

The Reform Thinking of Real Estate Tax in China from the Perspective of Development

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Abstract

The author analyzed the actual effect of imposing real estate tax and found that the real estate tax policies in force have many problems such as inequality between payments by the gentry and the commoners in various kinds of links, overlapping of tax categories, and unreasonable tax assessment methods, etc. With a quantitative evaluation of real estate tax combined with the PMC index model, it is suggested that future real estate tax policies should be reformed in terms of strengthening legislation of real estate tax, broadening the tax base, and constructing a real estate evaluation system.

Keywords

Real Estate Market; Real Estate Tax Policies; PMC Index Model.

1. Introduction

Based on a series of problems in China's real estate market, China has adopted macro-control in the form of the real estate tax. The effective real estate system has not been established yet. The author conducted an analysis of policies, found taxation system deficiencies, and combined them with the specific real estate tax system and land systems to provide relevant policy suggestions for the construction of real estate tax.

2. Literature Research and Theoretical Review

2.1. Problems Existing in Real Estate Tax Systems of China in Force

After comparing to the OECD countries, Zhang Han found that the real estate tax system in China has problems such as unreasonable links for imposing, unscientific tax rate design, and loose tax collection and management [1]; Lin Yuan pointed out that the real estate tax for personal residences prefers circulation to possession and has an unbalance between supply and demand and unreasonable tax system design [2]; Shen Tong deems that the real estate tax system has problems such as too much taxes and dues in the circulation links, too narrow taxation scope and unreasonable taxation basis [3].

2.2. Reform Thinking for Real Estate Tax in China

Zhao Zhao and Yu Wentao pointed out that pilot areas for imposing real estate tax should be expanded gradually, possession cost should be increased, taxes and dues in the circulation links should be cleared up, and smuggling of taxes should be cracked down on [4]; Lu Cailan, et al proposed that the objective for real estate tax system reform should be defined, land value increment tax should be adjusted and improved and consumption taxes should be imposed on luxury properties, etc [5]; Zhang Han suggested that the tax burden structure for real estate tax system should be reconstructed and scientific real estate evaluation system should be constructed, legislation for real estate tax should be promoted and supporting systems should be improved to promote the healthy development of real estate market [1].

The author found that there are few types of real estate tax in China, real estate tax revenue accounts for a small proportion of central and local fiscal and tax revenue, and the regulation and control effect of tax policy is weak. Most of the literature in China focuses on the effect of monetary policy, orders for property-purchasing limitations, and other administrative means on the regulation and control of the real estate market, and there is little research on the effect of tax policy regulation and control and the direction of tax policy reform. Given this, specialized analysis and quantitative evaluation were conducted by the author on the real estate tax through the PMC index model, and empirical evidence was combined to provide a reference for the government to formulate tax policies [6,7].

3. Empirical Construction of PMC Index Model

3.1. Calculation of PMC Indexes

PMC indexes were calculated in the first step. First, 9 main variables and 25 sub-variables were included in the multi-area input-output table; next, the sub-variables were assigned according to the evaluation standards, as shown in formula (1) and formula (2); third, to calculate the specific main variable value. This value is the result of dividing the sum of all the main variables by the sum of sub-variables. The calculation process is shown in formula (3); last, to calculate PMC index, as shown in formula (4).

$$X \sim N[0, 1] \tag{1}$$

$$X = \{XR : [0vl]\} \tag{2}$$

$$Xt(\sum_{j=1}^n \frac{X_{tj}}{T(X_{tj})}) \quad t= 1,2, 3,4,5, 6, 7, 8,9,10,\dots,\infty \tag{3}$$

i = main variable; j = sub-variable;

f=total variables in analysis.

$$PMC = \left[\begin{array}{l} X_1 \left(\sum_{i=1}^3 \frac{X_{1j}}{3} \right) + X_2 \left(\sum_{j=1}^3 \frac{X_{2j}}{3} \right) + X_3 \left(\sum_{k=1}^4 \frac{X_{3k}}{4} \right) + \\ X_4 \left(\sum_{l=1}^2 \frac{X_{4l}}{2} \right) + X_5 \left(\sum_{m=1}^3 \frac{X_{5m}}{3} \right) + X_6 \left(\sum_{n=1}^3 \frac{X_{6n}}{3} \right) + \\ X_7 \left(\sum_{o=1}^2 \frac{X_{7o}}{2} \right) + X_8 \left(\sum_{p=1}^3 \frac{X_{8p}}{3} \right) + X_9 \left(\sum_{r=1}^2 \frac{X_{9r}}{2} \right) \end{array} \right] \tag{4}$$

