

The Impact of the Increase of Pollutant Discharge Fee on Tax Avoidance of Enterprises——Quasi Natural Experiment Based on Environmental Protection Tax

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Abstract: This paper focuses on the exogenous policy of changing sewage fees to taxes in 2018, studies the impact of increasing sewage fees on corporate tax avoidance, and explores its mechanism from the perspective of enterprise production efficiency. The results show that the change of sewage discharge fee to tax will promote corporate tax avoidance and aggravate the "throttling" of corporate tax avoidance by reducing enterprise production efficiency. The research results have important implications for the Chinese government to rationally adjust environmental control standards and formulate environment-friendly investment attraction.

Keywords: sewage fee; environmental protection tax; corporate tax avoidance

1. Introduction

Over the past 40 years of reform and opening up, China has made a leap from being poor and white during the founding of the People's Republic of China to the world's second largest economy today, and has made remarkable achievements in economic construction, but behind the rapid economic development there are serious ecological problems such as waste of resources and environmental pollution. According to the global environmental performance index statistics of Yale University and other institutions, it can be seen that in the five rankings in 2010, 2012, 2014, 2016 and 2018, China's environmental quality has been at the end level in the world, ranking 121/163, 116/132, 118/178, 109/180 and 2/18 respectively, which is in strong contrast with the world's leading economic position. Green development can lead to sustainable development, so how to alleviate the conflict between economic construction and environmental protection has become a major problem faced by the Chinese government.

Enterprises are an important driving force for China's rapid economic development and the main producers of environmental pollution, among which heavy polluting enterprises have the most obvious damage to the environment. To achieve green development, it is indispensable for companies to reduce emissions. However, in view of the characteristics of the "rational economic man" of enterprises and the "public goods" nature of the ecological environment, enterprises will pursue the maximization of their own interests as the goal in the process of development, and ignore the consumption of the ecological environment, and environmental protection cannot be achieved by the environmental awareness of enterprises alone, so it is necessary to intervene in the environmental protection behavior of enterprises through the "visible hand" of the government to guide enterprises to embark on the road of sustainable development ^[1]. The Chinese government has been committed to implementing environmental pollution prevention and control by promulgating and improving environmental protection laws and regulations and strengthening supervision, and the intensity of environmental protection regulations has been further enhanced in recent years. In 2010, the State Environmental Protection Administration issued the Measures for Administrative Penalties for the Environment; In 2014, the Standing Committee of the National People's Congress revised the Environmental Protection Law; In 2015, the Standing Committee of the National People's Congress promulgated the Air Pollution Prevention and Control Law; In 2018, the Standing Committee of the National People's Congress issued the Energy Conservation Law. With the continuous expansion of China's economic aggregate, environmental pressure continues to increase, and after a series of deliberations, the environmental protection tax came into being on January 1, 2018.

In theory, as an environmental regulation tool with more compulsory, enforcement and supervision

power than the pollution discharge charging system, the cost pressure and supervision pressure brought by the environmental tax will force enterprises to participate in environmental governance. However, at this stage, the construction of the legal system for pollution prevention and control in China has not yet been perfected, and there is a problem of "high cost of compliance and low cost of breaking the law". On the one hand, enterprises that have fulfilled more environmental protection responsibilities mean that they consume more internal resources, resulting in a decline in the free cash flow of enterprises, and enterprises tend to choose to participate in tax avoidance activities to reduce capital outflow, reduce operating pressure and increase after-tax profits in order to maximize profits. On the other hand, enterprises are forced by the risk cost pressure of tax avoidance and the pressure of environmental protection tax, and enterprises will not choose tax avoidance to "save money". In view of this, this paper focuses on the exogenous policy of changing sewage fees to taxes in 2018, and studies its impact on corporate tax avoidance and its mechanism. At the same time, after introducing the study of heterogeneity, it is explored whether the change of sewage discharge fee to tax will have different impacts on the tax avoidance behavior of different enterprises.

