Reflection on the Reform of the Tax System of Vehicle Purchase Tax

-- Pollution Prevention and Control based on the Beijing-Tianjin-Hebei Region

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Abstract

Since the reform and opening up, most parts of China have neglected the problem of environmental pollution while promoting the rapid economic development, especially in the Beijing-Tianjin-Hebei region. Environmental pollution in The Beijing-Tianjin-Hebei region has become the biggest problem that restricts the sustainable economic development in the region. In the process of solving environmental pollution, different means of governance will exert varying degrees of influence on the reform and development of fiscal and taxation policies, which will further adjust and improve the reform of fiscal and taxation policies. Based on the pollution prevention and control in Beijing-Tianjin-Hebei region and the panel data of Beijing-Tianjin-Hebei region from 2008 to 2017, this paper proposes reform Suggestions on the current collection of vehicle purchase tax.

Keywords

Vehicle purchase tax, Environmental governance, Tax system optimization, Collaborative development.

1. Introduction

With the rapid development of the world economy, the negative impact behind the rapid development is becoming increasingly prominent, and environmental issues have gradually become global issues, such as air pollution, depletion of non-renewable resources, and imbalance of regional ecosystem. Countries have begun to upgrade their focus from economic development to ecological economic development. In the process of ecological economic construction, all countries are trying to find an effective way to attach equal importance to economic development and environmental protection, and strive to combine ecological protection, economic development and tax system construction as the best balance point. The status of ecological tax system in the tax system is increasing, which means that China's ecological civilization construction has a long way to go.

"Ecological tax" is our party puts forward "ecological China" in the eighteenth big important measures, for the construction of "ecological" China to join the new factors, in order to improve the ecosystem restoration and regeneration, consummates our country existing ecological regulation, closely around the "construction of ecological civilization" requirement, build an ecological tax system is extremely important. In the 19th National Congress of the Communist Party of China's exposition on the building of a modern socialist country, the building of a "beautiful China" was for the first time taken as an important goal, environmental protection was elevated to a new height, and pollution prevention and control was listed as one of the three key battles in the next three years. Meanwhile, the country's latest vehicle purchase tax will take effect on July 1, 2019.It can be predicted that for a long time in the future, China will be committed to pollution prevention and control, more detailed classification of pollution, more targeted in the prevention and control process, and gradually replace the means based on administrative governance with the means based on market governance, to build a long-term efficient mechanism for pollution prevention and control. Therefore, the purpose of this paper is to discuss the existing problems in China's vehicle purchase tax system, and further provide effective Suggestions for the improvement of China's ecological green tax system.

2. Concepts and theoretical basis of vehicle purchase tax

2.1 Overview of vehicle purchase tax

2.1.1. The history of vehicle purchase tax

China's vehicle purchase tax can be traced back to May 1, 1985, when the Ministry of Communications promulgated the Measures for Collection of Vehicle Purchase Surcharge, stipulating that additional fees should be levied on newly acquired and used vehicles. This fee originally existed as a government-managed fund for national highway construction, mainly to raise funds for improving transportation infrastructure.

China's first interim regulations on Vehicle purchase Tax was promulgated on October 22, 2000. The tax rate is the same as the proportion of vehicle purchase surcharge, which is 10%.

Promulgated the law of the People's Republic of China on vehicle purchase tax is temporary byelaw "the beginning of the car did not design on favorable terms, in order to promote the development of auto industry in our country, the fiscal and taxation in 2009 12 the regulation:" buy 1.6 liters and under displacement passenger cars from January 20, 2009 to December 31, collect the vehicle purchase tax shall be levied at the reduced tax rate of 5% for the time being." Fiscal tax 2009 no. 154 document: "when purchasing a passenger car with engine capacity of 1.6 liters or less, from January 1 solstice on December 31, 2010, when collecting vehicle purchase tax, the tax rate is temporarily reduced by 7.5%."Although this is only a periodic tax relief, but can not deny its role in promoting the development of China's automobile industry.