PMC indexes can be used for evaluating the consistency level of policies. The author chose 9 level-one indicators and the PMC index values should range from 0 to 9. According to the variable parameter values, real estate tax policies were evaluated by quantification. Values ranging from 0 to 3.99 mean low consistencies, values ranging from 4 to 5.99 mean acceptable consistencies, values ranging from 6 to 7.99 mean good consistencies, and values ranging from 8.0 to 9.0 mean perfect consistencies [7].

3.2. Drawing PMC Surface Diagram

PMC surface diagram is in a three-dimensional shape and composed of a 3×3 matrix, as shown in formula (5). It includes the separate results of all level-one variables and shows all the results of the PMC matrix in a graphical form.

$$PMC=PMC=\begin{bmatrix} X_1 & X_2 & X_3 \\ X_4 & X_5 & X_6 \\ X_7 & X_8 & X_9 \end{bmatrix} \quad (5)$$

4. Empirical Analysis of the PMC Index Model

4.1. Data Source

6 real estate tax policies promulgated by local people's governments, the State Administration of Taxation, the Ministry of Finance, and many national functional government departments were selected for quantitative evaluation. From initial adjustment nationwide to pilot reform of real estate tax policies in Shanghai and Chongqing, the policy contents involve the possession and circulation of real estate tax reform.

Table 1. Real Estate Tax Policies

S/N	Policy	Issuing Number	Issue Date
POL1	Notice of the People's Government of Shanghai Municipality on Issuing the Interim Measures of Shanghai Municipality for Levying Property Tax on Some Individual Residential Properties on a Pilot Basis	HFF [2011]No. 3	January 27, 2011
POL2	Decision of Chongqing Municipal People's Government on Revising the Interim Measures of Chongqing Municipality on carrying out the Pilot Reform of Levying Property Tax on some Individual Housing and the Detailed Rules for the Administration of Property Tax Collection of Individual Housing in Chongqing	YFL [2017] No. 311	January 14, 2017
POL3	Notice on Several Matters Concerning the Service and Collection and Management of Deed Tax Payment	Announcement of State Administration of Taxation 2021 No. 25	August 26, 2021
POL4	Interim measures for the Administration of value-added tax Collection for Real Estate projects developed by Real Estate Development Enterprises	Announcement of State Administration of Taxation 2016 No. 18	March 31, 2016
POL5	Notice on Adjusting the Preferential Policies on Deed Tax and Business Tax during Real Estate Transactions	CS [2016] No. 23	February 22, 2016
POL6	Notice on Adjusting the Preferential Policies on Deed Tax and Individual Income Tax during Real Estate Transactions	CS [2010] No. 94	September 29, 2010

4.2. Calculation of PMC Index Variables

The multi-area input-output table for 6 real estate tax policies was constructed.

Table 2. Multi-area input-output table for 6 real estate tax policies

Main variable	Sub-variable	POL1	POL2	POL3	POL4	POL5	POL6
	X1:1	0	0	1	1	1	1
X1	X1:2	1	1	1	1	1	1
	X1:3	1	1	1	1	1	1
	X2:1	1	1	1	1	1	1
X2	X2:2	1	1	1	1	1	1
	X2:3	0	0	0	0	0	0
	X3:1	0	0	0	0	1	1
X3	X3:2	1	1	1	1	1	1
	X3:3	0	0	0	0	0	0
	X3:4	1	0	0	0	1	1
X4	X4:1	1	1	0	0	0	0
	X4:2	0	0	1	1	1	1
	X5:1	1	1	1	0	1	1
X5	X5:2	0	0	0	1	0	0
	X5:3	0	0	0	0	0	0
	X6:1	0	0	0	0	0	0
X6	X6:2	1	1	1	1	1	1
	X6:3	1	1	1	1	1	1
X7	X7:1	1	1	1	0	0	0
	X7:2	1	1	0	1	1	1
	X8:1	1	1	1	1	1	1
X8	X8:2	1	1	0	0	0	0
	X8:3	1	1	1	0	1	1
X9	X9:1	1	1	1	1	1	1
	X9:2	1	1	1	1	1	1

According to formula (4), PMC indexes for 6 policies were calculated and compared to the policy grading table, grade evaluation was conducted on 6 policies and the result is as shown in Table 3 and Table 4.

