Strengthening China's Automotive Industry: the Taxation Perspective

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Abstract: Taxation is the essential economic leverage for the government to realize macro control over the market. In this study, we examined the impact of China's tax scheme on domestic automotive industry through several specific cases. We found that the major demerit of the existing tax scheme is that it poses limited incentives to low-engine-displacement vehicle purchase. Besides, from the vehicle life cycle perspective, tax has been over-assigned to the purchasing stage rather than the using stage. With the aim of addressing such problems, several reform proposals were put forward.

Keywords: Automotive industry, Sustainable development, Taxation reform

1 Introduction

Taxation is one of the most important macro-control measures on the national level and has prominent regulating effects. Its influences are summarized as 'substitution effect' and 'income effect' in economics, which interact on consumers' and producers' decision-making. Both the demand structure of the consumer market and organizational production planning will be correspondingly affected. According to China Association of Automobile Manufacturers (CAAM), with vehicle purchase tax halved, sales of passenger vehicles (PV) of 1.6L and below increased by 71% to 7,200 thousand, which accounted for nearly 70% of the whole PV market in 2009 after the financial crisis [1].

Compared with subsidy, taxation regulation can work without increasing government's fiscal burden if tax structure is adjusted or taxes are transferred among different kinds. More importantly, taxation is one kind of normal economic method, yet no matter administrative measures or fund subsidies are government's direct intervention over the market, which makes contrary to the reform signal of 'market plays a decisive role' emphasized by the third plenary session of the No.18th Central Committee. Moreover, tax revenue affects local governments' tendency in investment attraction, thus accordingly affect the industrial structure.

On the other side, automotive industry makes outstanding contributions to national finance. Tax contribution of China's automotive industry amounted to 486.2 billion RMB in 2013. During 2000 and 2012, it covered 28.7% of tax contribution of domestic machinery industry on average, and the number once reached as high as 40% [2]. Besides, automotive industry has diverse intermediate links and its upstream and downstream industrial chain covers almost all aspects of civilian industry. For example, oil consumption and various services in the tertiary industry are obviously boosted by automotive industry. Thus, automotive industry covers a considerable portion of the whole tax revenue.

It is commonly agreed that making strong automotive industry is one extremely significant part of China's goal of developing strong manufacturing industry [3-4]. That's why strengthening China' automotive industry is quite important. The topic will be studied from the taxation perspective.

There have been intensive researches on automotive tax since the 1990s. Yu proposed the reward and punishment taxation related to fuel consumption [5]. Liu considered 'fuel tax' as a typical 'benefit tax' and thought it should be located in special funds of transportation facilities' construction and maintenance, which was against the fact that 'fuel tax' was inset in consumption tax [6]. On the other side, researchers studied the market regulation effect of taxation. Li proposed that from theoretical perspective, public's automotive consumption could be directed through taxation to the benefit of independent innovation and energy conservation and also to ease the contradiction of vehicles and roads [7].

Generally, most researches focused on tax itself by international comparison or theoretical analysis. Comprehensive analysis integrating automotive tax scheme and the strategic objective of strengthening automotive industry is rarely seen. Therefore, this study aims to evaluate the impacts of automotive taxation on industry growth in China. Major problems will be studied and recommendations for optimization will be proposed with the aim of constructing a harmonious and sustainable auto society.

Various kinds of taxes for PVs, collected from OEMs and costumers during producing, purchasing, retaining and using stages are the objective of this study. Besides, oil consumption tax is included because it functions as fuel tax in China while taxes collected from repairs and second-hand transactions are not included.

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Foundation item: Projects (2014-ZD-10, 2013-ZD-4) supported by the Chinese Academy of Engineering; Project (20145660098) supported by Chinese Academy of Science and Chinese Academy of Engineering.

