

An analysis on the system reforming in China: from pollution charge to pollution tax

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Abstract: *In this essay, the author analyzes the reforming form the pollution charge system to the pollution tax system from the necessity and feasibility. The first part of the essay talks about the necessity of the reforming. In this part, the author takes Shanxi province in China as an example to clarify the necessity, where the drawbacks of the pollution charge systems are displayed, and the merits of the pollution tax system are proposed. In the second part of the essay, the author analyses the feasibility of the reforming from three aspects: policy, law, reality separately. Finally, the author refers to several countries where the pollution tax is carried out successfully. By the discussion in this essay and the comparison of the practice with other countries, the author draws his conclusion and gives his advice on the future development of the pollution tax in China.*

Keywords: *tax reforming, pollution charge, pollution tax*

1. Introduction

At present, with the continuous development of the economy in China, environmental problems have become increasingly prominent, and the trend of environmental deterioration has not been fundamentally alleviated. Most cities are suffering from severe smog, and water pollution in some key sea areas and river basins is prominent, which means the discharge of major pollutants has exceeded the carrying capacity of the environment. We have to realize that environmental problems not only affect the health of the public but also have a negative impact on the sustainable development of the economy and society. Compared with pollution charge, the pollution tax is a more powerful legal method to protect the environment. Therefore, in 2008, China has started its reforming from the pollution charge to the pollution tax. Since the implementation of the pollution charge, it was undeniable that this charging system played a positive role in controlling pollution discharge and raising funds for environmental protection. But with the continuous implementation of the pollution charge system and the development of the economy and society, the defects and deficiencies of this system are constantly exposed. The report of the 18th National Congress of the Communist Party of China pointed out that we should accelerate the construction of fiscal and tax policies conducive to saving resources and environmental protection, actively promote the reforming from pollution charge to pollution tax and study how to levy taxes for environmental protection. Furthermore, the Third Plenary Session of the 18th CPC Central Committee clearly proposed to deepen the reform from pollution charge to pollution tax. In this context, China is speeding up the legislative work of environmental protection tax. The first step is to change the pollution charge to pollution tax and levy some tax items in some areas. Then, this pollution tax can be gradually levied on other areas and tax items. Therefore, a conclusion can be drawn that the reforming from pollution charge to pollution tax is an inevitable tendency.

In this essay, I will analyze the reforming of pollution charge to pollution tax in China from three aspects. In the first section, I would like to talk about the necessity of reforming, taking Shanxi, a province in China, for example. This is based on the fact that Shanxi is a typical industrial city in China whose leading industries are coal mining, metallurgy, coke, chemical industry and electric power. Therefore, it has formed an industrial pattern characterized by high pollution, high energy consumption, high emission and excessive reliance on resources, which has had a serious impact on the ecological environment and production safety. In this section, I will refer to three points, including the analysis on the current situation of pollution charge in Shanxi, the problem existing in the pollution charge system and analysis of the reasons and finally the advantages of the reforming from pollution charge to pollution tax. The second part of the essay addresses the problem on feasibility. In this section, I will clarify why we have met the conditions of this reform from three points: policy level, legal level, and reality level. In the third section,

I will refer to some practical experience from other countries where the reforming from pollution charge to pollution fee has been taken and analyze what can be learned from them. Finally, I will draw a conclusion based on what I have discussed above and try to give some suggestions on reforming in China.

