

## Suggestions on the Present Situation of Environmental Tax in China

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**Abstract:** Environmental pollution has become a common problem facing the world today, restricting the development of the economy and threatening the survival of mankind. Effective environmental tax bills can improve the efficiency of market operation, and a reasonable environmental tax base and tax rate can achieve effective resource allocation. Therefore, based on the existing theory of environmental tax, this paper analyzes the positive effects and defects of the Chinese environmental tax system in the implementation process. In view of the choice of taxpayers, the delimitation of Taxation objects, the adjustment of tax rates and relevant preferential measures, the paper puts forward some countermeasures and suggestions for further improving China's environmental tax system.

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### 1. Introduction

External dis-economy usually refers to goods that are harmful to externalization. The production of such goods have a negative effect on society and the environment, thus triggering the behavior of "over-consumption"<sup>[1]</sup>. Environmental pollution is a typical manifestation of the external dis-economy of market mechanism, in order to overcome this shortcoming, all countries are actively exploring an effective way to coordinate survival and sustainable development. In recent years, with the intensification of environmental problems, the traditional "command-control" regulatory means are difficult to restrain the increasingly market-oriented and decentralized economic behavior of individuals, and may bring with some drawbacks, such as high costs, inefficiencies, or others. Under this background, more and more countries regulate economic operation by setting up environmental tax system, which has the responsibility of making polluters assume environmental pollution, realizing the internalization of external effects, thus restricting economic activities that are harmful to the environment, and correcting market failures.

However, compared with developed countries, China's legislation on environmental protection is very weak, for example, the tax system is inadequate, the environmental tax measures are scattered, and the proportion in the whole tax system is very small, resulting in limited regulatory role and difficult to meet the financial requirements of environmental protection.

### 2. Environmental tax and its theoretical basis

Environmental tax is a kind of tax levied compulsorily by the state to all social and economic entities in accordance with a certain evaluation system under the ultimate purpose of protecting environmental resources<sup>[2]</sup>. According to different classification criteria, there are many classifications of environmental tax. At present, the main two types of Taxation recognized by most scholars are: divided according to the object of collection and divided according to the way of taxation.

On the one hand, the object of environmental tax collection can be divided into: environmental tax on behavior, environmental tax on resources and environmental tax on products. Among them, the first refers to the environmental tax on the economic behavior of pollution and destruction caused by the the businesses or individuals to the environment. For example, the state can levy taxes on such emissions when enterprises emit exhaust gases polluting the atmospheric environment, in production; The second refers to levying taxes on the development and utilization of natural resources. This is similar to the resource tax, but the scope of taxation stipulated can be more extensive. For example, levying taxes on water; The third refers to levying environmental taxes on specific products that pollute the environment, which is similar to consumption taxes.

On the other hand, according to the different ways of collection, it can be roughly divided into: first, direct taxation based on pollutant discharge standard, such as sewage tax, which has the advantages of low cost of Taxation and targeted pollution control, but it is not conducive to simultaneously solving the

environmental problems associated with one pollutant. The second is indirect taxation of goods and services, which means to prevent environmental pollution by changing the tax rates of indirect taxes such as business tax and value-added tax. Third, environmental tax reduction and exemption, which refers to the government's tax relief for certain environmentally friendly acts or environmental protection facilities.

The ideological source of environmental tax is the Pigou Taxes. Arthur Pigou, a modern British economist, put forward the external theory in "Welfare Economics" published in 1920, that is, economic subjects can not effectively solve externalization through market transactions because they seek to maximize their own benefits<sup>[3]</sup>. Therefore, he advocates that polluters should be taxed according to the amount of pollutants discharged, so as to make it equal to the difference between marginal social cost and marginal private cost. Under the stimulation of Pigou tax, polluters can control the amount of pollution from two aspects: one is to adopt pollution control technology to reduce the amount of sewage discharged from unit activities; the other is to reduce the total amount of activities that produce pollution. Polluters will make the best choice for themselves according to their cost and profit function, realize the internalization of exterior effects, and achieve the best for society at the same time.

Modern economics holds that free trade in the market can realize the effective production of private goods, but environmental resources as public goods are competitive and non-exclusive, and any actor can use them free of charge, and will strive to maximize the private utility, thus causing the overuse of public resources. The amount of resources that can be enjoyed is reduced, and finally "the tragedy of the Commons" is formed. Therefore, public goods such as the environment must be provided by the government. The initial purpose of the establishment of environmental taxes is to provide the market with public goods which can not be produced. In the field of environmental protection, the optimal choice of individuals often deviates from social interests. Therefore, it is not enough to emphasize the role of the market in the field of environmental protection. It is difficult to ensure the effective protection of the ecological environment by the role of the market alone. It is necessary to correct market failure by levying environmental taxes and to use tax revenue to control pollution, protect the environment and realize the coordinated and sustainable development of economy and environment.

