

Urban and Rural Household Taxation in China. Measurement, Comparison and Policy Implications

RAN TAO^{*,**} & MINGXING LIU[†]

^{*}Institute for Chinese Studies, University of Oxford, ^{**}CCAP, Beijing, China

[†]Peking University, China

ABSTRACT *By measuring the tax burdens for both Chinese urban and the rural households in the 1990s, we find that the taxes on the urban households were mainly indirect taxes through consumption of goods and services while those on rural households were largely direct taxes such as state agricultural taxes, local fees and tuition. Although the incomes of rural households were much lower than those of their urban counterparts, rural households were taxed much more heavily than their urban counterparts. By calculating the total tax burdens for different income groups of both urban and rural households, we find that rural tax in general was much more regressive. The main reasons for rural tax becoming more acute in the 1990s were the increasing rural income disparity and the uneven tax incidence biased against poorer households. Policy implications are drawn for the ongoing rural tax reform, the rearrangement of inter-governmental relationships as well as improving local governance in China.*

KEY WORDS: Household taxation, income disparity, farmers' tax burden, China

JEL CLASSIFICATION: H22, H71, O53

Introduction

The market-oriented reforms launched in 1978 have dramatically changed the economic landscape of China. During 1978–2000, real GDP grew on average by over 9 percent per year, contributing to a near quadrupling of per capita income.

Despite the great progress, the process of reform has been accompanied by an enlarging income disparity, especially that between urban and rural. Although from 1978 to 1985 there was a significant narrowing of the urban–rural disparity in both income and consumption, the policies that followed had the effect of widening the consumption differential between urban and rural households by about 20 percent (Johnson, 1999). The urban–rural consumption ratio fell from 2.9 in 1978 to 2.3 in

Correspondence Address: Ran Tao, Centre for Chinese Agricultural Policy (CCAP), Chinese Academy of Sciences, Beijing, China 100101. Fax: (086-10) 64856533; Tel.: (086-10) 64889837

ISSN 1354-7860 Print/1469-9648 Online/05/040486-20 © 2005 Taylor & Francis
DOI: 10.1080/13547860500291679

1985, but the decline was only temporary and by 1990 the ratio rose to 3.0 and further to 3.5 in 1999. In terms of the urban–rural per capital income, the ratio declined from 2.87 in 1978 to 1.86 in 1985, and then climbed to 2.2 in 1990, and further rose to 2.7 in 1999. Generally speaking, while the rural income and consumption rose relative to urban from 1978 to 1985, the gain was largely lost by 1990 and the urban–rural disparity increased throughout the 1990s.

The rise of urban–rural disparity was caused by multiple factors, such as urban–biased government policy in investment and credit allocation, restrictions on labor migration, and disparities in human capital investment, through both formal education and on the job training (Li, 2002; Lin *et al.*, 2003). At the same time, China's tax system is reputedly structured in such a way that rural residents are taxed more heavily than urban residents relative to their incomes. Such a differentiated tax burden may constitute an important factor of urban–rural disparity because of its regressive nature. To date, there has been no systematic research on the taxation on urban and rural households. This paper is intended to fill such a gap.

Besides the urban–rural tax disparity, the issue of rural direct tax burdens also became increasingly acute in China in the 1990s (Bernstein & Lu, 2000). Because the formal agricultural taxes and informal fees mostly were levied on land holdings in the countryside when more than half of farmers' incomes already came from off-farm sources, and poor people in rural areas are not exempted from taxes and fee charges, the rural tax system was likely to be highly regressive. To deal with complaints lodged by farmers in the period, the central government in China took various steps to alleviate the problem by requiring local government to lower their fee charges on farmers. Starting from 2002, the central government initiated a rural tax reform that aims to remove all local fee charges and replace them with land-based agricultural taxes and fiscal transfers from upper-level governments.