On December 29, 2018, the interim regulations on the original vehicle purchase tax repeal, marks another big change of vehicle purchase tax in our country, has been canceled for farm transporter of vehicle purchase tax, at the same time limit the specific tax scope of traction and the motorcycle, in addition to tax, vehicle purchase tax and value-added tax further closely linked, will produce their own taxable vehicle vehicle purchase tax by the lowest price is modified to the similar tax price of original, agree with VAT, enhancing the coordination of the existing tax system in our country.

2.1.2. The nature and characteristics of vehicle purchase tax

From the historical evolution of vehicle purchase tax, it can be seen that this tax was mainly created to raise necessary funds for construction, but this purpose has a specific historical background. If the role of vehicle purchase tax is also defined as raising necessary funds for construction today, the scope of role of vehicle purchase tax is too limited. Especially at present, the population has reached a historical high level, people's living standard has been improved, the demand for cars is increasing day by day, along with the increasingly serious environmental problems, the environmental protection function of vehicle purchase tax should be paid attention to.

The vehicle purchase tax has four main features. First, the tax is simple. The vehicle purchase tax is only levied once in the acquisition of a new car for personal use. Second, the single tax rate and the single 10% tax rate of car purchase tax have little distorting effect on the optimal decision of taxpayers and can better maintain tax neutrality. Third, it is difficult to transfer the tax burden. The vehicle purchase tax is clearly stipulated to be levied on the party who obtains the tax for its own use. The object of levy is clear, and the taxpayer is the person who is responsible for the tax, so the possibility of tax transfer is low. Fourth, it has a specific purpose and a special purpose, mainly to raise funds for transportation infrastructure. Thirty years later, this purpose still exists. The revenue from this tax system is mainly arranged by the central finance according to the national transportation construction investment plan.

2.2 Government's environmental protection measures

2.2.1. Direct control

Direct management by the government is mainly to achieve the purpose of environmental protection by setting standards for various environmental indicators and punishing enterprises that fail to meet the standards set by the government. The targets set by the government usually include: environmental targets, technical targets and emission targets.

Environmental indicators refer to the fact that although enterprises produce some pollution in the process of production and operation, as long as the pollution falls within the standard set by the government, it is regarded as reasonable and legal, and will not be punished or pay extra costs accordingly. Under this indicator, the improvement of environmental problems will be very limited, which is equivalent to giving enterprises a part of the pollution quota free of charge and acknowledging its reasonable legitimacy. If environmental monitoring fails, environmental pollution will not be controlled and may even become more serious. At the same time, if the standards set by the indicators are not reasonable, some enterprises which are limited by the current technical level and pollution control level but will have an important positive effect on the economic development in the long run may be excluded, which will have a certain impact on the economic development.

Technical indicators refer to the specific scope of each step of production technology and process in different industries, or even the adoption of government-approved technology and plant means, which do not allow enterprises to make their own choices. Obviously under this standard, although able to accurately for the government guarantees the pollution monitoring and control, but the development of the enterprise will lose character, the vitality of market is unsustainable, and technical indicators are formulated based on the basis of fully aware of all walks of life, at the same time to pay attention to the market situation and the change of new technology and so on, itself feasibility is low.

Emissions indicators and environmental indicators have similarities, differences in indicators are set for specific sources of pollution and emissions, different sources will set different standards, and standards as the change of economic situation and technical level adjustment, under which the enterprise can choose the right means of pollution, with strong autonomy. Few countries have adopted this approach because of the difficulty in determining indicators and standards in direct regulation, the lack of flexibility that often leads to inefficient market operations and the limited effectiveness of pollution control.

2.2.2. The pollution charge system

The core idea of the pollution charge system is: who causes the pollution and who pays for it. In the early days, oecd countries adopted this method of pollution control. Under this system, according to the specified emission standards, the excess part of the payment of the corresponding fee.