### 3. The effect analysis of China's environmental tax

At present, the global economy has entered a

stable stage of development, and environmental issues have received more and more international attention. In recent years, extreme weather in China has been more frequent, and the environmental problems once hidden have become increasingly prominent. Since the 1980s, natural disasters, such as high temperature, flood, debris flow, earthquake and so on, have come in a violent manner, which directly exposes the seriousness of environmental problems that have been neglected in our country. Therefore, on December 25, 2016, China's Environmental Tax Law was promulgated, which further improved the current environmental protection system and increased the pace of building an ecological civilization and a beautiful China. As for the newly promulgated bill, on the one hand, it strengthens the supervision measures of environmental protection in China, improves the restraint mechanism of environmental governance and resource protection, and plays a complementary role in promoting the current stage of economic transformation in China [4]; However, on the other hand, because our country has not paid enough attention to environmental issues, it is still in the initial stage of pollution control and emission reduction, environmental governance policy is still in the initial stage of exploration, a large number of pollutants are waiting for us to deal with, and the status quo of environmental tax still has a lot to be improved.

#### 3.1 Positive effects of China's environmental Tax

On the one hand, from the perspective of means of implementation, the environmental tax formally implemented in China since January 1, 2018 has replaced the disadvantages of the previous administrative way of environmental management with economic and legal means, showing a high efficiency of resource allocation, paying full attention to the costs and benefits of small and medium-sized enterprises, and adopting a more precise target orientation. Set more reasonable standards for pollutant discharge control for enterprises of different sizes, and actively mobilize enterprises' enthusiasm to participate in environmental governance; In addition, compared with administrative means, the new policy can be directly linked to the profits of enterprises, stimulate the introduction and development of new technologies and transformation and upgrading of enterprises, change the traditional mode, pursue their own best interests and actively pursue low-pollution, low-consumption mode of production<sup>[4]</sup>.

On the other hand, from the perspective of economic effect, the new environmental tax law takes tax revenue as an incentive to indirectly guide economic actors to reduce the damage to environmental resources and to respond to the call of

enterprise transformation and upgrading. In addition, this incentive mechanism can re-invest the tax revenue of polluters in the construction of urban ecological civilization, meet the needs of citizens for public goods, and avoid direct interference in the daily activities of actors. Rather, it encourages enterprises to have greater autonomy in pollution reduction and emission reduction, as well as in the way of environmental protection, such as choosing to pay more taxes or abandon subsidies or buy emission permits<sup>[5]</sup>. Therefore, from the perspective of cost-benefit, China's newly introduced environmental tax can correct the current situation of market failure, mobilize the dual role of market and economic leverage, and force actors to recognize their economic responsibility of pollution control and emission reduction. Emphasis should be placed on production efficiency and mode of production, on the polluter-payer principle, so as to encourage enterprises to actively use clean and environmentally friendly energy or technology, and guide them to realize transformation and upgrading so as to improve their competitive advantages.

### 3.2 Defects of China's environmental tax

Due to China's late emphasis on environmental tax, although the new policy has produced many positive effects mentioned above, it has a certain role in promoting environmental governance. However, compared with the international environment, China's environmental tax system still has a lot of room for improvement, leaving some deficiencies worthy of our improvement.

Firstly, starting from the subject and object of the Levy of environmental taxes, there is an unclear definition of the subject of tax payment. At present, the main tax payers of environmental tax in China are enterprises, institutions and other producers, but not ordinary residents. To a certain extent, it narrows the main scope of participation in environmental protection, ignores the phenomenon of environmental pollution and waste of resources by urban residents. It is only used for environmental control and sewage discharge through producer's tax. It belongs to the remedial action after curing the symptoms without curing the root causes, and can not play a preventive role. In addition, there are obvious limitations in the object of Taxation in the current environmental tax. Atmosphere, water, solid waste and noise are all the objects of Taxation stipulated in China's environmental tax law, but the mobile pollutants, volatile organic compounds and so on are totally not divided among them<sup>[6]</sup>. However, in recent years, it can be found that with the increase of the number of vehicles in China, the flow pollutants discharged by motor vehicles, trains and other pollutants have

caused considerable damage to the environment.

