



# Research on Policy Burden and Social Responsibility of Private Enterprises Based on Fixed Effect Model

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**Abstract.** In order to further explore the role of state-owned capital in private enterprises, based on the background of mixed ownership reform, this paper studies the private enterprises listed in 2010-A-shares in 2019, tests the influence of private enterprises on their policy burden and social responsibility, and tests whether the two can reflect the economic performance of enterprises. The results show that when the introduction of state-owned capital will increase the policy burden of private enterprises, and it will improve the motivation and ability of enterprises to assume social responsibility, and the two will eventually improve the economic performance of enterprises. It is hoped to provide some theoretical and practical reference for the further exploration of mixed ownership reform.

**Keywords:** private enterprises · state-owned capital · social responsibility · policy burden · economic performance

## 1 Introduction

With the introduction of a series of mixed-ownership reform policies since 2013, exploring the mechanism of the mixed-ownership reform of state-owned enterprises has become a hot issue. In recent years, with China's economy and the opposite of reform and opening up trend of "retreat" phenomenon, most research has not focus on another key aspect of mixed ownership reform (private enterprises introduce state-owned capital for mixed ownership reform) research, namely the mechanism of private enterprises introduce state-owned capital will play what economic consequences and the mechanism of the development of their own enterprises. Facts have proved that state-owned enterprises should optimize the allocation of their own resources, promote the preservation and value appreciation, and let private enterprises undertake more social functions so as to reduce their own policy burden, and the government shares shares in private enterprises to form mixed enterprises.

About the introduction of private capital on private enterprises also have different views: some scholars think that the introduction of state capital can bring political resources, ease financing constraints (Zhang Xiaoxiao (2016) [1], but also some scholars think that the entry of state capital will hinder the development of private enterprises such as private space, intensify private enterprise policy burden and agency (Boubakri (2013) [4]. Therefore, what is the impact of state-owned capital on private enterprises needs to be further studied.

With the rapid development of China's market economy, various lack of information responsibility, false publicity, monopoly operation and environmental pollution occur constantly. The State Council, the SASAC and the Securities Regulatory Department have issued a series of policy documents, aiming at improving the level of state-owned enterprises to fulfill their social responsibilities, and also play an advanced demonstration role for other enterprises with property rights. According to the 2020 Corporate Social Responsibility Blue Book, the social responsibility index of the top 100 state-owned enterprises is 58.5 points, while the top 100 private enterprises has 29.3 points, significantly lower than that of state-owned enterprises. This shows that the fundamentals of private corporate social responsibility is still in its infancy [5] still have not undergone fundamental changes. In promoting private enterprises to actively fulfill their social responsibilities, it is difficult to produce a substantial leapfrog transformation by relying solely on the enterprises themselves, and the role of external forces is particularly important.

According to the existing literature, most of the factors affecting social responsibility are corporate culture, political correlation, executive overseas background, institutional investor shareholding factors [6], Xiaoying, etc. (2017), [7], and Dyck et al. (2019)), and factors such as external public opinion pressure and market competition degree from the perspective of institutional environment and market environment [8, 9, 10] and from a consumers' perspective to examine the relationship between consumer behavior and corporate social responsibility [11], Sweetin et al. (2013), berseder et al. (2011), However, most of the studies are mainly from the macro and personal levels, and few from the government level to discuss whether the introduction of state capital by private enterprises is conducive to promoting the performance of their social responsibilities.

So will the introduction of state capital have an impact on both? Therefore, the policy burden of enterprises and the social responsibility should be separated, and the impact of the two on the introduction of private enterprises should be studied into state capital separately.

## 2 Theoretical Analysis and Research Assumptions

There are some misunderstandings in the existing research understanding of corporate social responsibility that the enterprise assumes social responsibility by increasing the welfare and burden of social and political functions [13, 14]. Whether to meet the short-term or long-term strategic goals, enterprises-profit organizations, such as fulfilling social responsibility to improve the recognition of consumers and employees and reduce asset costs [15–17]. Social responsibility is characterized by a voluntary, charitable and long-term strategic nature [18]. However, the policy burden borne by the enterprise is policy

mandatory and self-interest for internal employees, such as the lack of excessive social functions within the enterprise, if the “exit mechanism” alleviates the pressure on social employment and social security in the short term, but restricts the economic vitality of the enterprise; the internal employee self-interest is reflected in the excess compensation and benefits paid for insiders, which will obviously occupy the enterprise capital and increase the burden on the enterprise.