The pollution charge system can encourage enterprises to research and develop environmental protection technology, reduce pollution emission and save operating cost through technological innovation. For businesses, if not improved technology, the discharge of pollutants by excessive fees have always exist, it may even be turned into a fixed cost, relative to the other competitors in the same industry, environmental protection technology behind the enterprise production cost will greatly improve because of discharge levy, which make the enterprise does not have advantages in the fierce competition in the industry. In order to achieve long-term development in the market, the best strategy of enterprises should be to increase research and development efforts, strive to achieve clean production to reduce the long-term expected cost; At the same time, the pollutant discharge fees paid by enterprises that exceed the standards can be earmarked for the treatment of environmental pollution or support for the research and development of new technologies, which will have a great positive effect on environmental protection.

Although the sewage charge system has the above two advantages, it still has some defects. First of all, it is difficult to determine the charging standard. How to set the emission charging standard that does not harm the market efficiency but also encourages enterprises to carry out technological innovation has been discussed in the academic circle. At present, there is still no recognized model that can calculate the reasonable standard. Secondly, some specific enterprises have insufficient motivation for pollution control. This part of enterprises mainly refers to those enterprises that can control pollution within the standards set by the government, and their motivation for further research on clean technologies is very low. In addition, the cost of pollution is likely to be passed on to consumers, so that companies' costs are not materially affected and consumers' welfare is reduced.

2.2.3. Emission trading right

A cap-and-trade system is a system under which permits to trade on the market are issued on the basis of limits on the amount of pollution that can be discharged in a specific area under government control. This system has two advantages. From the perspective of the government, it can specify the total amount of pollution that the environment can bear and put it into the market in the form of permits, which will greatly reduce the supervision cost of government departments. In terms of enterprise Angle, the emission trading system, the efficiency of resource allocation will be improved, because different enterprises objectively differences due to the limitation of technology, industry, etc. There are many differences between emission standard, when the discharge of pollutants by permissions can trade, the surplus emission pollution of small businesses can take to sell and get the related compensation, high polluting enterprises by selling into the emission, can expand the scale of production, to a certain extent. In this way, pareto optimality is realized in the market environment, and both sides of the transaction will choose the output to maximize their utility. But the fatal flaw of this system is how the initial emission rights are allocated. The total amount can be determined by the environmental carrying capacity, but the environmental carrying capacity varies from region to region.

2.2.4. Tax instruments

British economist Pigou proposed to control pollution by means of taxation, which is the theoretical basis of tax pollution control recognized by the academic world. By establishing a relevant model to analyze the tax system to adjust environment means the implementation of the process, through tax to regulate private marginal costs and society marginal costs, so that the individual marginal cost equals the social marginal cost, in this condition, the individual in making decisions of utility maximization themselves to the society will also get to maximize utility, and will not bear the additional cost. The core idea of Pigouvian tax is that "externalities can be internalized by means of taxation".

Pollution control through taxation will produce a double dividend. The first is efficiency dividend, that is, a certain amount of fiscal revenue will be obtained through the collection of environmental taxes. When the fiscal revenue reaches the expected level of the government, other distorted taxes can be reduced, thus reducing the distorting effect of the tax system on economic operation. The other is the green dividend, that is, the tax levied on pollution behaviors will reduce the motivation of all kinds of subjects to pollute the environment, and the tax collected can be used to compensate enterprises with positive externalities and research and development of new technologies, so as to promote the development of environmental protection.

2.3 The effect of tax measures on pollution control

2.3.1The equity effect of tax instruments

Fairness in tax collection. In the case that the government does not intervene in the market, the rational person hypothesis based on economics suggests that market participants only consider how to maximize individual utility, while ignoring the additional costs borne by the society. Individuals will take tax costs into account when making decisions, and their final decisions will not cause additional environmental burdens. It avoids the unfair behavior of making the society bear part of the cost, which damages the collective welfare, and accords with the principle of tax equity.

Fairness in environmental sharing. The ecological environment is scarce. Without any restriction on environmental pollution, the current generation will intensify pollution of the exchange machine, which is unfair to future generations. The collection of environmental taxes enables each generation to cherish the existing ecological environment, which is objectively conducive to intergenerational equity in environmental sharing.