Secondly, in the current tax categories in China, the ambiguity of environmental protection limits leads to inadequate regulation of environmental protection. For example, the tax payable by resource taxpayers mainly depends on the conditions of exploitation of resources, but has little to do with the environmental impact of exploitation of resources, and can not effectively guide and supervise the rational use of natural resources by developers. The consumption tax does not include the coal consumption and the main air pollution sources. Urban construction maintenance tax has always been in an additional levy position, lacking independence, and the burden is out of touch with benefits. The proportion of urban land use tax is very low, and there are many tax-free provisions, so the stimulation effect of saving land resources and rational use of land in cities and towns is limited. The land occupation tax is also too narrow to cover woodland and grassland because it only covers the land occupation.

Finally, from the perspective of preferential measures, there are some incomplete provisions on environmental tax preferential measures. The preferential forms of environmental tax are lack of diversity and the strength of preferential policies is limited. The implementation of preferential policies is more general, and it is difficult to achieve the incentive role of promoting enterprises to improve technology actively. For one thing, the reduction standard of environmental tax in China is limited to 30% and 50% of the pollutants below the standard, but lacks other specific restrictions, which directly determines whether the implementation standard of environmental tax can be unified. For another thing, there is a lack of relevance and systematization among preferential measures. Many preferential measures, such as resource tax and pollution control and emission reduction, will more or less involve enterprise income tax and other kinds of taxes, which may lead to conflicts among preferential measures, thus weakening the utilization of resources and the equivalence of environmental protection.

### 4. Countermeasures and suggestions for improving China's environmental tax system

The purpose of this paper is to draw lessons from the relevant theories and policies of foreign countries on environmental tax, and to provide more specific choices for environmental tax in China based on the actual situation of the implementation of environmental tax in China. When formulating alternatives, we can consider:

#### 4.1 Defining the subject of tax payment and expanding the scope of taxation

On the one hand, according to the "polluter pays" principle, in order to realize the internalization of external costs, the choice of tax payers in China's environmental tax mainly includes enterprises, institutions and other producers and operators that discharge taxable pollutants to the environment. But in this context, we ignore the principle of deciding who benefits and who pays taxes<sup>[7]</sup>. For example, while enjoying a high quality environment, residents should pay taxes on the material that destroys the environment in their lives. Although the total amount of pollutants in this area is relatively small and the degree of harm is relatively low, only by assisting environmental beneficiaries can we improve the scope of tax payers and further improve the legal system of environmental protection tax in China.

On the other hand, it is urgent to expand the scope of Taxation objects in China's environmental tax law. At present, in combination with the process of "fee to tax" and considering the stability of Taxation basis and sources, four categories of sewage, waste gas, solid waste, hazardous waste and noise which are badly destroyed by the environment are selected as the objects of taxation. But because of this, many other pollutants have been avoided to a certain extent, such as some environmental infringement, ecological destruction and a series of services and products that damage the environment and cause pollution in the process of market circulation. Therefore, in light of the actual situation of the current implementation of China's environmental tax law, and referring to the limits set by some foreign countries for the object of environmental tax, we need to further expand the scope of the existing object of environmental tax and gradually incorporate other pollutants that urgently need to be restricted.

Firstly, in the aspect of resource tax, our country mainly aims at the exploitation, production and utilization of natural resources, but does not set up specific taxation categories to deal with the phenomena that may endanger the environment in the process. Therefore, China's current resource tax needs to redefine and classify resources. In addition to the mineral resources currently included, non-renewable resources and resources with long life cycle and great difficulty should also be included in the scope of taxation, such as land, water, ocean, animal and forest resources. Otherwise, it is not conducive to the effective use and protection of these resources, but also because people will use these resources to reduce the self-purification ability of the environment, if overused and exploited, it will lead to the destruction of the ecological environment.

Secondly, in terms of consumption tax, the main

objects of taxation at present include firecrackers, fireworks, gasoline, diesel, motorcycles, cars and other consumer goods, which cause environmental pollution. The taxation is always weak and the effect of regulation is insufficient. With the rapid development of economy, it is necessary for China's consumption tax to include coal, the main energy consumer, and other consumables which consume a large amount of resources and easily cause great damage to the environment. For example, batteries, disposable plastic packaging and so on, while large pollution, energy consumption, non-renewable, long renewable period and scarcity of resources consumer goods to impose a higher tax rate.

Finally, in terms of gas emissions, combined with advanced international experience and the actual situation of our country, serious air pollution phenomena such as haze, acid rain and so on continue to occur, which is closely related to industrial exhaust and automobile exhaust emissions. In view of this phenomenon, China should further increase taxes on carbon dioxide. For mobile pollutant sources, because mobile pollutants are an important cause of fog and haze in China, the emission index should be tested, and positive measures should be adopted to control the emission of exhaust gas, or exclude the temporary exemption of mobile pollutants or increase the regulations on the Levy of environmental protection tax. At present, some countries have levied taxes on environmental protection, such as Switzerland, Liechtenstein and Slovenia, and have achieved remarkable results.

