

Analysis of Problem of “Green Tax System” in China

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Abstract—Based on the source of the "green tax system", according to the relevant concepts and theories of "green tax", this paper analyzed the development and current situation of China's "green tax system", finding the problems of China's "green tax system". It is pointed out that China should expand the scope of taxation and adopt the method of "Internet plus tax" to cultivate taxpayers' green awareness. It is hoped that all of the measures will contribute to tax collection and management.

Keywords—Green Tax System; Tax System; Ecological Benefits

I. INTRODUCTION

Since the reform and opening up, China has made unprecedented achievements in economic construction, and has faced the challenge that the environmental carrying capacity tends to be the upper limit, along with the unsustainability of the high-input, high-output, high-energy-consumption and high-pollution economic growth methods. Thus, green growth has become an inevitable development trend, based on which, the *Opinions of the Central Committee of the Communist Party of China and the State Council on Accelerating the Construction of Ecological Civilization* (April 25, 2015) pointed out that accelerating the construction of ecological civilization is an inherent requirement for accelerating the transformation of economic development mode and improving the quality and efficiency of development. As one of a series of environmental policies enacted by the government, taxation can promote green growth effectively. However, the green level of China's taxation system, compared with that in developed countries, is relatively low. The green tax structure with turnover tax, income tax and environmental tax has not yet formed, without complete system for regulating environmental protection and resource conservation. In view of this, starting with the emergence of the "green tax system", this paper analyzes the current green tax system in China, thus revealing the problems involved in the current green tax system in China, and making recommendations on China's green tax system in light of China's specific national conditions.

II. THEORY AND HYPOTHESES

A. The Concept and Connotation of "Green Tax"

Also known as an ecological taxation system, the green taxation system is a general term of various taxation systems levied by a country to achieve specific ecological

environmental objectives, raise ecological and environmental protection funds, and regulate the corresponding behaviors of some specific individuals [1]. The current academic understanding of "green tax", based on different research perspectives, mainly has three views, including, narrow green tax, middle green tax and broad green tax. More specifically, the narrow sense of green tax, known as the traditional sense of environmental protection tax, is mainly a special tax levied by the state to limit the scope of environmental pollution, reduce the degree of environmental pollution, and guide the economic entities that cause environmental pollution. Middle green tax refers to a form of tax levied or remitted by the state on all units and individuals who utilize the environment and develop natural resources according to the exploitation intensity, resources and environment utilization and the environmental damage degree. Besides, covering two main types of tax, natural resources and environmental protection, it is specifically designed as a consumption tax. Referring to various taxes and tax purposes related to rational exploitation of resources and effective protection of the environment in the tax system, generalized green tax, on the one hand, includes environmental pollution tax, natural resources tax, consumption tax, enterprise income tax and other taxes; on the other hand, it includes tax-collecting funds to achieve the purpose of resources and environment, as well as other tax means of the government to influence the nature and scale of economic activities related to resources and the environment.

B. Related Theory

1) Pigouvian Taxes Theory

Pigou, a British economist, is the first person who began to study the theoretical issues concerning environment and taxation. He pointed out in his representative work *Welfare Economics* theory of the appropriate allocation of social resources. More specifically, the theory illustrated that when the marginal private net output value of a factor of production equals its marginal social net output value, then this factor of production will have different production uses [2]. Generally speaking, the net output value of the marginal society is equal. To make the best use of resources in society, only when the marginal production cost of all factors of production consumed by the product equals to its selling price can the marginal production cost be realized. Therefore, it is essential for the government to participate in the market mechanism and adopt measures, such as taxation or tax payment, to make

adjustments. In fact, the negotiations between the government on behalf of the injured party and the polluters can help explain the occurrence of the Pigouvian tax. It is a trading system, an institutional choice for saving transaction costs in the case where the injured party negotiates with the polluter market in terms of expensive transactions.

2) Double Dividend Theory

In 1991, Pires first proposed the concept of “double dividend”, believing that the government might conduct a fiscal neutral carbon tax reform to reduce the tax burden of incentives, such as income tax by using the income of environmental taxes. That is, the government, when levying taxes on environmentally harmful activities (such as energy taxes or environmental protection taxes), should adhere to the principle of income neutrality and use the income to reduce income tax activities, thereby not only inhibiting environmental pollution, but also stimulating employment and investment, as well as improving economic efficiency and winning double dividends.

III. THE REFORM AND DEVELOPMENT OF CHINA'S "GREEN TAX SYSTEM"

The green tax system, guided by environmental protection and the sustainable use of resources, is the process of “greening” the tax system. Particularly, the coordinated and sustainable development of resources, environment and economy can be realized through levying green taxes under the guidance of green tax policies [3]. Besides, “environment-related taxation”, a concept similar to the “green tax system”, is defined by the Organization for Economic Co-operation and Development (OECD) as being “compulsory, unpaid and general” and imposed by the government on tax bases associated with specific environments."

