The impact of tax and fee reduction on enterprise financialization—a quasi-natural experiment based on "replacing business tax with value-added tax"

Siyuan Zhang

School of Economics and Management, Guangxi Normal University, Guilin, China

Abstract: *Tax reduction and fee reduction is an important measure to increase the impetus of economic and social development and support the long-term healthy development of real enterprises, which has an important impact on the business strategy of enterprises. Under the background of tax reduction and fee reduction and enterprises "shifting from real to virtual", this paper takes the implementation of replacing business tax with value-added tax as A quasi-natural experiment, and uses the data of all Chinese A-share listed companies from 2009 to 2015 to investigate the impact of tax reduction and fee reduction on enterprise financialization through the DID model. Moreover, the corresponding robustness test is carried out. The research shows that tax and fee reduction can not only directly reduce the tax burden of enterprises, but also have positive significance to restrain the level of enterprise financialization and promote the development of the real economy. It provides experience for the subsequent implementation of tax and fee reduction policies, and also provides reference for regulators to take reasonable measures to prevent and defuse financial risks.*

Keywords: *Tax and Fee Reduction; Enterprise financialization; Replacing business tax with value-added tax*

1. Introduction

How to help enterprises reduce their operating costs so that they can operate well is a key issue for the long-term healthy development of our market. In recent years, the frequent policy of tax and fee reduction is also an opportunity and means for enterprises to generally reduce the burden. In the implementation process of replacing business tax with VAT, the areas, industries and scale of tax reduction and fee reduction are constantly expanding, and the proportion of tax payment of enterprises is constantly decreasing, and more and more enterprises can benefit from it. In addition, the economic structure of our country also has been developed and changed in the process of reducing taxes and fees, makes the financial and taxation system is constantly improved, which has injected a source of power for enterprises' future innovation[1]. At the same time, since the sudden outbreak of the financial crisis, the global scale trade market has suffered a serious blow, our country is difficult to avoid the continuous reduction of domestic market demand, each real economy is facing the problem of excess capacity, which leads to the problem of "real to virtual". The report to the 19th CPC National Congress also made it clear that we should "deepen the reform of the financial system, enhance the financial sector's ability to serve the real economy, improve the financial regulatory system, and hold the bottom line that no systemic risks will occur".

Therefore, in this context, this paper explores related issues of microeconomic financialization, studies the impact of replacing business tax with value-added tax on enterprise financialization, and aims to discuss the role of fiscal and taxation policies in actively guiding enterprises to return to entity activities, which is of great significance to prevent and resolve systemic risks and make our economy better and more sustainable development. This paper collates the panel data of China's A-share non-financial listed companies from 2009 to 2015, takes the 2012 replacement of business tax with value-added tax as the natural experiment, and constructs a difference-difference model to empirically investigate whether tax and fee reduction has an impact on the financialization of enterprises and what kind of impact it will have. Through research, it is found that the implementation of tax and fee reduction reduces the phenomenon of enterprise financialization, indicating that the implementation of tax and fee reduction is conducive to guide the company's capital to the real business, thus reducing the level of enterprise financialization. Finally, through a series of robustness tests, the results show that the conclusion is still robust.

2. Study design and sample selection

2.1. Sample selection

In this paper, all A-share listed companies from 2009 to 2015 are selected as the samples for the initial research, and the following screening is made for the initial samples according to the research content: (1) All kinds of listed companies in the financial industry and real estate industry are excluded from the sample observation; (2) Sample observations of related ST companies are excluded; (3) According to the changes in the industry and scope after the implementation of the replacement, the samples of the target companies shall be adjusted accordingly; (4) Sample observations with missing values in various variables are eliminated. In the end, a total of 13,700 firms' observations for the year sample were obtained, and the obtained continuous variables were Winsorize by 1% (99%) fractions[2].