2.3.2 The efficiency effect of tax instruments

Economic efficiency and tax collection and administration efficiency are two main parts of tax principle. Here mainly discusses the economic efficiency principle. When there is a difference between the social marginal cost and the private marginal cost, the individual's optimal decision is

only to maximize his own utility, while other members of the society bear part of the cost. This is an efficiency loss from the perspective of welfare economics, without realizing the optimal allocation of resources. The collection of environmental tax fees can effectively solve this problem and further reflect the principle of tax efficiency.

3. Status of environmental pollution in Beijing-Tianjin-Hebei Region

In recent year, the environment of The Beijing-Tianjin-Hebei region has been deteriorating with the rapid development, and the development of regional coordination has been restricted. The deterioration of the ecological environment is not only related to people's livelihood, but also related to social harmony and stability and the development of a country. However, it is far from enough for environmental governance to rely on simple publicity of environmental protection. We must increase the cost of environmental pollution from the system and enhance the intensity of environmental governance, and it requires the joint efforts of everyone. At present, the most serious pollution problem in the Beijing-Tianjin-Hebei region is still air pollution. The Beijing-Tianjin-Hebei region continues to top the list of regions with the worst air quality in the country. According to the data released by the Ministry of Environmental Protection, the beijing-Tianjin-Hebei region accounted for 17.0 percent of the days with heavy pollution in 2014. Among them, 11 cities in the Beijing-Tianjin-Hebei region were among the top 20 most polluted, while eight of the top 10 cities were in the region. Although the air quality in the Beijing-Tianjin-Hebei region improved overall in 2015, a large part of the region still had poor air quality. Beijing, Tianjin and Hebei continued to lag behind in the air quality rankings in 2017.

3.1 Atmospheric pollution

The Beijing-Tianjin-Hebei region is an important industrial base in China. The iron and steel industry and the automobile industry, both of which belong to heavy industry, consume more energy and cause more serious gas pollution.

