Reform of Fiscal and Taxation System and New Productivity of Enterprises

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Abstract: The reform of fiscal and taxation system has a far-reaching impact on the development of enterprises. Based on the value-added tax refund policy implemented in China in 2018 as a natural experiment, this paper uses a double difference model to deeply analyze the impact of this policy on the new productivity of enterprises based on the data of Shanghai and Shenzhen A-share non-financial listed companies from 2012 to 2023. It is found that the excess tax refund policy has significantly improved the new productivity of enterprises, and the key to the effect of the policy lies in alleviating the financing constraints of enterprises.

***Keywords*:** tax reduction and fee reduction; value-added tax refund; financing constraints; new quality productivity of enterprises

1. Introduction

In September 2023, during his inspection and research in Heilongjiang, proposed the highly innovative and forward-looking concept of "new quality productivity" for the first time. At the historic intersection of the deep adjustment of the world economic structure and the industrial transformation of the new scientific and technological revolution, accelerating the formation of new productive forces is not only an important strategic opportunity, but also an inevitable requirement for promoting China's modernization drive (Ren Baoping, 2024; Liu Wei, 2024) [1-2], which provides important guidance for China's new development stage to build a new engine of economic development, enhance new development kinetic energy and build new national advantages (Jia Ruoxiang et al., 2024) [3]. Under this background, enterprises, as an important subject of developing new productive forces, how to accelerate the cultivation of new productive forces has become the focus of attention.

To promote the development of new productivity of enterprises, the first task is to comprehensively sort out and clarify the institutional and institutional bottlenecks that restrict the development of productivity, and accurately anchor the policy focus. The excess tax refund policy is a policy practice to refund the excess tax credits of enterprises that meet the regulations. After the returned tax refund funds arrive at the enterprise, it can effectively alleviate the liquidity constraints of the enterprise, reduce the cash holdings of the enterprise and increase the scale of dividend distribution and bank loans, stimulate the investment activities of the enterprise, and significantly expand the employment scale of the enterprise (Liu Guanchun et al., 2023; Wang Min and Li Minli, 2024;) [4-5]. In addition, the tax refund policy can give full play to the powerful agglomeration effect of innovation resources, prompt enterprises to increase investment in innovation, and promote enterprises to make steady and far-reaching progress on the road of innovation-driven development (Liu Shiyuan et al., 2020) [6].

After the implementation of the tax refund policy, will the returned tax refund funds improve the new productivity of enterprises? The existing literature related to new quality productivity has done a lot of research on the influencing factors of new quality productivity, but there are few empirical tests on its influence on new quality productivity of enterprises from the perspective of fiscal and taxation. The research findings of this paper provide a new perspective and theoretical basis for the impact of national fiscal and taxation reform under different backgrounds, and help to promote the continuous improvement and development of fiscal and taxation system reform.

2. Theoretical hypothesis

New quality productivity is an advanced productivity driven by scientific and technological innovation. Sufficient financial support is conducive to mobilizing the innovation enthusiasm of enterprises, promoting revolutionary breakthroughs in technology, and promoting the rapid development of enterprise productivity level to new quality. However, financing constraints have a significant inhibitory effect on the innovation scale and efficiency of enterprises (Zhang Tongbin and Liu Wenlong, 2024) [7]. Therefore, the article holds that financing constraints are the key transmission path for the reform of excess tax refund to affect the development of new productivity of enterprises.

The theory of preferential financing holds that in the presence of information asymmetry and transaction costs, enterprises will give priority to internal financing when financing. The tax refund policy breaks through the traditional tax deduction mode, and returns the tax that originally needed to be deducted in the subsequent link to the enterprise in advance. This measure can directly expand the internal cash flow of enterprises and significantly increase the disposable funds of enterprises. However, in order to meet the huge demand of enterprises for funds in the high-speed growth stage, it is also crucial for enterprises to obtain external financing in a timely and convenient manner, and it is the key to promote the sustainable development of enterprises. According to the signal transmission theory, the excess tax refund policy can alleviate the difficulty of external financing of enterprises by eliminating the information asymmetry between enterprises and external investors. First, companies that enjoy the excess tax refund policy will release market signals to the outside world of "consciously disclosing tax status" and "consciously fulfilling social responsibilities" (Yang Lianxing et al., 2023) [8], showing good corporate reputation to the outside world and positive The release of signals can eliminate the concerns of external investors, reduce the difficulty of external financing, and attract external investors such as banks and individuals to invest. Secondly, according to the requirements of the VAT refund policy, enterprises that enjoy the VAT refund policy often need to undergo strict financial review, which means that enterprises must have a sound financial management system and high financial transparency, thus alleviating external investors' concerns about the security of funds and helping enterprises obtain external financing. Based on this, the paper puts forward hypothesis H2.

H2: The excess tax refund policy promotes the development of new productivity of enterprises by alleviating the financing constraints of enterprises.

3. Research design

3.1 Data sources and sample selection

The article takes the promulgation of Caishui [2018] No.70 policy as an exogenous impact, and takes A-share listed companies from 2012 to 2023 as the initial research sample. After excluding the financial industry, suspension of listing, and ST listed companies, 21,612 observations are finally obtained.

3.2 Model setting

In order to effectively identify the impact of the tax rebate reform on the new productivity of enterprises, this paper uses a double difference model to analyze the impact of this policy. The model is set as follows:

$$NPRO_{it} = \beta_0 + \beta_1 Treat_i ? Post_t + \sum Control_{it} + \mu_i + \omega_t + \varepsilon_{it} \quad (1)$$

Among them, the subscript i represents the enterprise and t represents the year; The explained variable NPRO represents the new productivity of enterprises, treati is the dummy variable of grouping, and posttis the dummy variable of policy implementation year; Controlitis a set of control variables, as detailed below; ε it is the random interference term; μiand ωtare individual fixed effects and time fixed effects, respectively.