The innovation of this paper is mainly reflected in: In terms of research topics: unlike most studies on the impact of environmental protection taxes on environmental pollution and social and economic benefits, this paper systematically examines the impact of increasing sewage discharge fees on corporate tax avoidance from a micro perspective. It not only expands the research related to environmental protection tax, but also provides new incentives for enterprises to avoid tax. In terms of index construction: This paper takes the opportunity of changing sewage fees into taxes in 2018 to capture the exogenous changes in the collection of sewage fees, and overcomes the endogeneity problem between variables. Provide relevant empirical evidence for environmental protection work such as "environmental protection cannot be one-size-fits-all" and "policies according to the time and place".

2. Institutional background and Research Status

2.1 Institutional background

The Party Central Committee with Comrade Xi Jinping as the core attaches great importance to the construction of ecological civilization, and has repeatedly stressed that lucid waters and lush mountains are golden mountains and silver mountains, and it is necessary to control environmental pollution and build the ecological environment well, and never sacrifice the environment in exchange for temporary economic growth. Although China has made many efforts in environmental protection, the problem of environmental pollution is still very serious, and environmental governance has become an urgent and important task that has a bearing on the comprehensive building of a moderately prosperous society and the overall development of the country. From the proposal of the idea to the legislative levy, from the "two sessions" in 2006, Zheng Jianling, a member of the National Committee of the Chinese People's Political Consultative Conference, proposed to change the sewage discharge fee to an environmental protection tax, to May 2007, the State Council promulgated the "Comprehensive Work Plan for Energy Conservation and Emission Reduction", one of the specific policy measures is "study the introduction of environmental protection tax", the first time to clearly legislate environmental protection tax, to the Fifth Plenary Session of the 17th Central Committee in 2010 passed the "Proposal of the Central Committee of the Communist Party of China on the Formulation of the Twelfth Five-Year Plan for National Economic and Social Development", The proposal formally proposed to levy an environmental protection tax, and then the State Administration of Taxation, the Ministry of Finance, the former Ministry of Environmental Protection, the Legislative Affairs Office of the State Council, the Law Committee of the National People's Congress and other departments actively carried out joint cooperation to jointly promote the legislative work of environmental protection tax, and in June 2015, the Environmental Protection Tax Law of the People's Republic of China (Draft for Comments) was publicly solicited from the public. Finally, on January 1, 2018, the "Environmental Protection Tax Law" was officially implemented, which is the first single tax law deliberated and passed by the Standing Committee of the 12th National People's Congress, an important measure for China to build ecological civilization and promote the overall layout of "five in one", the first tax law that is clearly written into the content of departmental information sharing and coordination mechanisms, and the first local tax to be added through fee reform after the VAT reform, carrying the function of helping to protect and improve the environment and the people's beautiful expectations for "bluer sky, greener mountains and clearer water".

2.2 Research Status

2.2.1 Study on the Difference between Environmental Protection Tax and Pollutant Discharge Fee

The advantages of environmental tax is that [2]: first, it has stronger legal effect in terms of establishing a basis, and the transparency is higher than that of pollution discharge fee; Second, the scope of taxation includes not only acts that pollute the environment, but also acts that exploit and use resources and the environment; Third, the environmental protection tax has changed the original model of "pollution first and then payment" of sewage discharge fees, and is taxed at every link of production and consumption. After the change of sewage discharge fee to environmental protection tax, the actual impact on the tax burden of most taxable enterprises is not large, but it has a certain impact on enterprises that do not pay sewage discharge fees in accordance with regulations before the fee is changed to tax and have less economic investment in pollution prevention and control, and it is recommended that each region should formulate local tax standards according to factors such as environmental pollution carrying capacity, pollution degree, and economic development[3].

