data.

Table 7. Results of two-step optimal GMM estimation of benefit-sharing heterogeneity

VARIABLES	Full sample tfp_fe	Share=1 tfp_fe	Share=0 tfp_fe
p_owner	0.0038***	0.0063***	0.0038***
	（5.95）	(0.002)	(0.001)
Control variable	YES	YES	YES
φ_i	YES	YES	YES
μ_t	YES	YES	YES
Constant	0.4388***	0.1637	0.5577***
	（8.54）	(0.117)	(0.056)
Observations	5473	748	4,212
R-squared	0.311	0.596	0.316
year	Yes	Yes	Yes
ind	Yes	Yes	Yes

Conclusion and Revelation

As a socialist country, public ownership is the basic economic system of China, and SOEs are the basic conditions for public ownership. As a socialist country, public ownership is the basic economic system of China, and SOEs are the basic conditions for public ownership. Under the realistic background of solid promotion of common prosperity, making state-owned economy bigger and stronger is a key measure to ensure that the goal of common prosperity can be realized smoothly. There are many researches on the factors affecting the development quality of state-owned enterprises, and a lot of valuable conclusions have been obtained, which provide us with a lot of enlightenment. However, there are no articles focusing on the impact of private enterprises' participation in SOE reform on the development quality of state-owned mixed enterprises from the perspective of sharing economy. Therefore, this paper focuses on whether the participation of private enterprises can improve the development quality of state-owned mixed enterprises. So this paper tries to answer this question by using data from 2007 to 2020 and a two-way fixed-effect model, combined with the theory of the sharing economy. The following are some important answers: (1) Private enterprises can significantly improve the development quality of state-owned mixed enterprises. (2) The empirical results of heterogeneity analysis show that when state-owned enterprises have

a strong willingness to share their profits with private enterprises, the participation of private enterprises will have a greater impact on the development quality of state-owned mixed enterprises.

Based on the above important conclusions, the following policy implications can be obtained to help maintain and increase the value of SOEs and promote higher quality development of the state-owned economy. (1) Provide a good development environment for the development of non-state-owned enterprises, stimulate the vitality of non-state-owned enterprises to participate in reform, and maximize the positive role of reform. Environment is very important for the development of enterprises, a poor business environment is not only conducive to stimulate the enthusiasm of enterprise development, but also hinder the development of enterprises. This is mainly reflected in the reduction of innovation vitality of enterprises, their reluctance to invest in innovation, and their lower trust in the government, so they will not be willing to participate in the government-led mixed reform of state-owned enterprises. This has hindered the progress of the reform of the mixed state-owned enterprises. (2) Through the implementation of the classification reform of SOEs, on the premise of maintaining the core premise that SOEs dominate the lifeblood of the national economy, reduce the entry threshold and restriction conditions in the field of competition, support and guide the in-depth participation of private capital in the reform of SOEs, and give full play to the role of private capital. According to our conclusion, the willingness of SOEs to share profits with private enterprises can improve the effect of reform after the participation of private enterprises. Therefore, the reform of SOEs should be classified. The lifeline industries of the national economy are still dominated by SOEs, while competitive industries should lower the entry threshold and share profits with private enterprises, which can not only introduce competition. Improve the efficiency of resource utilization, but also can improve the effect of private enterprises to participate in the reform. (3) taking profit sharing as the basic principle, by transferring part of profits to private enterprises, private capital is stimulated to give full play to its entrepreneurial spirit in the process of participating in the reform. Entrepreneurship is the internal driving force to promote the improvement of enterprise development quality, and private enterprises take the pursuit of interests as the basic principle, from the perspective of sharing economy theory, advocate that private enterprises can obtain corresponding profits in the process of reform, which is conducive to stimulating the entrepreneurial spirit of private enterprises.

References

Becker, B., Roper, S., & Vanino, E. (2023). Assessing innovation spillovers from publicly funded R&D and innovation support: Evidence from the UK. Technovation, 128, 102860.

Dollar, D., & Wei, S. J. (2007). Das (wasted) kapital: firm ownership and investment efficiency in China.

Goldeng, E., Grunfeld, L. A., & Benito, G. R. (2008). The performance differential between private and state owned enterprises: The roles of ownership, management and market structure. Journal of Management Studies, 45(7), 1244-1273.

Hussain, S., & Rasheed, A. (2022). Impact of capital adequacy, liquidity management and credit risk management on economic performance: Evidence from Pakistan. Journal of Social Sciences and Management Studies, 1(4), 44-56.

Inuwa, M., & Usman, A. (2022). The Prospects and Challenges of Lean Manufacturing Deployment within Manufacturing SMEs in Nigeria: A Literature Review. Journal of Social Sciences and Management Studies, 1(3), 51-64.

Kang, Y. S., & Kim, B. Y. (2012). Ownership structure and firm performance: Evidence from the Chinese corporate reform. China Economic Review, 23(2), 471-481.

Kant, S., Dejene, F., & Garuma, G. (2023). Is Marketing Strategies and Business Sustainability are mediated through Entrepreneurial Innovation in Ethiopia?. Journal of Social Sciences and Management Studies, 2(2), 13-22.

Li, B., Xu, L., McIver, R. P., Liu, X., & Pan, A. (2022). Mixed-ownership reform and private firms' corporate social responsibility practices: Evidence from China. Business & Society, 61(2), 389-418.

Liao, H., Wang, D., Zhu, L., & Zhao, J. (2022). Equity Reform and High-Quality Development of State-Owned Enterprises: Evidence From China in the New Era. Frontiers in Psychology, 13, 913672.

Omaliko, E., & Okpala, N. (2023). Moderating Effect of Corporate Governance Mechanism on the Relationship between Firm Attributes and Corporate Performance in Emerging Economy. Journal of Social Sciences and Management Studies, 2(2), 23-33.

Wan, K., & Yu, X. (2022). Impact of mixed ownership reforms on firm innovation–empirical evidence from China. Journal of Applied Economics, 25(1), 1339-1354.

Wang, X., Zou, H., Zheng, Y., & Jiang, Z. (2019). How will different types of industry policies and their mixes affect the innovation performance of wind power enterprises? Based on dual perspectives of regional innovation environment and enterprise ownership. Journal of environmental management, 251, 109586.

Wang, J., Hu, Y., Liao, F., & Xu, S. (2023). Governance of non-state-owned shareholders and corporate capital structure decision: A mechanism test from the opportunistic behavior of management. Plos one, 18(1), e0281120.

Xia H, Ling S, Liu Z. (2023) Heterogeneous blockholders and enterprise innovation: evidence from the mixed-ownership reform in China[J]. SAGE Open, 13(4): 21582440231207461.

Zhang, X., Yu, M., & Chen, G. (2020). Does mixed-ownership reform improve SOEs' innovation? Evidence from state ownership. China Economic Review, 61, 101450..

Zhao, S. (2023). The Past, Present, and Future of Commercial Associations in China: Reflections on Theory and the Pathways of Practice. Modern China, 49(4), 408-447.