China's tax system greening involves three stages of development. The first stage (reform and opening-up to 2013) centered on economic construction, focusing on high-speed economic growth, highlighting the role of Taxation in promoting regional and industrial development, thus attracting investment and other aspects; In the second stage (2003-2012), guided by the scientific outlook on development, the role of Taxation in guiding environmental protection policies was strengthened, along with the gradual adjustment of the original tax system; The third stage (from 2012 to now) aims to build a "beautiful China" and promote ecological civilization as well as greening to meet the standard of national governance, along with adjustment of the existing tax system and policies with a green orientation.

IV. CURRENT SITUATION OF "GREEN TAX SYSTEM" IN CHINA

A. Tax system level

Greening at the taxation level refers to the introduction of green standards that can be conducive to environmental protection in the design of taxation elements, based mainly on taxation. It can be exemplified by the vehicle and vessel tax, the system arrangement for the taxation of automobile displacement and the addition of battery and paint tax items in the consumption tax. In economic activities, pollutants

emission and destruction of the ecological environment can be found from resource extraction to the production and consumption of products. Some taxes, as shown in TABLE I, also play a prominent role in green regulation in different links.

TABLE I. THE EMBODIMENT OF ENVIRONMENTAL PROTECTION FUNCTION OF TAXES UNDER "GREEN TAX SYSTEM"

Pollution Generation Link	Tax Category	Content
Resource Exploitation or Land Use Link	Resource tax	Mineral products, salts, sandstones, etc.
	Land occupation tax	Woodland, grassland, farmland water utilization, aquaculture water surface, etc.
	Urban land use tax	Provisions on the exemption from urban land use tax for abandoned land
Use of raw materials or production links	Excise tax	Firecrackers, fireworks, finished oil, wooden disposable chopsticks, solid wood flooring, cars, batteries, paints
Product Consumption and Use Links	Vehicle and Vessel Use Tax	Taking the exhaust volume of passenger cars and net tonnage of ships as the basis of Taxation
	Auto-purchase tax	Units and individuals purchasing prescribed vehicles in China shall be levied; small-displacement vehicles shall be reduced in a certain proportion.
Comprehensive	Environmental protection tax	Air pollutants, water pollutants, fixed wastes and noise are the objects of taxation, and emissions serve as the basis of taxation.

Information comes from self-organizing

B. Policy level.

In addition to taxes for protecting environment, China has also issued a number of preferential policies with ecological benefits, with a brief summary of these preferential policies as follows:

1) Resource tax

In 2016, the resource tax reform strengthened the preferential policy management of mineral resources taxation. Among the mineral resources, the resource tax for the eligible filling method is reduced by 50%, and that for the mineral resources eligible for mining in the depleted period is reduced by 30%.

2) VAT and corporate income tax

These two taxes show some "green" signs to varying degrees. In terms of value-added tax, firstly, relevant VAT concessions are available to encourage enterprises to invest in environmental protection equipment and low-carbon energy-saving technology innovation. VAT will be reduced by half for some new wall materials as energy-saving building materials. Secondly, the value-added tax is exempted for building materials products mixed with coal gangue, stone coal, fly ash and bottom slag (excluding blast furnace water slag) of coal-fired boilers with no less than 30% of the raw materials produced by enterprises. Finally, the value-added tax will be

reduced by half in the comprehensive utilization of power generation, such as coal gangue, slime and coal-bearing associated oil shale.

In terms of enterprise income tax, income from qualified environmental protection, energy-saving and water-saving projects (such as environmental protection, energy-saving and water-saving projects, including public sewage treatment, public garbage treatment, comprehensive development and utilization of biogas, technical transformation of energy saving and emission reduction, seawater desalination, etc.) shall be paid in the tax year in which the project obtains the first production and operation income. Enterprise income tax will be exempted from the first year to the third year and reduced by half from the fourth year to the sixth year.

C. Tariff

The green policy in China's tariffs is mainly reflected in the export tariff rate. For example, the state only imposes export tariffs on a small number of resource-based products, or those products with high cost, high pollution, high-energy consumption and easy competition, and blindly imported and semi-manufactured products whose export order needs to be regulated, fully reflecting the role played by tariffs on regulating green environmental protection. In addition, the policy concerning tax reduction and the exemption for specific industries or uses also reflects "green", such as exemption for import tariffs and value-added tax on import links to support oil and gas exploitation operations in specific areas of China's oceans and land.