Therefore, under the background of introducing state-owned capital by private enterprises, what will be the consequences for social responsibility and policy functions? Existing studies have concluded that the degree of willingness of private enterprises to fulfill their social responsibility usually mainly depends on the measurement of marginal income and marginal cost [19]. As the main body of profit maximization, private enterprises usually fulfill their social responsibilities with a utilitarian purpose, and will also strengthen their self-restraint based on the consideration of their own reputation.

So in order to obtain more government resources and capital support, will private enterprises more actively practice their social responsibility? Or after the introduction of state capital, will it improve the level of private enterprises to social responsibility? If the answer is yes, it means that the introduction of state-owned capital so that they can have a certain voice can have a certain impact on the performance of private enterprises' social responsibilities. In fact, most of the scarce resources in China are in the hands of the authorities. If enterprises want to support their resources, they must meet the needs of the government and fulfill the government's administrative orders [20] (Fan et al. 2013). There are also relevant empirical studies showing that the mixed-ownership reform of private enterprises has indeed reduced the corporate financing constraints (Zhao Can, Night, Lily, Sha, Cao Wei (2021)), Share participation in state capital has also alleviated the insufficient investment of non-state-owned enterprises [22], To access to these resources, Private enterprises tend to actively complete the relevant social functions under the intervention of state capital (Bu Danlu et al., 2014), After obtaining the relevant resources, Private enterprises also have certain sources of funds to assume social responsibility, Implementing a long-term strategy. Therefore, the government can appropriately intervene in private enterprises to assume social responsibility and improve the level of private enterprises to fulfill social responsibility.

(1) Policy burden and social responsibility of private enterprises under the introduction of state capital

Under the current socialist market economy system in China, The market should play a decisive role in resource allocation, But the natural political connection of state-owned enterprises and the government, Advantages in acquiring certain government-controlled resources, For example, relevant tax incentives, government financial subsidies and subsidies, land resources, government procurement projects, etc., So private enterprises will introduce state-owned capital in order to get more policy concessions and related resources, It enjoys a significant resource acquisition advantage after nationalization, But more importantly, it will be given more social functions [4]. Such as the increase of the size of employees, the increase of administrative expenses.

Hypothesis 1: When private enterprises introduce state-owned capital, the policy burden of private enterprises will be increased.

After obtaining the government resources and ease the financing constraints, enterprises will have more resources into social responsibility, “brand resources”, thus by more actively shoulder social responsibility to enterprise stakeholders pass enterprise pay attention to environmental protection, care worker, active responsibility information, so as to send positive signal to form a good corporate social image, and improve the ability of enterprises in the market competition.

Hypothesis 2: When private enterprises introduce state-owned capital, they will increase the social responsibility of private enterprises.

- (2) The common impact of policy burden and social responsibility on the economic performance of enterprises

After introducing private enterprises into state-owned capital, they should also improve the economic benefits of enterprises to prove that the reform has practical value. State-owned enterprises have strong advantages in obtaining administrative license and access, financing amount, financial subsidies, but their policy functions and burden interfere in enterprise production and operation from the efficiency target; excessive redundant rate and high wages and management costs will increase enterprise operating costs, produce “high input, low output” dilemma, thus negative effect on economic performance.

Social responsibility, as a strategic investment as a result, from the short term perspective, will increase the operating costs of enterprises. However, in the long run, enterprises more actively shoulder social responsibilities can reduce information asymmetry with stakeholders, reduce “reverse selection”, and accumulate “credit capital”. By creating “brand assets” to improve consumers’ recognition, loyalty to the brand, establish good public relations, and then bring good promotion impact to economic performance. On the contrary, the policy burden occupies enterprise resources, reflects the policy coercion and the self-interest of internal employees, which will reduce the ability of enterprises to assume social responsibility. Therefore, it is expected that by adding the policy burden variable HP, the social responsibility regression coefficient in the model will be smaller.

Assumthesis 3: Policy burden and social responsibility work together on enterprise economic performance, in which policy burden will inhibit the economic performance of enterprises, and social responsibility will improve the economic performance of enterprises.

- (3) Law of marginal decline of the external governance environment

For the reform of private enterprises, the effect of the reform will vary due to the development of the capital market, the legal environment, and the integrity of the government in other regions. In areas with more fierce competition and stricter external regulation, the greater the survival pressure of private enterprises is relatively transparent, thus the less the policy burden. In areas with lower government integrity and less market competition, private enterprises introducing state capital

will face strong SOE status and policy forces, in order to obtain more resources, private enterprises tend to bear heavier policy function burden and agency costs. Faced with the lack of regulatory restraint mechanism, state-owned capital often maintains its vested interests and suppresses economic performance through procedures and means such as personnel appointment and removal and interest transmission to inhibit the economic performance of private enterprises.