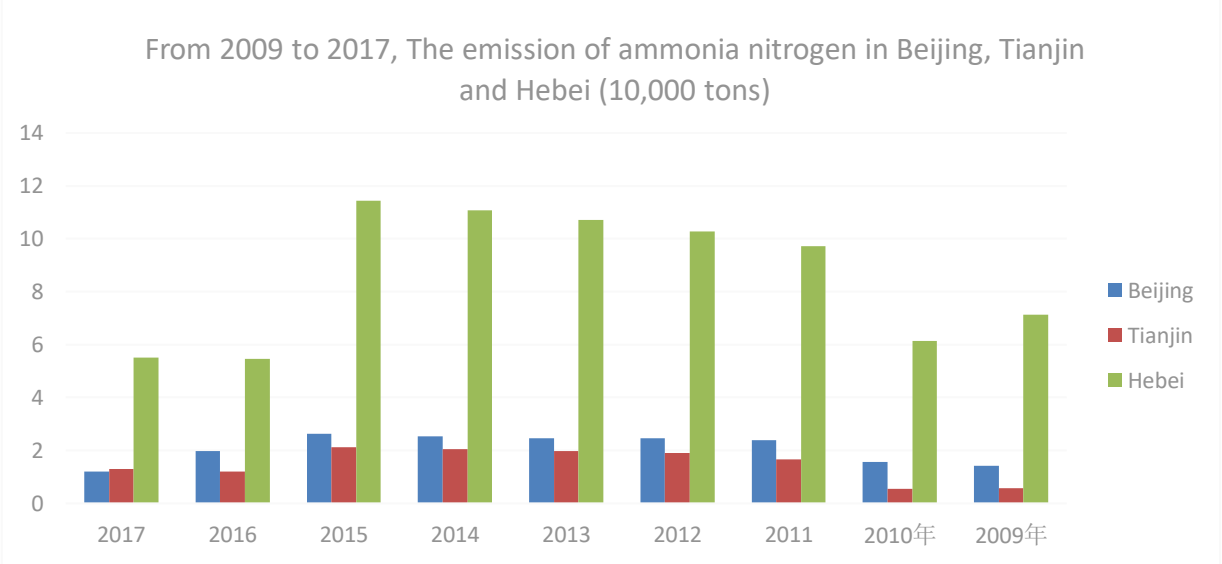

Fig. 1

According to national environmental statistics, air pollution sources are usually divided into industrial pollution, agricultural pollution, urban domestic pollution, and motor vehicle exhaust. From this, we can know that the purchase and use of cars is an important factor causing air pollution in The Beijing-Tianjin-Hebei region. The increase in car emissions is conceivable. According to the research monitoring data, vehicle exhaust contains a large number of sulfur dioxide, nitrogen oxides and particulate matter mixture and other harmful substances, which can be inhaled particulate matter is an important cause of haze weather. It is not difficult to see from the figure below that, although China has been adjusting the collection and management of vehicle purchase tax from 2009 to 2018, the emission of ammonia nitrogen in Beijing, Tianjin and Hebei still presents a rising trend. For the

prevention and control of pollution with the development of economy, Hong Kong and also made some input, but also can clearly see this in the following picture into revenue is negligible, especially for the fog haze caused by vehicle emissions, hebei and Beijing area deeply upset, vehicle purchase tax collection and administration way, reflects the development of our country is still in the extensive stage, industrial economy and ecological environment in our country has not yet reached the harmonious co-prosperity, green industrial system has not been effective to establish, to strengthen industrial economy still faces at the expense of the environment.

3.2 Water pollution

The main water system in the Beijing-Tianjin-Hebei region is the Haihe river system. According to the data of China's Environmental Bulletin released by the environmental protection department in 2015, the Haihe river system is the worst water system in China. On the one hand, the population density in North China exceeds the carrying capacity of the environment; on the other hand, the energy consumption of the automobile industry and other heavy industries aggravates the consumption of water resources. China's environmental bulletin classifies water quality into five categories, with the Beijing-Tianjin-Hebei region leading the way in terms of the overall proportion of water quality in the fifth category, making it the region with the worst water pollution in the country.

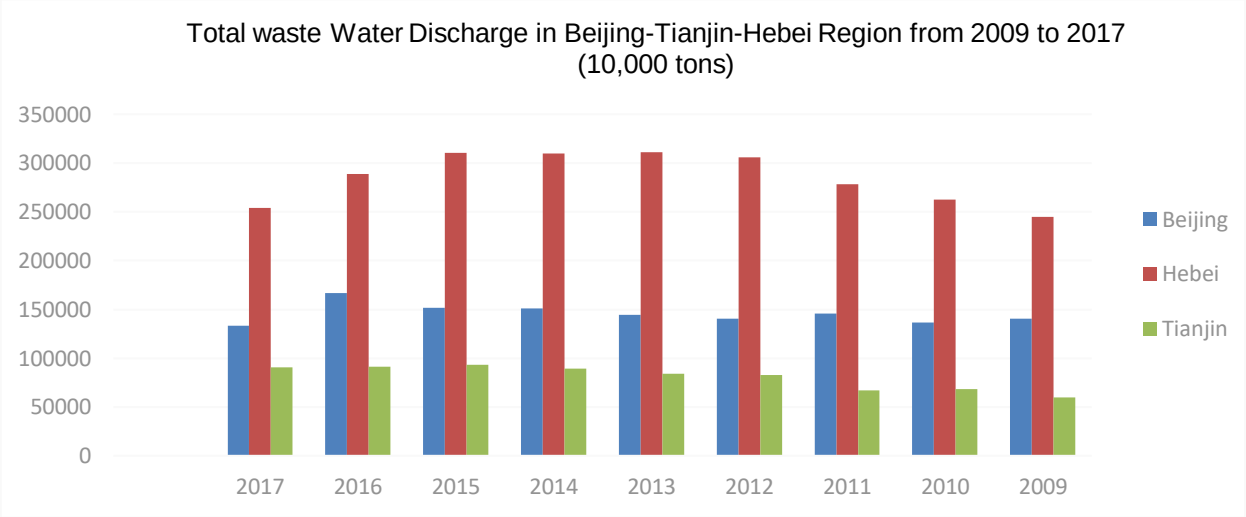

Fig. 2.