2.2. Model design and variable definition

In this paper, the implementation of replacing the business tax with a value-added tax in 2012 was the subject of natural experiment, and in order to study the impact of tax and fee reduction on the financialization of enterprises, the following differential model was constructed for relevant regression:

$$F\text{in} = \beta_0 + \beta_1 Treat_{it} + \sum controls + \sum Inds + \sum Years + \varepsilon \quad (1)$$

In model (1), Fin is the explained variable, which represents the degree of financialization of listed companies. Existing studies define enterprise financialization as that the assets of an enterprise are more used for investment than traditional productive business activities in behavior, and as a result, the source of profits is changed to be mainly the income from investment and capital operation, and the pursuit of pure capital appreciation rather than operating profits[3]. Here, we use the proportion of financial assets in the total output to measure the degree of financialization of enterprises. Financial assets include transactional financial assets, net hold-to-maturity investment, derivative financial assets, net investment real estate and net financial assets available for sale[4]. $Treat_{it}$ is the dummy variable ,If company i is in the pilot industry of replacing business tax with VAT at the end of t year, the value is 1; otherwise, it is 0. This method controls the fixed differences between pilot companies and non-pilot companies through fixed effects, and controls the differences caused by changes in macro environment before and after the implementation of replacing business tax with value-added tax through annual fixed effects.Coefficient β_1 indicates whether the degree of financialization of the pilot company changes with the implementation of the reform, compared with the listed companies that are not in the pilot company.Ifβ_1 is significantly negative, then the implementation of replacing business tax with VAT effectively reduces the behavior of company financialization; If β_1 is significantly positive, then the implementation of replacing business tax with VAT has increased the degree of financialization of enterprises.

Controls represents a series of control variables that may affect the degree of enterprise financialization, including enterprise size, asset-liability ratio, net profit rate on assets, net cash flow from operations, Tobin's Q value, proportion of independent directors, whether the two positions are integrated, etc. See Table 1 for the specific definitions of the above variables.

Table 1: Specific definitions of main variables

Variable name	Variable symbols	Measurement method
Financialization rate	Fin	Ratio of financial assets to total assets
Replacing business tax with value-added tax	Treat	The company is affected by the replace business tax with value-added tax ,Treat-1 The company is not affected by the replace business tax with value-added tax ,Treat-0
Enterprise size	Size	The natural logarithm of total assets at the end of the period is taken
Asset-liability ratio	Lev	Ratio of total liabilities to total assets at the end of the period
Net profit rate on assets	ROA	Annual net profit divided by total assets at the end of the period
Net cash flow from operations	CFO	Ending cash flow from operations divided by total assets at the end of the period
Tobin's Q value	Q	The ratio of market value to total assets
Proportion of independent directors	Indep	Number of independent directors divided by the total number of directors.
Whether the two positions are integrated	Dual	The value is 1 if the chairman and the general manager are the same person, and 0 otherwise

3. Empirical results and analysis

3.1. Descriptive statistics and correlation analysis

Table 2 shows the descriptive statistics of the main variables in the model, with a total of 27,000 annual observed values of listed companies. In addition, the descriptive statistics of the observed values show that the average value of the financialization rate of enterprises is 0.148, the minimum value is 0, and the maximum value is 13.171, which indicates that there are great differences in the degree of financialization among A-share listed enterprises, and the gap between some listed enterprises is large. There is a small difference between p25, p50 and p70 of enterprise size, indicating that the asset size of enterprises in the sample companies is relatively uniform. There is also a large difference between the minimum value and the maximum value of the net profit rate of assets, indicating that the difference of profitability among listed companies is also large. The mean value of Q is 3.704, and the standard deviation is 5.899, indicating that on average, the total market value of an enterprise is 3.704 times the book value of assets, and the market value of equity is significantly higher than the book value of assets.

Table 2: Descriptive statistics of main variables

variable	N	mean	Standard	min	p25	p50	p75	max
Fin	13,700	0.148	0.338	0.000	0.000	0.007	0.108	13.171
Treat	13,700	0.048	0.214	0.000	0.000	0.000	0.000	1.000
Size	13,700	21.865	1.313	11.348	20.959	21.695	22.564	28.509
Lev	13,700	0.461	1.392	-0.195	0.250	0.424	0.599	138.378
ROA	13,700	0.045	1.056	-51.947	0.015	0.039	0.068	108.366
CFO	13,700	0.042	0.128	-10.216	0.004	0.043	0.086	0.943
Q	13,700	3.704	5.899	0.684	1.306	1.708	2.487	34,8.100
Indep	13,700	0.371	0.055	0.091	0.333	0.333	0.400	0.800
Dual	13,700	0.249	0.432	0.000	0.000	0.000	0.000	1.000