Hypothesis 4: The less developed the external governance environment is, the more significant the inhibitory effect of policy burden on economic benefits.

### 3 Research Design

China's social responsibility information disclosure before 2010 has not been perfect, and the lack of data is relatively serious. Therefore, this article selects all private enterprises listed in A-share shares from 2010 to 2019. This paper adopts the following principles to screen data: (1) delete financial and insurance industry companies; (2) eliminate sample listed companies treated by PT, ST and \* ST in that year; (3) delete enterprises listed for less than one year to ensure the effectiveness of enterprise data and reduce the impact of outliers; (4) eliminate samples with relevant financial data such as incomplete or variables such as R OA. After removing the sample of key missing and financially abnormal data, 5,240 annual observations were finally selected. The degree of corporate social responsibility is measured by relevant data provided by Hesxun, and the rest of the data are from GuoTai'an database (CSMAR) and Reisi database. Winsor tail reduction was performed for all continuous variables to eliminate extreme values.

- (1) A measure of the policy burden. Referring to previous studies, the policy burden of enterprises is measured and calculated using the redundant membership rate of employees. The construction model is as follows

$$\begin{aligned} \text{Burden1}_{it} &= \left( \text{Employ}_{it} - \frac{\text{Sale}_{it}}{\text{Ind\_sale}_{st}} \times \text{Ind\_employ}_{it} \right) / \text{Employ}_{it} \\ \text{Burden2}_{it} &= \left( \text{Employ}_{it} - \frac{\text{Asset}_{it}}{\text{Ind\_asset}_{st}} \times \text{Ind\_employ}_{it} \right) / \text{Employ}_{it} \end{aligned}$$

where: subscrii means the enterprise; t means the year; s means the industry of the enterprise; Burden represents the policy burden; Employ means the number of employees; Sale means the enterprise sales; Asset means the total assets of the enterprise; Ind\_sale means the average sales of the enterprise; Ind\_asset means the average total assets of the industry in which the enterprise is located; and Ind\_employ means the average number of employees in the industry where the enterprise is located.

- (2) Metric of social responsibility. The corporate social responsibility scores provided by Hesxun Network are used to measure the social responsibility assumption. The data source is the social responsibility report and annual report released by the enterprises of the Shanghai Stock Exchange and the Shenzhen Stock Exchange

through their official website. The evaluation system sets up the first, second and third-level index systems, and refers to the relevant factors to comprehensively measure social responsibility, such as the performance of shareholder responsibility, and employee responsibility, to comprehensively measure the social responsibility of enterprises, and finally gets various scores and total scores.

- (3) Metrics of state capital. This paper selects the mixed degree (O SR) to measure the status and role of state capital in its equity structure, drawing on [24], and [25], we first calculate the sum of the proportion of private capital. The greater the value shows that the more the weight of private enterprise capital in China, the state-owned shareholders have a stronger say to private enterprises can participate more in the decision-making and management of private enterprises, and then have a greater role on the social responsibility and policy burden of private enterprises.
- (4) Measurement of the external governance environment. Different external environments represent different degrees of administrative interference and influence on enterprises. We have carried out the difference test of the enterprise external governance environment. Drawing from Zhang Yong and others, it can be seen that the eastern operating environment is relatively good and the administrative intervention is relatively low. Due to the stronger supervision, the degree of honesty of officials is also the highest, which means that it is less likely to produce policy burden.
- (5) Control variable. There are many factors affecting private enterprise explained variables (social responsibility, policy burden, ROA), and select the following control variables: company growth is measured by Tobin Q value (TBQ); company size is measured by the logarithm of the number of employees (Size); company risk is measured by the company's asset-liability ratio (Lev); agency cost is calculated by administrative expense rate (Mfee) (Table 1).