From above, zhong jing beijing-tianjin-hebei wastewater, wastewater has been the highest level in the three provinces, hebei province, on the one hand is due to industry of hebei province is larger, on the other hand is the technical level of hebei province and the pollution capacity than other provinces, although has the tendency to back slightly after 2015, but overall wastewater is still high. The discharge of sewage in Beijing and Tianjin has not decreased in recent years, but has an increasing trend. Water pollution is still a serious environmental problem in The Beijing-Tianjin-Hebei region. Although the water pollution in The Beijing-Tianjin-Hebei region has been improved since 2011, the pollution level is still relatively high and the improvement effect is not significant. The pollution situation in Hebei province is the most serious than that in Beijing and Tianjin. According to the chart information, the water pollution in Hebei Province has a tendency to worsen after 2015.

3.3 Noise pollution

Scholars usually define noise as all sounds that have a negative impact on human normal production and life. If the negative impact reaches a certain level, it is usually defined as noise pollution by the academic circle. There are two main sources of urban noise pollution, one is construction noise, the other is the noise generated by motor vehicles. As mentioned above, the number of motor vehicles in the Beijing-Tianjin-Hebei region has increased nearly 30-fold in less than 20 years from the end of last century. From the end of last century to today, the number of motor vehicles in The Beijing-Tianjin-Hebei region has greatly increased. In 1999, the number of motor vehicles was less than 2 million, but today the number of motor vehicles in the region has reached 60 million. Noise pollution

caused by motor vehicles has had a great negative impact on human beings, and it shows an obvious trend of increasing.