Tab.1 Summary of related taxes in automotive industry in China and their characteristics

Tax Distribution	Kind of Tax	Levy Stage	Taxpayer	Remarks
Central government	Vehicle consumption tax (VCT)	Producing	OEMs	Circulation tax differentiated by engine displacement; Tax rate: from 1% to 40% of assessable cost
	Oil consumption tax (OCT)	Using	Consumers	Circulation tax, ￥1.52/L for gasoline and ￥1.2/L for diesoline
	Vehicle purchase tax (VPT)	Purchasing	Consumers	Tax rate: 10%[1] of the selling price with VAT removed
Local government	Urban maintenance and construction surtax	Producing Purchasing Using	OEMs Consumers	Surtax with circulation tax
	Education surtax	Producing Purchasing Using	OEMs Consumers	Surtax with circulation tax
	Property tax for estate	Producing	OEMs	--
	Urban land use tax	Producing	OEMs	Charged by local government
	Vehicle and vessel tax (VVT)	Retaining	Consumers	Varied in different provinces and differentiated by engine displacement
Shared by central and local government	Value-added tax (VAT)	Producing Purchasing Using	OEMs Consumers	Circulation tax, 17% of the added value, 75% flows to central and 25% flows to local
	Corporate income tax (CIT)	Producing	OEMs Consumers	Circulation tax, 25%[2] of the total profit after tax adjustment, 60% flows to central and 40% flows to local

*Note: 1 VPT rate for imported cars is 15%.
2 Identified high-tech enterprises can enjoy preferential CIT under the rate of 15%.

Tab.2 Summary of major automotive taxes in different stages

Levy Stage	Kind of Tax	Taxpayer
Producing	VCT, VAT, CIT, Urban maintenance and education surtax	OEMs
Purchasing	VAT, VPT	Consumers
Retaining	VVT	Consumers
Using	OCT, VAT, Urban maintenance and education surtax	Consumers

2 China's existing automotive tax scheme from the life cycle perspective

2.1 Relevant taxes

Tab.1 shows all the major taxes associated with automotive industry chain classified by tax attribution. It should be noted that all the required value-added tax (VAT) collected in intermediate circulations are ultimately borne by end consumers. Meanwhile, oil consumption tax (OCT), VAT on oil and relating surtaxes are commonly referred to as 'fuel tax' in China.

Considering new energy vehicles and energy efficient vehicles, there are mainly three kinds of tax incentives. First, electric vehicles are free from VCT with zero engine displacement. Second, according to the announcement jointly issued by the Ministry of Finance, State Administration of Taxation and the Ministry of Industry, eligible electric vehicles (excluding lead-acid battery powered ones), plug-in hybrid vehicles (including extended range ones) and fuel cell vehicles are exempted from VPT from 1st Sep. 2014 to 31th Dec. 2017. Third, once energy saving vehicles and new energy vehicles get the approval of the state council, they may be exempted from VVT.

2.2 Tax proportion among different stages

Major taxes in different stages are further summarized in Tab.2. Taxes less than 2 billion RMB per year are excluded [8].

It could be seen that China's automotive taxation places more reliance on producing and purchasing stages. Seeing from the life cycle, tax is over-assigned to the producing and purchasing stage judging by the number of taxes and tax amounts (Specific tax rates are demonstrated in 'Remarks' column in Tab.1 and the tax amounts could be roughly evaluated). Thus, tax burden in using stage is lower than that in producing and purchasing stage, which shows no signal of 'ownership encouraged and usage limited'. Nevertheless, some foreign countries, especially Japan and Singapore, have some successful experiences in realizing both industry growth and social harmony applying that principle.