**Table 1.** Variable definitions

Variable name	variable symbol	Variable meaning
social responsibility	CSR	Measure by the total score of corporate social responsibility published by Heshun
Policy burden	Burden	Employee redundancy rate (see the formula described above)
return on assets	ROA	(Net profit/total average assets) * 100%
government capital	OSR	The sum of Chinese capital holdings of the top ten shareholders/non-state-owned capital holdings
Tobin Q value	TBQ	Market value/asset replacement cost of the company
company size	Size	logarithm of employee count
asset-liability ratio	Lev	Total liabilities/total assets of 100%
agency cost	Mfee	Administrative expense rate
Different regions	Env	East (East), Central (Mid), and West (West)

In order to test the impact of state-owned capital mixing on policy burden and social responsibility, with reference to previous literature, panel data were selected to build a two-way fixed-effect model to test, and models (1), (2) for OLS estimation.

$$\text{Burden}_{it} = \beta_0 + \beta_1 \text{OSR} + \beta \text{Contrl}_{sit} + \sum \text{Year} + \sum \text{Industry} + \varepsilon_{it} \quad (1)$$

$$\text{CSR}_{it} = \beta_0 + \beta_1 \text{OSR} + \beta \text{Contrl}_{sit} + \sum \text{Year} + \sum \text{Industry} + \varepsilon_{it} \quad (2)$$

In order to test the impact of policy burden and social responsibility on the economic performance of enterprises, the following models are constructed to reference the previous literature:

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{CSR}_{it} + \beta \text{Contrl}_{sit} + \sum \text{Year} + \sum \text{Industry} + \varepsilon_{it} \quad (3)$$

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{Burden}_{it} + \beta \text{Contrl}_{sit} + \sum \text{Year} + \sum \text{Industry} + \varepsilon_{it} \quad (4)$$

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{CSR}_{it} + \beta_2 \text{Burden}_{it} + \beta \text{Contrl}_{sit} + \sum \text{Year} + \sum \text{Industry} + \varepsilon_{it} \quad (5)$$

$$\begin{aligned} \text{ROA}_{it} = & \beta_0 + \beta_1 \text{CSR}_{it} + \beta_2 \text{Burden}_{it} + \beta_3 \text{CSR}_{it} \times \text{Burden}_{it} + \beta \text{Contrl}_{sit} \\ & + \sum \text{Year} + \sum \text{Industry} + \varepsilon_{it} \end{aligned} \quad (6)$$

The R OA variable is the return on assets, which is used to measure the economic performance of the enterprise. Models (3) and (4) are used to measure the impact of social responsibility and policy burden on economic performance, respectively; while models (5) and (6) measure their common effect on economic performance by introducing interactive terms of social responsibility and policy burden.

## 4 Conclusions

This paper takes all the private enterprises listed in A-shares from 2010–2019 as a sample, and tests whether the private enterprises introducing state-owned capital can change the existing policy burden and social responsibility. The research results show that with the increase of private enterprises introducing state-owned shares, the enterprises increase the policy burden and significantly improve the social responsibility, and the two finally improve the economic performance of enterprises. And in the more developed the external governance environment of the area, the more significant the effect.

The policy burden of private enterprises after the introduction of state-owned capital is not assuming social responsibility, but should not be equivalent. Policy burden is the embodiment of policy coercion and self-interest of internal employees, which will inhibit the economic performance of enterprises, and social responsibility as the strategic investment of an enterprise can improve the economic performance of enterprises. For this regard, this paper makes the following conclusions and suggestions:

- (1) The introduction of state-owned capital by private enterprises has significantly enhanced the ability and level of enterprises to fulfill their social responsibilities, and has also had a positive impact on the economic performance of enterprises. The introduction of state-owned capital will bring political resources, ease financing constraints, and obtain credit support from banks to enable the company to make a wide range of social responsibility investment after investment and operation. From the deep reasons, on the one hand, the introduction of state-owned capital can enhance the confidence and security of entrepreneurs, make entrepreneurs more motivated and confidence to make social responsibility investment, on the other hand, it can also convey the signal of optimistic development prospects to the outside world, and help enterprises establish a good image and reputation.
- (2) Under the trend of state advance and private withdrawal, we should also pay attention to the negative impact of policy burden on the economic performance of enterprises, and take timely measures. Improve the internal control system and construction, timely measure the redundant staff rate for internal adjustment, to avoid the practice of assuming too many political functions in order to blindly strengthen political relations to obtain political resources.
- (3) Enterprise reform should not only carry out carried out, but also promote the construction of enterprise external governance environment, such as capital market construction (securities and futures market, financial and insurance market), enterprise business environment, judicial system (company law, bankruptcy law, property law, etc.), etc. In the market environment of full competition and transparent supervision, enterprises are facing greater survival pressure, and the “invisible hand” of the market can realize the optimal allocation of resources. In the environment of lack of competition and low government integrity, state-owned shareholders will often lack supervision, so that private enterprises can carry more policy functions, occupy enterprise resources, and reduce enterprise performance.

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