In academic circles, there has been an increasing literature on rural taxation in China. Many researchers, focused on China's political system as the main explanation for the surging fees on farmers, proposed to reform the current local governance system by promoting rural election (Bernstein & Lu, 2001; Qin, 2001). Others argued that the centralization of fiscal revenue since 1994 and lack of fiscal resources at local level led to higher rural tax burdens (Cao, 2001; World Bank, 2002). However, systematic analysis of empirical evidence is still absent. Understanding the issue of farmers' tax burdens based on better empirical evidence is the second target of this paper. Hopefully this will also help to shed some light on the ongoing rural tax reform in China.

The rest of the paper is organized as follows. The next section gives a brief description of the current Chinese tax system related to urban and rural households. The section after presents our estimation of the tax burdens for urban and rural households, both at the national level and for 10 provinces for which large rural household survey data are available. In the fourth section, we estimate the urban and rural household tax burdens for different income groups to better understand the regressive nature of China's tax system, especially that of the rural tax system. The final section concludes

with some general observations from our findings and policy implications for further tax reform in China.

Current Tax System in China

The current tax system in China is the outcome of a comprehensive tax reform in 1994. The main contents of the reform were to introduce three major taxes (value-added tax, VAT hereafter, excise tax and consumption tax) into the tax system and also rearrange the fiscal relationship between the central and local government with the center claiming a larger share of tax revenue. The VAT is levied on all goods and a small portion of services (mainly product processing, repairing, packing and importing services) with a uniform rate of 17%, except for five categories of goods (such as grain and edible oil, books and newspapers, tap water and heating, feeds and agricultural chemicals and other goods as stipulated by the State Council with a VAT rate at 13%). For most services, such as transportation, telecommunication services, construction, finance and insurance and hotel services, excise taxes are imposed at rates ranging from 3% to 20%. There are also consumption taxes levied at different rates on eight types of 'special products', such as alcohol, tobacco, cosmetics, firecrackers, gasoline and diesel, and automotive products. A progressive personal income tax is also levied in China. However, because of the relatively low incomes of most Chinese population, the lack of information on personal income and the difficulties in tax enforcement, it is still a relatively minor part of Chinese tax revenue. For instance, personal income tax revenues were only 3.66% and 3.88% of total government tax revenues in 1998 and 1999 respectively. Furthermore, the difficulties in levying personal income tax in rural areas and the relatively low rural incomes imply that the urban population constitutes the primary source of such tax. In urban areas, indirect taxes such as the VAT, excise taxes, and consumption taxes constitute the major sources of tax revenue. Rural residents also pay the indirect taxes through their consumption of goods and services, but less than those of urban residents because of the relatively low consumption levels of commodities in rural areas. Table 1 presents the tax structure for selected state taxes in China after the mid-1990s.¹

Table 1. Tax structure in China: 1994–1999 (RMB billion)

	1994	1995	1996	1997	1998	1999
Total	512.7	638.0	691.0	823.4	926.3	1068.3
VAT	230.8	260.2	296.3	328.4	362.9	441.8
Excise tax	67.0	86.6	105.3	132.4	157.5	169.7
Consumption tax	48.7	54.2	62.0	67.9	81.5	84.8
Personal income taxes	—	13.2	—	26.0	33.9	41.4
Various agricultural-related state taxes	23.2	27.8	37.0	39.8	39.9	42.4

Source: National Statistical Yearbooks, National Tax Yearbooks, Various years.

In addition to the indirect taxes paid through their consumption of goods and services, rural households also pay certain additional types of formal state taxes as well as various informal fees outside the formal government budgets (thus these are not included in the total taxes in Table 1). With the de-collectivization of agriculture in late 1970s, a rural household responsibility system (*HRS* hereafter) was introduced and farmers were granted the right to lease land for a 15-year term. The term was later expanded to 30 years. One aspect of the *HRS* was to shift the basic unit of rural taxation from village collectives to individual households. With this shift, rural households became individually liable for various taxes and fees. For example, by having the right to cultivate a given plot of land, a rural household became responsible for the taxes and fees levied on the land as well as the production from the land. At the same time, the government gradually liberalized the prices for agricultural produces, but still retained regulations on grain marketing requiring farmers to sell part of their grain output to the state at prices below the market prices.