2.2.2 Study on the Current Situation of Levy of Pollution Discharge Fee to Tax

In China, environmental protection has become the focus of most experts' research, and tax reform is generally used to improve the environmental protection tax system. Through the practical investigation after the end of the first collection period of environmental tax, four characteristics of the collection and management process are summarized: first, the initiative of taxpayers to self-declare, second, the professionalism of tax collection and management, third, the cooperation of environmental protection departments in cooperation with collection and management, and fourth, the reviewability of abnormal tax declarations. Although this situation is difficult to avoid at present, it should consider the environmental protection characteristics of environmental protection tax compared with other taxes, position it at the core of the entire green tax system, and then optimize and adjust the internal adjustment of each tax. In the implementation of environmental protection tax, there are problems such as difficulties in cooperation between relevant departments, difficulties in the application of collection and management technology, and difficulties in the full collection of taxes. There are certain difficulties in obtaining relevant environmental protection data, the scope of collection is narrow, it cannot be comprehensively covered, there are certain differences in collection between regions, the special funds cannot be truly earmarked, and the punishment of taxation is not large enough. Some scholars believe that environmental protection tax started late compared with other laws, there is no unified theoretical basis, the concept of environmental protection tax and sewage discharge fee is easy to confuse, and there is not enough reference for foreign excellent experience, resulting in insufficient theoretical basis and imperfect formulation of relevant systems [4].

2.2.3 Research on the micro-effects of environmental protection tax

The micro-effects brought about by the introduction of the policy of changing pollution fees to taxes are mainly reflected at the enterprise level. Through the analysis of typical enterprises, most scholars believe that the impact of environmental protection tax on enterprises is reflected in the environmental tax burden, enterprise production efficiency, and corporate financial performance [3]. In view of the production efficiency of enterprises, some scholars believe that environmental protection taxes will increase the manufacturing costs of enterprises and reduce production efficiency. By studying the US manufacturing industry, it is believed that environmental taxes increase corporate spending and limit corporate production efficiency. Under the background of sewage fee change to tax, by analyzing the relevant data before and after the sewage fee change of Y Pharmaceutical, it is found that after the sewage fee is changed to tax, the corporate profit has decreased significantly. Taking all listed companies in Shanghai and Shenzhen A-shares as a research sample, Jin Youliang used the double difference method to study the impact of policy changes on enterprise performance, and found that the change of pollution discharge fee to tax had a certain impact on enterprise performance, and the impact of heavy polluting industries was great[5].

2.2.4 Research on the influencing factors of enterprise tax avoidance

As a direct beneficiary of corporate tax payment, the government's tax avoidance behavior of enterprises is bound to have an important impact. A large number of studies based on China show that the higher the degree of government intervention in enterprises, the heavier the tax burden of enterprises and the lighter the degree of tax avoidance. Studies have found that the proportion of state-owned equity of listed companies has a significant positive relationship with the company's actual income tax rate, and the higher the proportion of state-owned equity, the heavier the tax burden; The

impact of government-enterprise collusion on corporate tax avoidance is more significant among foreign-funded and privately run enterprises with high liquidity[6]; Tang et al. [7] Using China's 2002 tax sharing system, research found that when local governments take a smaller share of corporate tax payments, state-owned enterprises controlled by local governments avoid taxes more. The study of external institutional factors can well identify causal relationships and effectively weaken endogenous problems. Income tax reform has responded positively to successful tax avoidance, and the stronger tax enforcement in a region, the less likely it is for companies in the region to avoid tax[8].

2.3 Literature review

The above literature confirms that external factors have different impacts on the tax avoidance activities of enterprises, enterprises are connected with society, and when external policies change, the tax avoidance behavior of enterprises will change accordingly. However, unfortunately, most of the relevant literature in the past has studied tax avoidance from the perspective of internal characteristics and mechanisms of enterprises, and few literature has examined the tax avoidance behavior of enterprises from the perspective of policy formulation. Theoretically, taxation is actually the government's mandatory sharing of micro-enterprise profits and is a direct stakeholder in the tax behavior of enterprises, so what impact will the policy uncertainty caused by the change of pollution fee to tax affect the tax payment behavior of enterprises? This is a fundamental topic that needs to be answered urgently, but the existing literature has not provided a suitable answer. This paper focuses on the exogenous policy of changing sewage fees to taxes in 2018, and studies its impact on corporate tax avoidance and its mechanism. At the same time, after the introduction of heterogeneity research, the change of sewage fee to tax will have different impacts on the tax avoidance behavior of different enterprises.