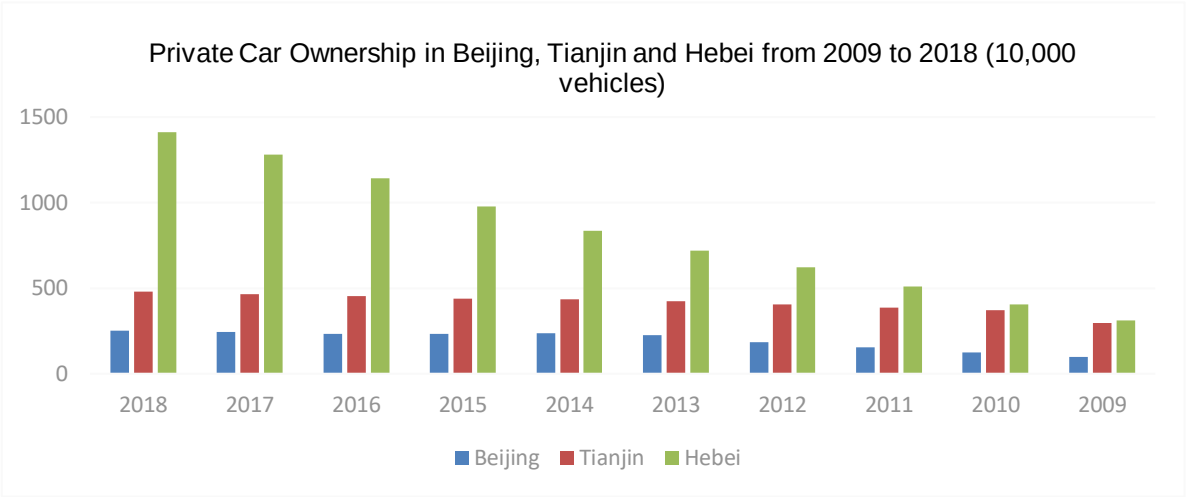

Fig. 3

4. ConclusionProblems in vehicle purchase tax

For a long time, many domestic enterprises tend to sacrifice the environment to promote the rapid development of economy, defended the valley of pollution by means of tax, this is the educational world recognized as the theoretical basis of pollution tax, through pollution can produce double dividend tax governance, respectively is the efficiency of dividends and bonuses, green can not only increase the government revenue, reduce the tax system to the distorting effect of economic operation, and can reduce the motivation of enterprise environmental pollution, as far as possible make the enterprise resource allocation to achieve pareto optimality. As an integral part of the tax system, the collection of vehicle purchase tax can promote the double dividend of environmental governance. However, from the current situation of environmental pollution in The Beijing-Tianjin-Hebei region, it is not difficult to see that there are still some problems in the collection and management of vehicle purchase tax in China.

4.1 Little connection with environmental governance

China's economic development has shifted from rapid development to high-quality development, and more and more attention has been paid to the construction of ecological civilization and its role in the economy. However, a series of environmental and resource taxes, taking vehicle purchase tax as an example, have little effect on the actual control of environmental pollution. In addition, vehicle purchase tax has always been a kind of small tax in China, and it accounts for a small proportion in China's overall tax revenue. As a result, the scale effect of the tax is not sufficiently exerted, and the scale of the tax is very low, so it is difficult to arouse the attention of ordinary taxpayers. The legislation level of vehicle purchase tax in China is relatively low, and the policy support and attention degree are small, which often ignore the role of vehicle purchase tax and environmental treatment and pollution prevention links. There is a big gap with some western developed countries in the aspects of vehicle pollution control and tax structure.

4.2 Defects in the structure of the tax system

The defects of tax system structure are mainly manifested in two aspects. First, the scope of vehicle purchase tax is narrow. China's vehicle purchase tax is only levied on units and individuals who purchase vehicles, but is not levied on the rising second-hand vehicles. With the change of people's life style, the demand of the second-hand car market is also rising, and the purchase of second-hand cars without paying taxes reduces the burden on consumers, but increases the unfairness of the tax. Second, the tax base of vehicle purchase tax is not perfect. China's vehicle purchase tax is mainly levied on consumers at the purchase stage, which to some extent restrains consumers' consumption

desire and hinders the benign development of the automobile industry. At the same time, light taxation at the use stage will also make consumers use cars at will, which is not conducive to controlling automobile pollution. More importantly, the tax is based on the vehicle displacement, but the displacement and fuel consumption cannot be equated. Different tax rates are not set for cars with different displacement, but fixed proportional tax rates are blindly implemented.

4.3 Tax reduction, exemption and subsidy measures are not in place

In order to meet the needs of environmental protection and ecological development, China has begun to implement tax incentives and relief measures on vehicle purchase tax for small-displacement vehicles and new-energy vehicles to guide consumers' consumption demand, but its guiding and limiting role in terms of the number of large-displacement vehicles, energy conservation and environmental protection is not obvious. Throughout China's current implementation of tax reduction and exemption policy coverage is small, but also mainly targeted at a specific group of people and characteristics of the vehicle, and the preferential time of tax is limited, especially for the new energy vehicle subsidies even appear a slide, there is no formation of a wide and universal tax incentives. In terms of financial subsidies, some manufacturers falsely claim financial subsidies from the state when they fail to meet emission standards, which reduces production costs and makes financial subsidies impossible to be implemented. This is closely related to the lax regulation of subsidy policies. In addition, there is a lack of connection in the implementation of tax preferential policies in China, which is only implemented in the purchase stage, and little care is given to the future use of cars. Therefore, a relatively complete car tax system has not been formed.