3.2. Analysis of regression results

Table 3: Tax and fee reduction and financialization of enterprises

	(1) Fin	(2) Fin	(3) Fin	(4) Fin
Treat	-0.2810***	-0.2724***	-0.3178***	-0.3092***
	(0.0084)	(0.0088)	(0.0150)	(0.0168)
Size		-0.0110***		-0.1501***
		(0.0030)		(0.0069)
Lev		0.0118		-0.0229***
		(0.0073)		(0.0044)
ROA		-0.0107**		-0.0006
		(0.0043)		(0.0040)
CFO		-0.0768**		0.1537***
		(0.0349)		(0.0320)
Q		-0.0001**		0.0002***
		(0.0001)		(0.0000)
Indep		0.0502		0.2314***
		(0.0427)		(0.0819)
Dual		-0.0393***		0.0394***
		(0.0061)		(0.0102)
Constant	0.0307***	0.2576***	-0.0342***	2.7692***
	(0.0022)	(0.0611)	(0.0070)	(0.1504)
Inds & Years	Yes	Yes	Yes	Yes
Observations	13,681	13,681	13,681	13,681
R-squared	0.2774	0.2824	0.4243	0.2822

Note: ＊＊＊, ＊＊, ＊ Representing 1%, 5% and 10% respectively.

Table 3 shows the empirical results of the implementation of tax and fee reduction on the financialization of enterprises. The coefficient of Treat represents the net effect of tax reduction and fee reduction on enterprise financialization. If the coefficient is shown as regular, it indicates that the

implementation of tax reduction and fee reduction reduces the degree of enterprise financialization. On the contrary, it indicates that the implementation of tax reduction and fee reduction improves the degree of enterprise financialization. It can be seen from the table that columns (1) and (3) are divided into OLS regression with fixed annual and industry effects and fixed effect regression results without adding a series of control variables. It can be seen that the coefficient of Treat is significantly negative, indicating that the implementation of tax and fee reduction reduces the degree of enterprise financialization. Column (2) and column (4) are divided into OLS regression and fixed effect regression results after adding a series of control variables. The coefficient of Treat is still significantly negative. According to the design principle of DID, after controlling the differences of sample interface factors, the reduction of the financialization of this part of enterprises is caused by the exogenous impact of the implementation of tax and fee reduction policies. Therefore, whether the influence of other factors is controlled or not, it shows that the implementation of tax and fee reduction reduces the level of enterprise financialization.

4. Robustness test

Table 4: Robustness test

	(1) Fin	(2) Fin	(3) Fin	(4) Fin	(5) Fin	(6) Fin
Treat	-0.3454***	-0.3330***	-0.3192***	-0.3204***	-0.0038	-0.0028
	(0.0180)	(0.0202)	(0.0150)	(0.0157)	(0.0035)	(0.0033)
Size		-0.1780***		-0.0239**		-0.0201***
		(0.0080)		(0.0095)		(0.0025)
Lev		-0.0228***		-0.0447***		-0.0004
		(0.0049)		(0.0157)		(0.0010)
ROA		-0.0016		-0.0413		-0.0016
		(0.0045)		(0.0268)		(0.0025)
CFO		0.1652***		0.0385		0.0382***
		(0.0363)		(0.0479)		(0.0071)
Q		0.0002***		0.0061***		-0.0000
		(0.0001)		(0.0021)		(0.0000)
Indep		0.2210**		0.1021		0.0642***
		(0.0942)		(0.1166)		(0.0217)
Dual		0.0403***		-0.0067		0.0002
		(0.0118)		(0.0141)		(0.0028)
Constant	-0.0444***	3.2946***	-0.0047	0.1572	0.0261***	0.4338***
	(0.0074)	(0.1724)	(0.0099)	(0.2093)	(0.0009)	(0.0540)
Observations	11,572	11,572	2,690	2,690	5,025	5,025
R-squared	0.4353	0.2924	0.3514	0.2966	0.0010	0.0323

Note: * * *, * *, * Representing 1%, 5% and 10% respectively.