2. The necessity of the reforming

2.1 *The analysis of the current pollution charge system*

Firstly, I will give an analysis on the income and expenditure scale of the pollution charge when it comes to the income of the pollution charge. According to the statistics released by the Shanxi government, since 2004, the income of pollution charge in Shanxi province has fluctuated, increasing from 610 million yuan in 2004 to 2.51 billion yuan in 2007 with an increase of 209.75% and then decreasing from 2.51 billion yuan in 2007 to 1.49 billion yuan in 2010 with a decrease of 40.75%. After that, it increased by 17.98% compared with 2010 in 2011 but decreased by 23.08% in 2012. But it still increased by 114.7% compared with 2004 in 2012. Therefore, the income of the pollution charge in Shanxi fluctuated greatly, and the overall trend was to rise first and then sharply decline, which was mainly affected by two factors: first, it was affected by economic fluctuations. In 2008, due to the financial crisis, traditional industries such as coke, coal, electricity, and metallurgy in Shanxi began to decline first, and the growth rate of economic development slowed down significantly. Prices of major industrial products fell rapidly, and enterprises faced great difficulties in production and operation. Although the economic situation improved from 2009 to 2011, with the emergence of problems such as the national economic downturn since 2012, the negative impact on the collection of pollution charges was still obvious. Second, it was affected by the environmental protection policies in Shanxi. Since the 11th Five-Year Plan, thousands of enterprises or facilities have been eliminated, and counties and districts with prominent environmental problems have been centrally remedied. Therefore, the amount of pollution discharged was greatly reduced, which was reflected in the collection of pollution charges, namely the reduction of income from pollution charges. Simultaneously, by comparing the growth rate of pollution charge with that of GDP, it can be seen that since 2005, the growth rate of pollution charge income in Shanxi was almost the same as the GDP growth trend of the province. For example, there was a trough of GDP growth rate in 2009, which was only 0.59%, and it was exactly the trough of pollution charge income growth rate which was -34.8% because of the American subprime mortgage crisis in 2009. In 2010, in order to reduce the adverse impact of the global economy, Shanxi increased the investment and greatly improved the economic structure, which made the economy prevail again. In 2012, the economy grew by 7.8% on a month-on-month basis. Although the growth rate slowed down, the economic development was relatively stable. The fluctuation trend of pollution charge income during this period was similar to that of GDP in this area. Therefore, it can be seen that the growth rate of GDP has a great impact on the growth rate of pollution charge income. As for the expenditure situation of pollution charge, data from 2004 to 2008 showed that there was a positive correlation between the expenditure of pollution charge and the income of pollution charge in Shanxi during this period. As the income of pollution charge was a special fund for environmental protection, it should be used exclusively for the purpose. Therefore, in Shanxi from 2004 to 2008, the income from pollution charge was basically used for pollution charge expenditure, that is, pollution treatment. The proportion of pollution charge expenditure in pollution charge income increased from 78.26% in 2004 to 98.03% in 2008 with an increase of 25.27%, which guaranteed the correctness of the use of pollution charge and complied with the standard of pollution charge management.

Secondly, I will analyze the structure of pollution charge income from three angles. First, by regional classification structure. According to the documents from Shanxi Provincial Environmental Protection Department, in 2013, Shanxi collected 1.035 billion yuan for pollution charge, which was transferred to 9793 households, among whom 6118 were key pollutant discharging units. The amount of money transferred was 1.01 billion yuan, accounting for 96.59% of the total. Apart from that, 26.32 million yuan were given to small tertiary industries, 8.29 million yuan to construction units, 1.64 million to the sewage treatment plant, and 460,000 yuan to the solid waste disposal site. The provincial, municipal and county-level distributive pollution charge fees were 106.2197 million yuan, 392.6827 million yuan and 536.7589 million yuan, respectively, accounting for 10.26%, 37.92%, and 51.82% of the provincial income of pollution charge separately. Second, by pollution classification structure. According to Shanxi Provincial Environmental Protection Department, the pollution charge in Shanxi was mainly from air pollution, which was 1,053,019,800 yuan. The main charging factors were nitrogen oxides, general dust, sulfur dioxide, industrial dust and smoke dust in descending order. Additionally, the sewage discharge fee was 37.0917 million yuan, and the water pollution discharge fee was 37.099 million yuan. The main pollution

factors were COD, suspended solids (SS), petroleum, ammonia nitrogen and PH value. Third, by industry classification structure. In 2013, the industries charged by Shanxi were mainly concentrated in coal, coking, thermal power generation, steel, chemical industry, cement and other industries with high energy consumption and high pollution, which was closely related to the provincial situation of Shanxi as a base of energy and heavy chemical industry. In 2013, 182 households were collected the pollution charge for coke production, and the pollution charge for storage was 477.1253 million yuan. Except the coking industry, the thermal power industry in the province paid the most pollution charge, a total of 130 households, 361.64 million yuan, of which, the provincial level of sulfur dioxide emission fees of 106.22 million yuan, accounting for 29.37%. Apart from that, 1,432 households were collected pollution charges for coal mining, and the amount of storage was 312.19 million yuan.