4.4 Imperfect administration of collection

The problem of collection and management is not only related to the improper cooperation between various departments in the process of tax collection and payment. China's car purchase tax price is not clear and there is no timely update. First, in view of the national tax authority without unified regulation plan tax basis of the vehicle are made by other tax authorities shall, in accordance with the reference models of the same type of vehicle purchase invoices or independently, and exist in the process, not every type of vehicles have different reference and dealer pricing problem, that there is no unified reference and not for centralized and unified with new adjustment, causes the taxpayer's question. Secondly, the vehicle purchase tax is jointly collected by the public security department and the tax authority. However, due to the inconvenient cooperation and information communication between the two departments, and the lack of a special unified code of conduct, there are certain problems of tax evasion and tax evasion that cannot be verified, which all exert a bad influence on the collection and management of vehicle purchase tax.

5. Reflection on the reform of the tax system of vehicle purchase tax

China should reform the vehicle purchase tax to guide the consumption due to the aggravation of air pollution caused by motor vehicle pollution.

5.1 The principle of energy and environmental protection

In the car purchase tax reform to alleviate the introduction of energy conservation and environmental protection principles to adjust is to give full play to the role of tax, so that its collection can be conducive to the sustainable development of the economy and improve environmental problems. China should attach importance to the relationship between environmental protection and economy and reform the tax system to adapt to the changes of the current environment. Especially for the noise and air pollution caused by too many vehicles owned by residents, efforts can be made from the following aspects. First, airports, trains and ships should also be included in the collection scope, and the tax burden should be fair in the way of goods and passengers. Secondly, while taking advantage of the governance role of the tax system, we should further promote the multi-faceted regional supervision system and improve the governance efficiency. Due to the particularity of air pollution problems such as haze, cross-regional pollution will appear. To win a complete victory in the battle of pollution control, it is necessary for organizations and enterprises in all regions to enhance their

sense of cooperation, enhance their ability of collaborative governance, and maximize the synergetic effect of environmental governance.

5.2 Optimizing the tax system

To improve the current tax structure, efforts should be made in the following aspects: first, expand the collection scope of car purchase tax, timely update the tax rate, ensure that the tax rate is close to reality, and enhance the flexibility of the tax rate. Second-hand cars will also be included in the scope of collection, the establishment of vehicle information exchange website, improve the vehicle information and model update. Second, different tax rates should be set. In addition to considering emissions, price, fuel volume and road damage should be comprehensively considered and evaluated. Appropriate new energy and small-displacement vehicles should reduce the yield of vehicle purchase tax, and higher tax rates should be imposed on vehicles with large emissions and high energy consumption. Third, with the purchase tax to strengthen the prevention and control of motor vehicle pollution, according to the emissions of different vehicles, the amount of fuel for different regions of air pollution, such as nitrogen oxides prevention and control by stages and types.

5.3 Optimize the preferential tax policies for car purchase tax

To further encourage and guide the new energy automobile consumption, first, the state should give new car buyers more policy support and care, not just confined to buy the vehicle before, but in the long term consumption, will be the preferential tax policy to carry out the using and maintenance in the whole stage, such as increase the charging device in the city. Secondly, strictly manage the types of vehicles in preferential policies to prevent illegal manufacturers from exploiting the loopholes of the system. On the one hand, some other new energy vehicles such as hybrid gasoline and electric vehicles should be added; on the other hand, enterprises should be encouraged to continue the research and development of new energy vehicles, especially in terms of battery life and other aspects of improvement. Finally, financial subsidy policies should be implemented to reduce subsidies for vehicle purchase and more should be implemented in the use of vehicles. In addition, special personnel should be assigned to supervise the use of vehicles and formulate strict examination standards to ensure the openness and fairness of the market.

5.4 Improving supervision and control

Supervision and restriction not only come from the internal departments but also the supervision of the public. First of all, unified standards of collection should be set up in the public security departments and tax departments, and the information network of vehicles and motor vehicle drivers between the two departments should be improved to realize unified networking in the whole country. Secondly, with the development of social economy, social public awareness of environmental protection will also increase, common to be enhanced sense of responsibility for environmental protection, a virtuous circle, as the guidance, enterprise as the main body, establish government social public and the participation of social organizations, multivariate environment management system and tax system, to do a good job of environmental regulation and synchronization.

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