In rural areas, formal state taxes were levied on agricultural and non-agricultural operations. They included an agricultural tax levied on grain output, special agricultural product taxes on tea, fruits, silkworm, animal husbandry and aquaculture products, in addition there was a slaughter tax, a farmland utilization tax and various rural commercial taxes. At present, to simplify notation, we will call all the formal rural taxes excluding rural commercial taxes as *agriculture-related state taxes*.

Besides the formal taxes, the Chinese farmers also needed to pay various fees to local governments and village community organizations. They are township-pooling funds for education, public security, law and order, civil service and family planning; village levies such as collective accumulation fees, collective welfare fees, and administration fees; corvee labor service for flood prevention, maintaining and expanding irrigation systems, road and school construction, water conservation and reforestation projects, as well as various local fundraising without explicit government legislation. Such fundraising could be anywhere between a few dozen and more than one hundred items, ranging from charges for road and school construction and other local improvement projects, to purchase of insurance, to charges for marriage certificates or housing construction, to prohibitive prices for electricity and tap water, and so on. In some regions, marriage certificates cost RMB 600 Yuan, a quarter of the farmers' average annual net income. In many places, villages are forced to buy various newspapers or periodicals (State Planning Commission, 2000).

Another important expenditure for farmers is tuition and various educational charges for children's education. In contrast to urban residents who have been heavily subsidized in children's education, rural residents need to pay for the lion's share of their incomes for children's education. Although the national policy makes compulsory nine years of primary and secondary education, the government has not provided sufficient resources for rural education (Murphy, 2002). To fill the financial gap, many schools deliberately violate government policies and charge school fees beyond tuition according to arbitrary standards, such as electricity and water fees, experiment fees, library fees, school policing fees, examination fees and so on. Therefore, rural

residents, relative to their urban counterparts, have to pay much more for primary and secondary education. The rural tuition and various educational charges can be considered largely as a tax on rural households. This factor is also considered in our estimation of urban and rural tax burdens.

The levy of informal fees in rural China was a unique phenomenon in that a large share of the village and township government expenditure came from such informal fee charges. These fees did not enter into the formal budgets but constitute an important share of local revenue, especially the revenue of township governments and village-level community organizations. On the one hand, township governments and community level organizations were responsible for most of the local public goods provision; on the other hand, they had to fulfill a lot of tasks mandated by higher-level governments, notably the government grain procurement, birth control and compulsory education. Since these tasks were usually un-funded or under-funded mandates, fees had to be imposed on farmers to finance the policy implementation. Therefore, in many rural areas, the bulk of local cadres' work was to charge fees, and then to use the revenue to fulfill the policy burdens as required by upper-level governments. Given such policies were not very popular among farmers, administrative costs usually turned out to be very high so that rural governments in many less developed regions found that they had insufficient resources to provide basic public goods. Furthermore, local cadres usually over-charged farmers for the purpose of rent seeking in the name of implementing the upper-level government policies. This was made possible under a one-party political system lacking local accountability and popular supervision. Table 2 presents the quantities of *agricultural-related state taxes* and rural fees from 1994 to 1998 and their ratios to state taxes. It is shown that although *agricultural-related state taxes* constituted only a relatively small part of the formal state taxes, the amount of rural fees was close to twice as much as that of all agricultural taxes.

In estimating the household tax burdens, we need to decide which taxes are to be considered. For the indirect household taxes, we include the VAT, excise and

Table 2. Rural taxes in total state taxes

	Unit	1994	1995	1996	1997	1998
Total State Taxes	Billion RMB	512.69	638.04	690.98	823.40	926.28
Agricultural-related State Taxes/1	Billion RMB	23.15	27.81	36.95	39.75	39.88
Rural Fees	Billion RMB	46.12	54.45	67.90	70.29	72.97
Rural tax/ Total Taxes	%	13.52	12.89	15.17	13.36	12.18
Among which						
Agricultural-related State Taxes	%	4.52	4.36	5.35	4.83	4.31
Local Fees	%	9.00	8.53	9.83	8.54	7.88

Source: 1. Report on Rural Tax Burdens, State Planning Commission, 2000; 2. New China Fifty Years' Government Finance Statistics 2000.