Thirdly, I will analyze the collection and management system for pollution charge. At present, restricted by hardware facilities such as monitoring stations and monitoring equipment and software conditions such as the quality and technology of monitoring personnel, the monitoring intensity and ability of environmental supervision departments are still far from the requirements of collection and management. Among them, the first-level and second-level monitoring stations are not able to fully carry out monitoring tasks, resulting in weak monitoring intensity. The third-level monitoring stations are relatively deficient in personnel, equipment and technology for environmental monitoring, and their monitoring capacity is obviously insufficient. The above elements impose a negative impact on the collection of the pollution charge, resulting in the deterioration of the quality of the monitoring work of pollution charge. Therefore, it becomes difficult to fully collect pollution charges. In Shanxi province, where pollution charges are collected by environmental monitoring authorities, 92 (77%) county-level environmental monitoring stations failed to pass the standardized inspection in 2013. Furthermore, 48 county-level environmental monitoring stations (41.5%) have not passed the metrology certification. And, The laboratory space of 6 (50%) provincial and municipal monitoring institutions and 93 (74.8%) county monitoring institutions did not reach the standard, which seriously restricted the verification and monitoring of the emission of taxable pollutants in the province.

2.2 The analysis of the problems existing in the pollution charge system

As an important environmental and economic policy, pollution charge plays an active role in raising funds for pollution treatment and restricting pollutant discharge of enterprises. However, with the continuous deterioration of environmental quality, there are still defects and deficiencies in environmental protection for pollution charge system, mainly as follows:

Firstly, it is the conflicting and unclear goal of the legislation. When it comes to conflicting of the legislation, the current Regulations on the Administration of Collecting and Using of Pollution Charge (Regulations) is an administrative regulation promulgated by the State Council, which has no clear basis of a superior law, resulting in the lack of legal basis, which is not conducive to its implementation. In addition, the Regulations mentioned above conflict with other relevant laws. For example, there is a distinguishing difference about the regulation on the charging scale of solid waste disposal between Regulations and Solid Waste Pollution Prevention Law. The Regulations show that only in the presence of the following three conditions, pollution charge should be collected: first, the places or facilities where solid waste is disposed or stored cannot meet the environmental protection standard; second, those who do not construct the places to dispose or store industrial solid waste will be charged; third, the way to dispose of hazardous waste is to landfill. However, the construction of industrial solid waste disposal or storage places and facilities is a mandatory rule in the Solid Waste Pollution Prevention Law. Therefore, those who do not construct these places and facilities should be responsible for the violation of the law rather than just pay the pollution charge. Hence, the existing Regulations have the problem of conflicting legislation. Regarding the unclear goal of the legislation, the purpose of the legislation is simply stated as "To strengthen the administration of the collection and use of pollution charge", which does not reflect the real purpose of pollution charge in the text, that is, the legislative intention is not clear.

Secondly, the contents of the system are not reasonable enough with four main problems including low collecting standard of pollution charge, fixed standard of charge, narrow range of collection and a lack of compulsion in the levy. Take a charge on sulfur dioxide emissions for example. Now, In China, the rate of charge for sulfur dioxide emission is only 0.63 yuan per kilogram, but the average management cost of desulfurization in enterprises is 4-6 yuan per kilogram. Therefore, some enterprises have calculated that they still have profit after the subtraction of the pollution charge caused by over emission, which accounts for why so many enterprises are willing to choose to pay pollution charge rather than to improve the technology to reduce the discharge of pollutants or control pollution. Additionally, compared with pollution tax that is more powerful and compulsory, the pollution charge system is made by the

State Council in China, which is an administrative regulation in essence. Hence, in the process of collection, it is difficult to collect with low efficiency of collection.