#### 4.2 Adjusting the levy rate and levy method

Tax rate is one of the key factors that decide whether the environmental tax can play an effective role. The setting of tax rate should not only consider the regressive effect and negative impact of environmental protection tax, but also consider the coordination and balance between governance cost and taxpayer's affordability. The appropriate tax rate should encourage the tax payers to choose environmental governance after weighing the environmental tax levied on environmental governance costs and pollution emissions. Therefore, the tax rate level should be slightly higher than the environmental governance costs, avoid the drawbacks of "one size fits all", and eliminate the phenomenon that enterprises prefer to pay fees or taxes rather than pollution control; Secondly, although China's environmental protection law has set administrative penalties for excessive emissions, it should be supplemented by double collection according to actual needs. Administrative penalty and economic means work together, government intervention and market regulation work together to achieve the synergistic

effect of environmental protection and economic development; Thirdly, in the process of development, there are obvious differences among regions, and the climate, environment and economy of different regions are obviously different. The setting of tax rate must be adapted to local conditions. According to the marginal impact of each pollutant on the degree of natural pollution in different places, different levels should be set to achieve different tax rates<sup>[8]</sup>. Therefore, in the environmental tax law, we should give the local government space to adjust the tax rate appropriately and allow the local government to set reasonable tax rate according to the actual needs and willingness of the region to control pollution and reduce emissions. For example, different tax rates are set for different emissions according to the cost of environmental treatment, and different tax rates can be designed for the same emissions according to different emission concentrations; In addition, different tax rates can be applied to different industries, such as setting lower tax rates for industries and products designed for public utilities.

Moreover, in the process of levying environmental taxes, it is also very important to choose the appropriate way of collecting taxes. In the initial stage of implementing environmental tax in China, the method of collecting environmental tax from quantitative quota was adopted, and the tax was calculated on the basis of measured data. But in the face of difficult to determine the amount of pollutant emissions, relying on the estimate is too rough. Therefore, the collection method of environmental tax needs to be matched with ad valorem to make it more accurate and comprehensive. The ad valorem levy only needs to be converted according to the amount of pollution produced in the consumption of intermediate products of energy and resources, and can be multiplied by the applicable tax rate by the value of intermediate products of energy and resources. There is no need to monitor the amount of pollutants discharged, which avoids the technical difficulties caused by the verification of pollutant discharges, thus reducing the cost of environmental protection tax collection.

#### 4.3 Improving environmental tax preferential tax system

Compared with the tax restriction with the nature of supervision and punishment, the preferential tax measures of environmental tax have the characteristics of flexibility and initiative. The main purpose of this measure is to encourage economic entities to take the initiative to control pollution, reduce emissions and protect the environment by reducing taxes or subsidies for specific actions of enterprises or individuals. For example, in terms of incentives for enterprises,

preferential measures can be precisely implemented in all aspects: in the investment stage, the government can provide subsidies and depreciation fees for fixed assets that are conducive to environmental protection, allow them to accelerate depreciation, and encourage enterprises to invest in pollution control industries; In the production stage, enterprises that produce or adopt clean energy and introduce new and high technologies to reduce pollution emissions can be reduced or exempted from certain value-added tax and income tax. On the contrary, high penalty tax can be levied on enterprises that are harmful to the environment.

In addition, China should actively learn from the successful experience of foreign countries, such as: the German government has to return environmental tax to enterprises or individuals in another way in order to regulate social macro-income through tax neutrality policy. In view of the initial stage of the implementation of environmental tax law in China, this practice of returning tax to specific areas can really realize the double dividends of environmental improvement and economic development.

#### 5. Conclusion

At present, the world has listed environmental issues as the primary maintenance task of national development, and China's environmental problems are emerging in an endless stream. Therefore, as a part of China's current urgent need to improve, there are still some problems, such as inaccurate object of establishment, narrow scope of collection, single type of environmental tax, imperfect preferential system and so on. Therefore, China should learn from the successful experience of foreign countries, improve the existing environmental tax law system, clarify the tax payers and their legal responsibilities, expand the scope of levy, and gradually become the main source of pollution and the use of pollutants and resources into the tax object category; We will improve tax collection and management and preferential tax policies, flexibly adjust tax rates according to actual conditions, so that environmental governance can be adequately funded, and force enterprises to internalize the external costs of pollution and eliminate enterprises with high energy consumption and high pollution. Through the environmental protection tax law, all economic entities are urged to take the initiative to protect the environment and save resources, so as to achieve the goal of promoting the construction of ecological civilization.

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