Through the review and sorting out of the existing literature on the impact of "fee to tax" on corporate tax avoidance, it is found that there are still the following areas that can be improved: First, most of the literature on corporate tax avoidance activities is considered from the perspective of internal factors, such as internal agency problems, debt financing, enterprise value, etc., which may cause endogenous problems, and it is best to seek exogenous policy impacts. There is less literature directly devoted to the study of the impact of external policies on corporate tax avoidance, and the 2018 sewage fee reform provides the impact of external policy factors for the study of corporate tax avoidance. Second, the problem of variable measurement and model construction. For the measurement of corporate tax avoidance, foreign income tax rates are relatively single, tax incentives are not complicated, and the general effective tax rate measures the degree of tax avoidance corresponding to enterprises. However, due to the complexity and variety of tax incentives in China, the reduction of the effective tax rate may not necessarily be the result of tax avoidance, so the difference between the nominal income tax rate and the effective income tax rate is more appropriate. At present, few literature uses the traditional policy effect evaluation "double difference model" to test the impact of the increase of pollution discharge fees on the tax avoidance activities of enterprises, and most of them directly do group regression on enterprises with different tax change directions, and there is room for improvement in the empirical models of these group regression. Third, there are deficiencies in heterogeneity analysis and path analysis. Most of the heterogeneity analyses of corporate tax avoidance in the existing literature focus on the different nature of property rights. It is true that state-owned enterprises and non-state-owned enterprises are not as aggressive in tax planning, but there are other important heterogeneous factors. The pollution control effect of environmental regulations depends not only on changes in pollution discharge charging standards, but also on whether environmental protection agencies strictly enforce the law. In China, it is common for pollution charges to be "incompletely enforced" in the actual implementation process[9]. Therefore, the intensity of local tax collection and management will have an impact on enterprises' tax avoidance decisions. In addition, the impact path of changing pollution fees into taxes on corporate tax avoidance has not yet been formed. According to previous scholars' research, the collection of environmental protection taxes may reduce the production efficiency of enterprises, and the financial tension caused by reduced production efficiency will cause enterprises to reduce capital expenditure. Therefore, this paper discusses the transmission mechanism of "fee to tax" to enterprise tax avoidance according to the logical line of "sewage fee to tax - production efficiency - enterprise tax avoidance".

3. Theoretical analysis and research hypothesis

3.1 Environmental Tax Collection and Tax Avoidance of Enterprises

As a direct beneficiary of corporate tax payment, the government's tax avoidance behavior of enterprises is bound to have an important impact. A large number of studies based on China show that the higher the degree of government intervention in enterprises, the heavier the tax burden of enterprises and the lighter the degree of tax avoidance. The proportion of state-owned equity of listed companies has a significant positive relationship with the company's effective income tax rate, and the higher the proportion of state-owned equity, the heavier the tax burden; Li Weian and Xu Yekun analyzed private listed companies as a sample and found that private listed companies with political connections would engage in more tax avoidance, and this phenomenon was more obvious in areas with excessive economic growth and greater fiscal pressure. Fan Ziyang and Tian Binbin found that the impact of government-enterprise collusion on corporate tax avoidance behavior is more significant in foreign-funded and privately run enterprises with high liquidity [10]. Tang et al., using China's 2002 tax-sharing system,[7] found that when local governments take a smaller share of corporate tax payments, state-owned enterprises controlled by local governments are more likely to avoid taxes. In theory, environmental protection tax, as an environmental regulation tool with more coercive, enforcement and supervision power than the pollution discharge charging system, will force enterprises to participate in environmental governance due to the cost pressure and supervision pressure, however, the construction of the legal system for pollution prevention and control in China has not yet been perfected, and there is a problem of "high cost of compliance and low cost of violation of the law" [9]. On the one hand, enterprises that have fulfilled more environmental protection responsibilities mean that they consume more internal resources, resulting in a decline in the free cash flow of enterprises, and in order to maximize profits, enterprises tend to choose to participate in tax avoidance activities to reduce capital outflow, reduce operating pressure and increase after-tax profits.