Thirdly, the collection management ability of pollution charge is quite weak, which is mainly manifested in three aspects. First, the monitoring capacity of the monitoring stations is not strong. The main evidence is that the first and second-level monitoring stations cannot fully carry out the monitoring task, resulting in weak monitoring intensity. And the third-level monitoring stations are relatively short of environmental monitoring personnel, equipment, technology, which obviously leads to a lack of monitoring capacity that is not conducive to the collection of pollution charge.

2.3 The analysis of the reasons for the problem of pollution charge system

Firstly, it is a legal deficiency. At present, there is a legal deficiency in the pollution charge system in China. Its main manifestation is as follows: first, there is no upper law as the basis of lower law, and there are conflicts and inconsistencies between upper and lower law, which will lead to the implementation of a pollution charge system without basis or basis of self-contradiction. Second, the law does not make clear provisions on the normative object and normative subject. The absence of local legislative power is the manifestation of the absence of normative subjects. For example, when a new tax source appears, laws and regulations stipulate that there is no levy for this new tax source, which makes the local government have no right to legislate for the new tax source. Third, legal changes lag behind the emergence of new pollution phenomena. Namely, after the emergence of new pollutant emission sources, there is no specific law to restrain and regulate them. All these are due to the lack of legal aspects. Without legal norms and constraints, the system of pollution charges is difficult to get a good implementation.

Secondly, it is driven by the interests of local governments and enterprises. The collection of pollution charge is an economic means adopted by the government to coordinate the relations between the environment, economy and society and to protect the environment. The collection of pollution charges may lead to the reduction of profits of some large and medium-sized industrial enterprises, which may adjust their output results, thus affecting the economy. Due to the interest demands such as the view of performance and the growth of GDP, local governments often ignore environmental issues and even believe that excessive attention to the environment will hinder the development of the local economy, thus forming local protection for large and medium-sized industrial enterprises and resulting in insufficient power to collect pollution charges.

Thirdly, it is due to the lack of monitoring technologies. It is difficult for environmental protection and other departments to accurately and comprehensively obtain the quantity and types of pollutants discharged during the period when the pollution charge is levied. Many polluting enterprises either do not install the automatic monitoring instruments for pollutants that the country forces them to install, or they install them but do not use them, or they only use them symbolically when the environmental authorities come, which results in the difficulty of obtaining the actual pollution emission data and the irregularities in the collection procedure of pollution charge. The collection stage of pollution charge is closely related to its verification stage. The undeveloped monitoring technology leads to the fact that the monitored data cannot be actually obtained, which leads to rent-seeking or negotiated pricing phenomenon. Polluters negotiate with environmental protection authorities on the number of pollutants discharged and use the result of the negotiation as the basis for the collection of the pollution charge, which may lead to an insufficient collection of pollution charge

2.4 The benefits of the reforming from pollution charge to pollution tax

The reason why pollution tax must be applied to take the place of the pollution charge comes from its superiority. Taxes are imposed by the state on other subjects for the purpose of fulfilling its functions, featured as compulsory, free and fixed. First of all, the state relies on its coercive power to regulate the behavior of pollutant discharge. As a "public good" with strong public character, the environment must be managed by the state, so the form of pollution tax reflects the will power of the state. Secondly, national taxation is not bi-business and does not need to pay any cost for it. Finally, the method and amount of pollution tax are fixed by the form of tax law, and there is no arbitrariness. If the tax is levied arbitrarily on taxpayers, it will greatly increase the difficulty of tax collection, not to mention the effective management of the environment.

3. The feasibility of the reforming

There are three main reasons why the reforming from pollution charge to pollution tax can be processed in China at present including conditions at the policy level, at the legal level and at the realistic level.