Table 3. PMC indexes for 6 real estate tax policies

Main variable	POL1	POL2	POL3	POL4	POL5	POL6
X1	0.67	0.67	1	1	1	1
X2	0.67	0.67	0.67	0.67	0.67	0.67
X3	0.5	0.25	0.25	0.25	0.75	0.75
X4	0.5	0.5	0.5	0.5	0.5	0.5
X5	0.33	0.33	0.33	0.33	0.33	0.33
X6	0.67	0.67	0.67	0.67	0.67	0.67
X7	1	1	0.5	0.5	0.5	0.5
X8	1	1	0.67	0.33	0.67	0.67
X9	1	1	1	1	1	1
PMC Index	6.34	6.09	5.59	5.25	6.09	6.09

Table 4. Grading of 6 real estate tax policies

S/N	PMC Index	Grading
POL1	6.34	Good Consistence
POL2	6.09	Good Consistence
POL3	5.59	Acceptable Consistence
POL4	5.25	Acceptable Consistence
POL5	6.09	Good Consistence
POL6	6.09	Good Consistence

4.3. Drawing PMC Surface Diagram

According to formula (5), PMC matrixes of 6 real estate tax policies were constructed.

Table 5. PMC matrixes of 6 real estate tax policies

Policy	POL1	POL2	POL3
PMC Matrix	$\begin{bmatrix} 0.67 & 0.67 & 0.5 \\ 0.5 & 0.33 & 0.67 \\ 1 & 1 & 1 \end{bmatrix}$	$\begin{bmatrix} 0.67 & 0.67 & 0.25 \\ 0.5 & 0.33 & 0.67 \\ 1 & 1 & 1 \end{bmatrix}$	$\begin{bmatrix} 1 & 0.67 & 0.25 \\ 0.5 & 0.33 & 0.67 \\ 0.5 & 0.67 & 1 \end{bmatrix}$
Policy	POL4	POL5	POL6
PMC Matrix	$\begin{bmatrix} 1 & 0.67 & 0.25 \\ 0.5 & 0.33 & 0.67 \\ 0.5 & 0.33 & 1 \end{bmatrix}$	$\begin{bmatrix} 1 & 0.67 & 0.75 \\ 0.5 & 0.33 & 0.67 \\ 0.5 & 0.67 & 1 \end{bmatrix}$	$\begin{bmatrix} 1 & 0.67 & 0.75 \\ 0.5 & 0.33 & 0.67 \\ 0.5 & 0.67 & 1 \end{bmatrix}$

According to the PMC matrix, the PMC surface of 6 real estate tax policies was drawn, as shown in pictures a to f.