In order to test the reliability of the above empirical results, the following robustness test was conducted:

1) The implementation time of replacing business tax with value-added tax was 2012, and the listed companies in 2012 could not confirm whether they were affected by the policy changes of that year, so the observed values of 2012 were excluded here. (1) and (2) in Table 4 are listed as the results of fixed annual and industrial effects fixed effect regression, it can be seen that the coefficient of Treat is still significantly negative, and the effect of tax and fee reduction on enterprise financialization is still negative and significant.

2) The samples are reconstructed in other ways. Companies in the industry of replacing business tax with value-added tax are taken as the experimental group, and all other A-share listed companies are taken as the control group. The corresponding control samples are screened out through the PSM model. All the control variables in model (1) were added into the logit regression, and according to the calculated propensity score, the target companies and non-target companies were matched one to one by using the method of no placing nearest neighbor. The corresponding regression test is conducted on the obtained samples, and the results are as shown in column (3) and (4) of Table 4. It can be seen that the coefficient of Treat is still significantly negative, indicating that the implementation of tax and fee reduction reduces the conclusion of enterprise financialization is still robust.

3) In order to make the results more robust, the counterfactual method is used for robustness test. One of the assumptions to evaluate the impact of the implementation of tax and fee reduction on the financialization of enterprises is that if there is no policy to replace business tax with value-added tax, there is no systematic difference in the change trend of financialization between the experimental group and the control group over time. In this paper, a counterfact test is used to verify the validity of this hypothesis. Specifically, the hypothetical experimental group and control group as well as the hypothetical time when the policy of replacing business tax with value-added tax was proposed were re-estimated[5].If the estimated coefficient of the variable Treat is not significant.In the hypothetical case, it indicates that the previous results are robust. This paper selects the sample interval from 2009 to 2011 when there is no policy of replacing business tax with value-added tax, and sets 2010 as the hypothetical year of policy proposal. The estimated results show that the Treat coefficient in columns (5) and (6) is not significant, which means that the previous regression results have robustness.

5. Conclusions

Tax reduction and fee reduction is a major tax reform completed in the aspect of structural tax reduction in recent years, which has a significant impact on the real economy[6]. This paper takes the implementation of replacing business tax with value-added tax as a quasi-natural experiment, takes all Chinese listed companies from 2009 to 2015 as research objects, and uses the DID method to analyze the impact of tax and fee reduction on the financialization of enterprises. The research results show that the implementation of tax and fee reduction significantly reduces the level of financialization of listed companies. After the robustness test of the corresponding results, the conclusion is still valid.

Under the background of national tax and fee reduction and capital "shifting from real to virtual", this paper studies the impact of tax and fee reduction on the financialization of enterprises from the perspective of the implementation of replacing business tax with value-added tax, which has certain practical significance. This study verifies the inhibitory effect of tax and fee reduction on the financialization of enterprises and provides experience for the implementation of subsequent tax and fee reduction policies. At the same time, in the context of the current global pandemic, whether to cope with the impact of economic downward pressure or to promote the healthy development of enterprises in the medium and long term, tax and fee reduction not only alleviates the tax pressure of enterprises, but also enables enterprises to pay more attention to the operation and investment of real business. It also enables regulators to formulate relevant policies and rules to better regulate and guide enterprises to "move from virtual to real", effectively preventing and defusing major financial risks.

References

[1] Yu Miao. Tax and Fee reduction policies and effect evaluation in China [J]. Finance, 2022(11): 8-9+12.
[2] Qiu Baoyin, Cheng Bo. Social trust and enterprise multi-tier ownership structure [J]. Accounting Research, 2021(03):62-71.
[3] Li Xiaocong. The Impact of Corporate Financialization on Earnings Quality -- Based on Youngor's Case Study [J]. International Business Finance and Accounting, 2021(08):68-71.
[4] Yu Biao, Yang Gang. Management myopia and firm financialization [J]. Finance and Economics, 2022(10): 37-48.
[5] Wang Liyong, Wang Shenling. Does strengthening budget discipline reduce fiscal policy volatility? [J]. Journal of Central University of Finance and Economics, 2019(10):3-13.
[6] Li Weibing, Wang Lixia. Can tax and fee cuts curb corporate financialization? -- Evidence from quasi-natural experiment of "Replacing business tax with value-added tax" [J]. Southern Finance, 2021(07): 40-53.