Firstly, when it comes to conditions at the policy level, at its third meeting in 1994, the China Committee for Environment and Development Cooperation proposed to strengthen environmental monitoring, establish a complete environmental quality work, actively implement clean technologies, and adopt such economic means as pollution charge, environmental tax and emission trading. In the Eleventh Five-Year Plan issued by the state in 2006, the energy consumption per unit of GDP will be reduced by 20 percent in 2010, the total chemical oxygen demand will be reduced by 10 percent in 2010, and sulfur dioxide emissions will be reduced by 10 percent in 2010. The report to the 18th National Congress of the Communist Party of China (CPC) in 2012 put forward that environmental protection and resource conservation should be regarded as a basic state policy, and a five-sphere integrated plan should be established for promoting economic, political, social, cultural and ecological progress. The Third Plenary Session of the 18th CPC Central Committee in 2013 clearly pointed out that one of the main tasks of deepening tax reform is to levy environmental protection tax. This not only shows that the levying of pollutant discharge tax has received the attention of the leadership but also provides firm policy support for the reforming from pollution charge to pollution tax.

Secondly, regarding conditions at the legal level, since the reform and opening up, China has successively filed many relevant laws such as "environmental protection law", "air pollution prevention and control law", "water pollution prevention and control law", "solid waste pollution prevention and control law". The enactment and implementation of these laws provide a solid legal basis for the levy of pollution tax. Especially since 2014, with the continuous advancement of the reform of the new Fiscal and Tax Law, it has provided a favorable environment and opportunity for the introduction of environmental protection tax, especially the pollution tax, and also provided conditions for the central and local governments to implement the reforming from charge to tax.

Thirdly, as for conditions at the realistic level, since reform and opening up, with the development of economy and environmental protection, many positive conditions have been provided in reality in China, including the levy practical experience of pollution charge, the strengthening of environmental awareness, the development of environmental protection cause and the unity of political and academic opinions.

4. The experience of pollution tax in foreign countries and its enlightenment to China

Firstly, starting from a single tax and gradually forming a system. When making pollution tax, foreign countries tend to set up separate tax for different categories of pollutants. These types of taxes on pollution treatment connect with each other and form a large system in the process of pollution control, which leads to comprehensive pollution control. This system is targeted and comprehensive, which can also be adjusted according to different situations in the country and can be deepened step by step.

Secondly, different taxes position different functions. In foreign countries, different pollutions will be levied different taxes such as water pollution tax, air pollution tax, solid waste tax and noise tax, the function of which is also different. Every tax has its own special management object and management methods, which can be flexibly designed according to the specific circumstance of different countries in order to better achieve the function of every single tax.

Thirdly, coordinating with economic policy. When controlling pollution in foreign countries, pollution tax is taken as the leading and used in coordination with economic policies. Pollution tax is a widely used means of pollution control in the world at present, but the pollution problem is not only an environmental problem but also an economic and social problem. Therefore, it is difficult to effectively solve the pollution problem only by operating the pollution tax alone. Only when it is connected with the economic policy and guided and coordinated by the economic policy can the pollution tax play a better role.

Fourthly, the level of tax burden is suitable. Generally speaking, the tax level of developed countries is relatively low. If the tax rate is raised and the pollution tax is levied on the existing tax burden of taxpayers, the high tax rate will increase the economic pressure of enterprises, and this pressure will be transformed into the innovation force of enterprises. However, in order to make it easy for taxpayers to accept and achieve the aim of pollution control, a country should take a comprehensive consideration

when implementing a tax and adjust the balance between tax types appropriately so as to exert pressure on polluters and avoid the opposite effect.

5. Conclusion

To draw a conclusion, based on what I have discussed above, the pollution tax system is absolutely superior to the pollution charge system. Therefore, reforming from pollution charge to pollution fee is inevitable in order to achieve the goal of environmental protection. However, when making this reform, we must pay attention that firstly we should take the national condition of China into consideration when designing the new pollution tax system. Simultaneously, we should also optimize the industrial structure and find out an appropriate tax rate for the pollution tax.

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