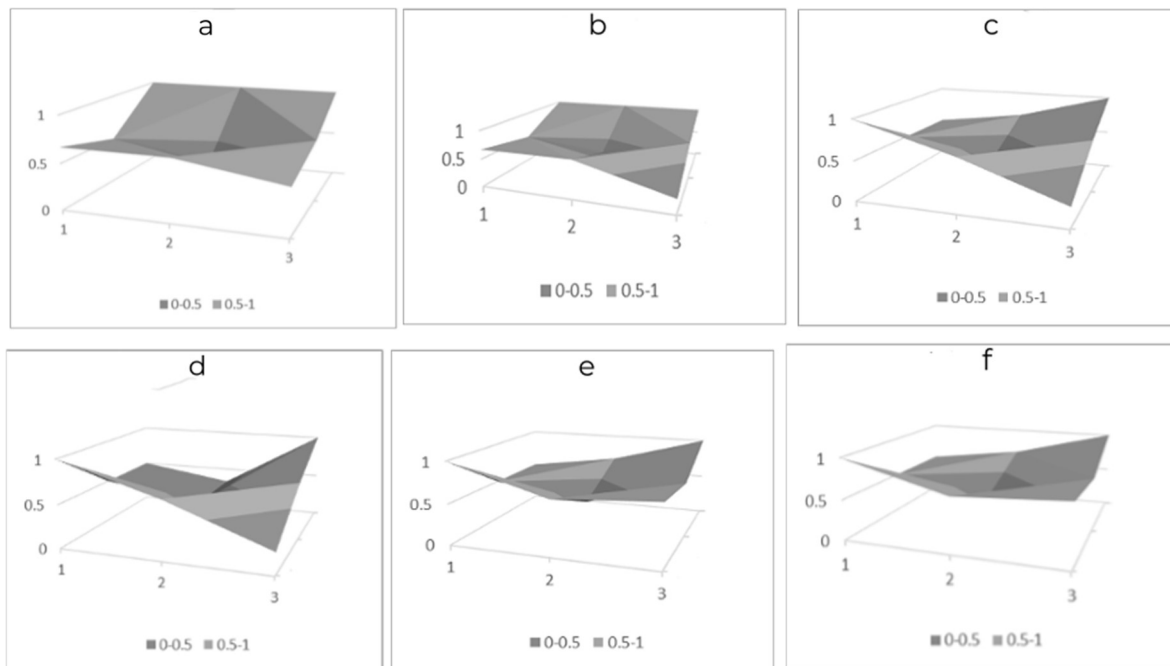


Figure 1. PMC surface of 6 real estate tax policies

The author expressed 9 level 1 indicators as a 3×3 matrix and used the main result of 9 variables to construct a symmetrical PMC surface. The bulgy part of the curve indicates the tax policies get a high score under the corresponding evaluation indexes and the sunken part indicates the

tax policies get a low score under the corresponding evaluation indexes. The method was used to show the policy advantages intuitively.

Policies 1, 2, 5, and 6 show good consistencies, and policies 3 and 4 show acceptable policies. Policies 3 and 4 get the lowest indexes. Both policies have the same problem and the objects of taxation involve a small range. Policy 3 aims at deed tax service and collection for taxpayers and pays more attention to circulation links of real estate and less attention to possession links. Policy 4 aims at value-added tax for real estate projects, pays attention to circulation links of real estate and lacks multidirectional regulation and control. Policy 1 has the highest index, which plays a good supervisory role and is advisory. The tax policy has a definite objective and scientific plan and is conducive to financing fiscal income. Among the 5 tax policy samples, the regulation and control range and policy field have a high value, which indicates that the real estate tax policies in China have a wide regulation and control range. However, the 6 real estate tax policies play a weak role in adjusting local fiscal income and are difficult to adjust to the uneven division of central and local powers or authority of office and rights of property. The land finance problems are prominent, and it is necessary to improve the local structure of the tax system and reduce dependency on the real estate industry.

However, PMC index models have deficiencies. Since the dimension setting is different when choosing policies, the subjective selection of samples will often result in deviation of evaluation models, so more samples are required for empirical analysis. During the extraction of keyword frequencies and text and content analysis, subjective factors will affect policy evaluation. During future PMC model research, the natural language processing method can be used to extract more sample policy word frequencies.

5. Deficiencies of Real Estate Tax Policies in China

The real estate tax policies in China in force mainly have the following problems:

5.1. Inequality between Payments by the Gentry and the Commoners in Various Kinds of Links of Real Estate

The real estate tax policies in force prefer circulation to position. The possession links are less imposed taxes and speculators who have many properties have a light tax burden and the real estate speculation is serious. The circulation links are more imposed taxes, which inhibit normal transactions of real estate and form a more severe situation of housing vacancy and land resources waste.

5.2. Overlapping of Tax Categories

The real estate tax systems in force have overlapping tax categories and tax bases and multiple real-estate taxation items. With the multiple taxation items, taxes are repeatedly imposed and the cost during the possession and circulation links of real estate is increased. The taxation order in real estate gets chaotic and there is a lack of law and regulation limitations, which is not conducive to reasonable market supervision.

5.3. Unreasonable Tax Assessment Method

(1) Tax assessment is mainly based on real estate area

The land use tax in real estate tax is not imposed based on real estate value but based on real estate area instead. With this tax assessment method, the taxation amount cannot increase with the increase in the value of objects of taxation. The taxation lacks flexibility and tax funds are short.

(2) Land rent taxes and dues are included in the housing price

The taxation process for real estate is unreasonable and the commercial housing prices include urban land use tax, tax on land occupation, land value increment tax, and other tax categories.