3.3 Variable definition

(1) Explained variable: new quality productivity of enterprises. This paper draws lessons from the enterprise new quality productivity index system and its calculation method constructed by Song Jia et al. (2024) [9]as the explained variable new quality productivity (NPRO). The new quality productivity index system is shown in Table 1:

(2) Core explanatory variable: VAT refund policy. Policy dummy variable: According to the industry catalog published by Caishui [2018] No. 70, the pilot industry assignment is 1, otherwise it is 0; time dummy variable: the assignment after 2018 is 1, otherwise it is 0; the intersection of the two (treat × post) is the core explanatory variable, and its estimation coefficient reflects the effectiveness of the implementation of the value-added tax refund policy.

Table 1. Construction of new quality productivity evaluation index system

Factor	Sub-factor	Index	Indicator value description	Weight
Workforce	Living labor	Salary ratio of R&D personnel	Research and development expenses-salaries and compensation/ operating income	28
		Proportion of R&D personnel	Number of R&D personnel/number of employees	4
		Proportion of highly educated personnel	Bachelor degree or above/Number of employees	3

Factor	Sub-factor	Index	Indicator value description	Weight
Workforce	Materialized labor (labor object)	Proportion of fixed assets	Fixed assets/total assets	2
		Proportion of manufacturing overhead	(Subtotal of cash outflow from operating activities + depreciation of fixed assets + none) Amortization of tangible assets + impairment provision-expenses for purchasing goods and receiving labor services Cash paid-wages paid to and for employees) /(Subtotal of cash outflow from operating activities + Depreciation of fixed assets + None Amortization of tangible assets + impairment provision)	1
Production tools	Hard technology	R&D depreciation and amortization ratio	Research and development expenses-depreciation and amortization/operating income	27
		Proportion of R&D rental fees	Research and development expenses-rental fees/operating income	2
		Proportion of direct investment in R&D	Research and development expenses-direct input/operating income	28
		Proportion of intangible asset	Intangible assets/total assets	3
	Soft Technology	Total asset turnover ratio	Operating income/average total assets	1
		Equity multiplier reciprocal	Owner's equity/total assets	1
New quality productivity				100

4. Analysis of empirical results

4.1 Benchmark regression results

The estimated coefficient of the benchmark regression is shown in Table 2. In column (1), only the policy variables of the tax refund reform are added, and the coefficients of the interaction term Treat × Post are significantly positive, which is in line with the theoretical expectation, indicating that the new quality productivity of the affected enterprises has been significantly improved after the implementation of the policy. After adding enterprise-level control variables to column (2), the estimation coefficient of core explanatory variables is still highly significant and changes slightly, indicating that the reform of excess tax refund has a stable effect on promoting new productivity of enterprises.

Table 2. Baseline Regression Results

	(1)	(2)
	NPRO	NPRO
Treat × Post	1.1125***	1.2965***
	(3.4300)	(3.9408)
lnLev		0.7461***
		(2.8808)
lnAge		-0.5968**
		(-2.0430)
MSR		0.0283***
		(3.3546)
ROE		-1.3339***
		(-3.7829)
BTM		1.4426*
		(1.7393)
TobinQ		0.4405***
		(6.6433)
_ cons	15.4375***	16.4833***
	(138.6614)	(10.7449)
N	21202	21202
adj. R2	0.743	0.746

t statistics in parentheses
*p < 0.1, **p < 0.05, ***p < 0.01

4.2 Mechanism test

The benchmark regression results show that the tax refund policy has a significant improvement effect on the new quality productivity of enterprises. In order to explore the action path, the article refers to the research of Ju Xiaosheng et al. (2013) [10], introduces financing constraints as mechanism variables, and uses the absolute value (FC) of SA index to measure them. The larger the absolute value, the higher the degree of financing constraints. In terms of processing methods, the article draws lessons from the interaction term test method of (Li Jianjun et al., 2020) [11], multiplies the absolute value of SA index with the interaction term Treat × Post to form a new interaction term Treat × Post × FC, and then incorporates the new interaction term into the double difference model for empirical test. The specific test model is:

$$NPRO_{it} = \gamma_0 + \gamma_1 treat_i ? post_t + \gamma_2 FC + \gamma_3 treat_i ? post_t ? FC + \sum Control_{it} + \mu_i + \omega_t + \varepsilon_{it} \quad (2)$$

This paper mainly focuses on the symbol $\tilde{a}_3$ of intersection and multiplication terms. The results in Table 3 show that the coefficient of Treat × Post × FC is significantly negative. The above results show that the tax refund policy can promote the improvement of new quality productivity of enterprises by alleviating the financing constraints of enterprises.

Table 3. Mechanism test regression results

	(1) NPRO
Treat × Post	21.3604***
	(4.3403)
FC	-26.3129***
	(-10.6303)
Treat × Post × FC	-4.9514***
	(-4.0688)
_ cons	114.5491***
	(11.9103)
N	21202
adj. R^2	0.773

t statistics in parentheses
*p < 0.1, **p < 0.05, ***p < 0.01

5. Conclusion

The results of the article indicate that the VAT credit refund policy has improved the cash flow of enterprises and significantly promoted the development of new quality productivity. Easing financing constraints for enterprises is the key pathway through which the VAT credit refund policy drives the advancement of new quality productivity.

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