D. Problems in China's "Green Tax System"

1) Concept level

The current green tax system is not clearly defined in China, and China has paid insufficient attention to environmental protection issues within a relatively long period after the reform and opening up. Apart from organizing income functions, for tax regulation, more emphasis is laid on how to promote economic development, without sufficient understanding of the importance of constructing a green tax system. Over recent years, with the gradual establishment of the scientific concept of development, China has increasingly attached importance to environmental protection issues, along with the successive introduction of a series of tax policy measures by the tax authorities to promote environmental protection and resource conservation, but overall it is still based on the original tax system. "Patching", a tax system, has not yet adopted "greening" as a clear concept and goal, and taxation remains to be in a position of "passive coping" rather than "active lead" for environmental protection.

2) Tax system level

It includes the environmental protection tax. As China's first "green tax law", the Environmental Protection Tax Law presents three major innovations in tax system design: scientifically defining the scope of tax collection to maintain tax burden stability, reasonably determining income ownership to enhance local financial resources, and highly strengthening departmental synergy to improve tax collection and management efficiency. It aims to promote economic growth

transformation by strengthening the environmental protection tax policy function and internalizing the environmental pollution costs of enterprises [4]. However, the following problems still exist:

However, the scope of taxation is too narrow. More specifically, the tax collection targets specified in the draft for comment include air pollutants, water pollutants, solid waste and noise. They are a continuation of the object of collecting sewage charges, essentially, the taxation of sewage discharges, or tax, more accurately. The scope of the collection of environmental protection tax should include sewage discharge, products that may cause pollution to resources and the ecological environment. Because an extremely narrow taxation scope will seriously restrict the effect of environmental protection tax.

The carbon tax is lacking. Efforts to reduce carbon dioxide emissions have become the consensus of the international community, but it is still controversial in China over whether to levy a carbon tax. The focus of the dispute is on two approaches to addressing the carbon emissions problem, that is, carbon emissions trading and carbon taxation. In 2016, China launched a national unified carbon emission trading market. The cost and effect of carbon emission trading and carbon tax policy are superior and inferior, but are they completely opposite and not parallel? Shi Minjun et al. [5] found that a composite policy combining carbon emission trading with moderate carbon tax can not only control the cost of abatement but also ensure the achievement of emission reduction targets. Therefore, the establishment of the carbon emission trading market does not affect the carbon tax levy, and the lack of carbon tax will inevitably affect the emission and reduction effect of carbon dioxide.

3) Resource tax

Resource tax reform can effectively promote the transformation of enterprise production model as well as sustainable economic growth. However, China's current resource tax, limited to crude oil, coal, natural gas, non-ferrous metal ores, ferrous metal ores, other single metal ores and salts, is actually a "partial collection", while some renewable resources, such as forestry, grassland and ocean, are excluded. Consequently, these untaxed natural resources are overused for free. Failure to internalize the external cost of exploitation will result in an unfair tax burden between the use of taxable resources and that of non-taxable resources. Therefore, the scope of resource tax collection should be gradually expanded in resource tax reform according to the scarcity and difficulty of specific resources.

V. CONCLUSION

In summary, this paper argues that the following points should be optimized in China's "green tax system".

For the environmental protection tax, please refer to the experience of countries and regions with relatively mature environmental protection tax laws and regulations in the OECD and the research report and data analysis of the European Environment Agency to innovate China's environmental protection tax legal system and refine the scope of taxation.

In response to resource tax, China should shift from adjusting the differential income to guiding the rational use of resources [6]. First, the tax rate structure should be adjusted based on the environmental costs of the resources being mined. On the one hand, it aims to increase the tax rate of some resource tax items, more particularly, to impose heavy taxes on non-renewable, irreplaceable and scarce resources; on the other hand, it hopes to impose differential tax rates on the same item resources with different environmental impacts due to their differences in conditions such as regions, so as to better reflect the institutional orientation of ecological and environmental protection. Secondly, based on the experience in provincial, pilot projects on important resources such as water, forests, pastures, tidal flats and geothermal, it will be promoted nationwide to broaden the scope of taxation and to promote the rational use of various natural resources.

Finally, what is important is that in the new era, China should use the "Internet + tax" as a starting point to cultivate the taxpayer's green awareness, thus improving the level of tax collection and management which can largely determine whether the tax policy can well be implemented. For example, collection link of the consumption tax shifts from the production link to the retail and wholesale links, thus putting higher requirements on the level of collection and management. The key to the incentive green tax system lies in the identification of whether the preferential tax policy matches the

real situation of taxpayers, which needs more symmetrical information between the two sides as the basis. The level of collection and management can be improved from two aspects: one is to cultivate taxpayers' awareness and improve compliance; the other is to obtain more comprehensive information and grasp more effective means.

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