consumption taxes because they are the most relevant taxes for our purpose and are realized when households pay for the goods and services in markets. Other taxes, such as corporate income tax, city maintenance and construction tax, urban and township land use tax, resource tax, fixed asset investment orientation tax, customs, and stamp tax, are not as closely related to household consumption, thus are excluded from our indirect tax measurement.²

As for the direct taxes, all of the personal income tax is attributed to urban households because such a tax was levied overwhelmingly on the salaries of urban workers in the 1990s. However, the issue of rural direct taxation is much more complicated. The agricultural tax, special agricultural tax, land utilization tax and slaughter tax only constituted a small part of all state taxes levied in rural areas, while the rural commercial taxes (such as the excise and VAT paid by rural business, for example, the township and village enterprises) constituted the bulk of taxes collected in rural areas. For example, the *agricultural-related state taxes* were only RMB 36.9, 39.7 and 39.9 billion in 1996, 1997 and 1998 respectively (State Planning Commission, 2000). This means that they were about 23–24 percent of all formal state taxes levied in rural areas. Therefore, it would be misleading to attribute such taxes to rural households. This point is important because it is not only related to our assessment of rural household tax burdens, but also essential for our comparison of urban and rural tax burdens. This is because, in rural areas, the governments impose agricultural tax, special product tax, slaughter tax and land occupation tax directly on rural households. Compared to an urban household, which is mainly a unit of consumption and pays indirect taxes such as VAT in consumption, a rural household is both a unit of consumption as well as a basic unit of agricultural production. Therefore, the *agricultural-related state taxes* should be considered as direct taxation on rural households. For the same reason, some of the non-agricultural taxes paid by individually owned business in rural can also be included as taxes on rural households. However, most of the non-agricultural taxes, such as the TVE taxes, should not be considered as direct rural household tax burdens because they are paid by the non-individually-owned rural enterprises. Of course, among the rural business taxes, some are VAT, excise and consumption taxes that can be attributed to both urban and rural households when we calculate the indirect tax rates of consumption.

Direct and Indirect Household Taxation

In this part, we measure the indirect and direct taxes paid by urban and rural households for the whole nation and for 10 provinces where a panel data set from the Fixed Point Household Survey (FPHS hereafter) is available. The 10 provinces are the coastal provinces of Zhejiang, Jiangsu and Guangdong, the middle provinces of Henan, Hunan, Jilin and Anhui, and the western provinces of Shan'xi, Gansu and Sichuan. With the FPHS data, direct tax burdens on farmers can be estimated.³ We also use

urban and rural consumption expenditure and income data provided by the National Bureau of Statistics (NBS hereafter) whenever needed.

Indirect taxation on urban and rural households

Using data from the National Statistical Yearbooks, we can estimate the indirect taxes paid through goods and services consumption of urban and rural households as a percentage of income for the whole nation and 10 provinces in China. The three years of 1995, 1997 and 1999 are chosen for cross-year comparison. For urban and rural households, the data for per capita annual living expenditure are available in the published National Statistical Yearbooks. For instance, there are living expenditures on food and clothing as well as household appliances. In food, not only the expenditures on grain, meat, poultry, eggs, aquatic products are listed separately, but also there are the expenditures on tobacco, liquor and beverages. Therefore, the consumption tax can be calculated for all goods to which such taxes are applied by their respective tax rates (40 percent for tobacco and 20 percent for liquor for example). The estimation for excise taxes is similar since we know the household expenditures on all services such as transportation and recreation and their tax rates. For the VAT, in addition to the tax rates (13 percent for all food items and 17 percent for most other goods), we also need to know the quantity of the value added for all the consumption goods. This is achieved with the data of the ratios of value added to gross industrial output for different manufacturing sectors from the National Statistical Yearbooks.