The assignment pattern among four stages also has far-reaching impacts on tax revenue of central government and different local governments. Although local governments seemingly own more kinds of taxes, these taxes only cover a relatively small part. In total tax amount collected from automotive industry in 2013, about 80% flew to central government while 20% flew to

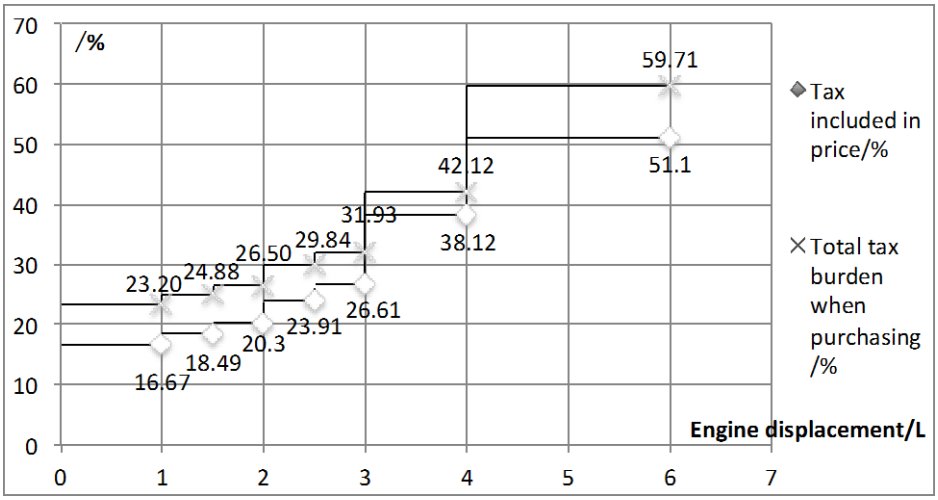

Fig. 1 PVs' tax burden in purchasing stage

local government. In contrast, the average level of central-owned percentage was 51% in all industries nationwide [8]. It should be made clear that the above analysis didn't take into account every year's tax return from central government. However, central government still benefited more in manufacturing industry in historical view [9] and it should be much more beneficial in automotive industry due to large amounts of VCT. On the other hand, tax revenue of the manufacturing area is far greater than the selling area (normally also the using area) because of the assignment pattern. That partly explains why local governments are lacking in motivation to positively solve auto society problems such as congestion and why plate restriction and travel restriction are adopted in more cities.

2.3 Engine displacement dependent taxes

VCT and VVT (relatively slight part) are differentiated by engine displacement in China and taxes in purchasing stage plays a major role in adjusting taxes among different engine displacements. PVs' tax burden in purchasing stage is calculated and shown in Fig.1. Tax included in manufacturer's suggested retail price contains VCT, VAT and surtaxes. VPT is added in total tax burden when purchasing. Apparently tax burden of vehicles from 1.0L to 2.5L is rather close. Considering mainstream models in China's automotive market are between 1.2L and 1.8L, energy conservation consumer guidance could be hardly seen within this range. More importantly, vehicles below 1.0L actually don't experience a significantly reduced tax burden. In contrary, it is well-known that the typical 0.66L K-car in Japan gets much more favorable incentives in vehicle weight tax, ownership tax and VPT.

3 International comparisons

Tax burden of automotive users in different nations under respective tax schemes in April 2014 were presented by JAMA [10]. The exact tax burden of Chinese users is calculated in the same case and shown in Fig.2. The numbers show the whole tax burden of a 1.8L PV priced at 1.8 million yen after 13 years' usage. The vehicle was assumed to be lighter than 1.5 ton, with the fuel consumption of 6.49L/100km in standard conditions (equivalent to 151gCO_2/km). Only taxes levied on vehicles are included and taxes on fuel are excluded.

It was found that China's overall tax burden lays in the middle, lower than Japan and U.K., close to Germany, but much higher than U.S.A. Tax structure in developed countries is simpler but there are mainly four kinds of taxes in China. The number will be six if surtaxes are included. Meanwhile, taxes in retaining stage in Japan account for 77.5% of the total. The number is 49.3% for U.K. and 43.4% for Germany, while it is 17.2% for China. It is proved again that China's automotive tax scheme emphasizes more on purchasing stage.