Real estate enterprises need to pay all the related taxes in full first during the development process and then transfer the tax burden to consumers through sales of houses, so the burden of house purchasers in buying a house gets higher. In China, the property taxes for commercial residential buildings and residential buildings need to be paid in a lump sum. It increases the burdens of house purchasers and inhibits the house-purchasing needs of consumers who truly need to buy a house, which intensifies the imbalance between supply and demand of real estate.

5.4. Narrow Taxation Scope

The tax systems are mainly aimed at urban land, county land, organic townland, and land for mining and industry. The non-agricultural construction land in rural areas and house property for self-use by state organs, mass organizations, armies, and public institutions are not imposed taxes or subject to tax preferences [1]. Taxation on real estate in rural areas is not defined normatively, contributing to bad practices of occupying farmland and abusing land by rural township enterprises and for non-agricultural industrial construction. The tax burden reduction and exemption policies implemented for organs and public institutions make it easy to let people exploit an advantage and are not conducive to cracking down on the hidden speculation of real estate.

6. Summary and Suggestion

6.1. Strengthen Legislation of Real Estate Tax

According to PMC indexes, most of the tax systems in the real estate market at present are departmental regulations, industry rules, policy suggestions, etc. The law and regulation construction is not perfect and policies relevant to real estate tax lack authority, and there is great discretion during the taxation process and smuggling of taxes or duplicate taxation is easy to occur. Due to taxpayers' sensitivity to taxation, the state should reduce resistance to real estate tax reform through legislation of tax policies to achieve cohesion of social consensus [8]. The state should promote legislation of real estate tax so that real estate taxation has a legal basis and will be bound to follow the legal basis and the credibility for regulation and control of real estate tax can be enhanced. Besides, the real estate speculation needs can be inhibited through stringent law enforcement to clear away obstacles to reform of real estate tax, embody the spirit of the rule of law, and promote the stable development of the real estate market.

6.2. Broaden the Tax Base

According to PMC indexes, the real estate tax system has a narrow taxation scope, which is not conducive to expanding tax funds and increasing local fiscal income. The real estate taxation system needs to have a broader tax base and cover all the acquisition, possession, and transaction links of the real estate market to affect the real estate market in an all-round day. During the process of real estate tax reform, the objects of taxation should be expanded, non-operating residences should be imposed taxes and a differentiated tax rate structure should be implemented on common residences, villas, and other high-grade residences to shorten the income distribution gap. Taxes should be imposed on both stocking houses and incremental estates at the same time. The cost of holding houses should be increased to inhibit the "real estate speculation" needs. During the initial period of reform, the incremental estates should be imposed taxes according to relevant rules. Over time, a single taxation system will increase the tax burden of taxpayers and harm the principles of tax equity. The stocking houses need to be imposed taxes to release more stocking houses, reduce house vacancy rate, and promote reasonable utilization of real estate market resources. The taxation scope should be expanded. At present, the real estate tax mainly aims at cities and towns, and real estate in rural areas is less imposed taxes and managed. So, the abuse and occupation of farmlands is easy to occur in rural areas [2]. Constructing a unified land grant market in urban and rural areas is conducive

to expanding the real estate tax base, increasing local fiscal income, promoting equalization of local services, and eliminating dual tax systems in urban and rural areas. The differentiated tax rate should be implemented, each local government should adjust the tax rate according to local per capita income and actual condition of social economic development, and crack down on real estate speculation behavior across areas and take advantage of administrative means to “limit purchase” reasonably, shorten social income gap, and promote effective implementation of real estate tax policies.

6.3. Construct a Complete Real Estate Evaluation System

In the context of real estate tax policies in force, the tax is imposed according to the real estate area. Taxation has a low flexibility. Tax should be imposed according to real estate value, and the real estate evaluation system should be established and perfected. Tax departments or a third-party organization can assess the value of real estate to improve efficiency and provide valid data. During the process of value evaluation, the value of real estate in different locations and types should be evaluated by classification and the precise evaluation of each area will make the tax system of real estate more compliant with the truth. Since the value of real estate increases or decreases slightly over time, it is necessary to conduct a secondary evaluation of the value of real estate regularly to reflect the true real estate value, based on which the personal income can be adjusted reasonably to promote social equity. The government can establish a real estate tax evaluation information system through evaluation of the value of real estate to timely master the development direction of the real estate market to provide data support for the government to establish scientific macro-control policies [4].

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