3.2 The Intermediary Role of Enterprise's Production Efficiency

The imposition of environmental protection tax will bring greater environmental costs to enterprises[10], will make enterprises bear a heavy cost burden, high cost added effect will reduce the production enthusiasm of enterprises, production efficiency will be adversely affected[11]. Some scholars believe that environmental regulations will lead enterprises to change the original production process, increase labor costs, reduce the scale of the process, etc., and reduce the profit space of enterprises [12]. In addition, some scholars believe that the impact of environmental regulation is not big for enterprises, and whether the resource productivity of enterprises has been improved, whether they have transitioned from the original unsustainable production mode to a sustainable production development model, and whether to achieve green transformation is very important[13][14]. The collection of environmental protection tax will bring greater environmental costs to enterprises, so that enterprises bear a heavier cost burden, if enterprises maintain the original production volume, high cost surcharge will make enterprises find ways to reduce expenses from other aspects. This paper argues that China's institutional background and the relevant characteristics of tax avoidance will give enterprises many advantages in preparing cash flow through tax avoidance to withstand possible negative shocks. First of all, although enterprises can also reduce costs by reducing advertising and R&D expenditures, reducing investment and laying off employees, they will directly affect the normal production and operation activities of enterprises. Tax avoidance is different, it has less impact on the normal production and operation of enterprises[15]. Secondly, although the amount of tax paid by enterprises is restricted by many tax laws and regulations, it also covers a large number of tax incentives and tax reduction policies, giving enterprises the opportunity; Third, the separation of accounting standards and tax laws reduces the financial reporting costs of tax avoidance; Finally, due to factors such as the limited collection and management power of tax authorities, the high degree of information asymmetry between internal and external enterprises, and the differences between accounting standards and tax laws, the risk of tax avoidance of enterprises is not too high on average[16]. Therefore, this paper argues that it is an important realistic choice for enterprises to mitigate the negative impact of the minimum wage increase through tax avoidance. Therefore, the change of sewage discharge fee to tax aggravates the "throttling" of corporate tax avoidance by reducing the production efficiency of enterprises.

4. Conclusions and suggestions

From a micro perspective, this paper systematically examines the impact of the increase in sewage charges on corporate tax avoidance. The results show that the change of sewage discharge fee to tax will promote corporate tax avoidance and aggravate the "throttling" of corporate tax avoidance by reducing enterprise production efficiency. This paper not only expands the research on environmental protection tax, but also provides new incentives for enterprises to avoid tax. In addition, this paper takes the 2018 sewage fee change as an opportunity to capture the exogenous changes in the collection of sewage fees, and overcomes the endogeneity problem between variables. Provide relevant empirical evidence for environmental protection work such as "environmental protection cannot be one-size-fits-all" and "policies according to the time and place". Raising sewage discharge fees directly increases the production costs of enterprises in the short term, indicating that in the context of protecting the environment and saving resources, while increasing the collection of sewage discharge fees, the government also needs to seriously study the specific problems of internalizing the environmental costs of enterprises, and adopt differentiated control measures for enterprises in different industries, different pollution types and different stages of development, so as to transform the external environmental pressure into the driving force of environmental technology innovation within the enterprise, so as to achieve the coordinated and sustainable development of environmental protection and economic growth.

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