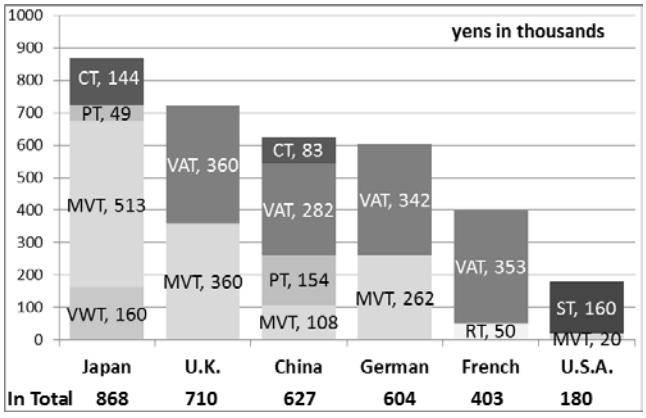

Fig. 2 Users' tax burden in different countries*

*Note:

1 Taxes are presented in abbreviated form: Consumption Tax (CT), Sales Tax (ST), Value-added Tax (VAT), Purchase Tax (PT), Motor Vehicle Tax (MVT), Vehicle Weight Tax (VWT) and Registration Tax (RT).

2 Surtaxes in China are separately added in VAT and CT.

3 China's VVT is regarded as MVT.

4 Reform proposals

4.1 Promoting energy conservation and emission reduction

It is recommended that heavy tax burden should be put on vehicles with large engine displacement and low-emission vehicles (such as 1.3L and below) should be favored or even exempted from certain taxes. That is partly because promoting smaller cars is the only way to a sustainable future for China's auto industry. It is also effective to help more people realize their dream of 'owning a car' with equal resources. Furthermore, Chinese independent brands have certain accumulated experience in this segment. Thus, promoting smaller cars will be conductive to ensure market share of independent brands, which is rather meaningful for a strong automotive industry [4].

It is also recommended to increase tax proportion in using stage so that the idea of 'greener travel and reasonable usage' can be more accepted by public. On one hand, tax burden can be moderately transferred among four stages. On the other hand, increasing tax burden in using stage is also feasible. Certain methods such as increasing fuel tax and implementing a comprehensive tax scheme based on fuel consumption and carbon emissions can be further researched, seeing there are adequate successful experiences internationally.

4.2 Addressing social concerns associated with automotive use

The principles of 'earmarking taxes' and 'beneficiaries burden' should be put into practice. Once automotive taxes are orientated for infrastructure projects such as road construction, urban planning and parking facilities expansion, such situation as 'difficult to use a car and difficult to park a car' will be effectively alleviated. In addition, that is more beneficial to social justice, which is the foundation of a harmonious auto society.

Concerning with congestion in big cities, if automotive taxation is adjusted rationally and based on the ideology of 'ownership encouraged and usage limited', car-using habit of the public can be effectively regulated according to the experiences of developed countries.

4.3 Stimulating automotive industry growth

The distribution ratio of automotive tax between central and local government ought to be adjusted so as to motivate local governments to positively solve related social problems. Local governments ought to benefit more in using stage and less in producing stage. Meanwhile, the imbalance between using areas and manufacturing areas should also be changed. Therefore, governments' power and authority can match their financial rights at all levels. Then, from the national level, automotive industry's healthy and orderly growth could be ensured.

5 Conclusions

There are demerits in China's existing automotive tax scheme and it failed to play a regulatory role well. With the aim of strengthening domestic automotive industry, China's automotive tax scheme should be reformed in many aspects to maximize taxes' regulating effects on the market. Specific proposals were put up in section 4. Yet, the construction of a harmonious auto society is system engineering and tax optimization is important but not enough. Central government must have a comprehensive and systematic consideration and make the overarching design, among which taxation can play as an important economic leverage. Through effective cooperation with other means, the goal of strengthening China's automotive industry can eventually be realized and the strategic target of developing strong manufacturing industry can be accomplished as soon as possible.

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