What follows is relatively simple. We just need to calculate the VAT, excise and consumption taxes separately item by item for both urban and rural and then add them together. The results are shown in Table 3, where the provinces are ordered, in

Table 3. Indirect taxes by urban and rural living expenditure data

	1999		1997		1995	
	Urban	Rural	Urban	Rural	Urban	Rural
	(In percentage of per capita income)					
National	3.88	2.58	3.87	2.71	3.69	2.55
Guangdong	3.5	2.46	3.27	2.45	3.36	2.47
Zhejiang	3.87	3.04	4.17	3.27	3.98	3.13
Jiangsu	3.75	2.61	3.76	2.82	3.75	2.56
Jilin	3.95	2.3	3.86	2.6	3.45	2.8
Hunan	3.85	2.88	3.75	2.77	3.57	2.68
Anhui	4.17	2.85	4.42	3.09	4.13	2.9
Sichuan	4.14	2.66	4.29	2.88	4.02	2.67
Henan	3.94	2.27	4.19	2.7	3.75	2.36
Sha'nnxi	4.32	2.66	4.09	2.58	3.84	2.66
Gansu	4.45	2.44	4.33	2.52	4.18	2.61

Note: Province ordered by 1999 provincial per capita living expenditure.
Source: National Statistical Yearbooks, 1996, 1998 and 2000.

a descending manner, by the 1999 provincial per capita average living expenditure for both urban and rural households according to the NBS. Note that there is an important difference between the urban and the rural consumption data. In rural household living expenditure, a fairly significant part of consumption is consumption in kind, or consumption from own production (such as grain and vegetable). Rural households do not pay taxes in consuming these products. Fortunately, in the national statistical yearbooks, per capita living expenditure in cash for rural households is available.

The estimations in Table 3 are much lower than one would expect given that the sum of VAT, consumption and excise taxes was as high as RMB Y 695 billion in 1999 (see Table 1). Two issues of tax incidence are involved here. The first is to estimate the tax incidence between the consumers and the final goods producers. For example, as to the VAT, the literature of public finance tells us that tax incidence of VAT is determined by the market structure of the commodities. Only when the final goods market is competitive with perfectly elastic supply, can the tax burdens be fully attributed to the consumers. Otherwise, some of the tax burdens should be attributed to the producers (Atkinson & Stiglitz, 1980). The same principle can also be applied to consumption and excise taxes. We assume here a perfectly elastic supply curve and thus attribute all the tax burdens to consumers as an approximation. This is because almost all markets of manufacturing goods were already fairly competitive by the mid-1990s. At present, the sectors that are still heavily regulated are mainly service sectors of transportation and telecommunications (CASS, 2000). In these sectors, excise taxes are levied. Given their small shares in the total living expenditures (6.7 percent for the urban households in 1999) and the relatively low excise tax rates (3 percent for both transportation and communication services), separating them between the final goods producers and the consumers would not make a significant difference.

The second issue is more difficult to handle. By calculating the indirect taxes from living expenditure data, we can only estimate the indirect taxes paid by consumers in the final stage of goods and service provision. However, the processes of consumer goods and service provision usually involve many intermediate stages in which there are various intermediate goods and services that also pay indirect taxes of VAT or excise taxes. Given data availability, it is impossible to estimate such indirect taxes in the intermediate stages, and thus the tax incidences among intermediate input providers, final goods producers and consumers. Furthermore, a significant fraction of the GDP is the investment expenditure that also pays its share of these indirect taxes. Therefore, the indirect taxes in Table 3 must be lower than those actually paid by the urban and rural households if we ignore the taxes for the intermediate inputs.

To solve the problem, an indirect approach is adopted. Data for the gross VAT, excise and consumption taxes are available for the whole nation and the 10 provinces for all three years from the National Statistical Yearbooks. In national accounting, GDP can be divided into the final consumption expenditure and the gross capital formation. The final consumption is further divided into household consumption and

Table 4. Adjusted indirect tax rates on urban and rural households

	1999		1997		1995	
	Urban	Rural	Urban	Rural	Urban	Rural
	(As percentages of incomes)					
National	10.83	7.2	10.17	7.1	9.22	6.39
Guangdong	11.55	8.12	9.03	6.77	6.21	4.57
Zhejiang	6.27	4.92	5.58	4.37	4.78	3.76
Jiangsu	8.19	5.69	6.92	5.18	5.86	4
Jilin	10.89	6.34	10.72	7.21	8.59	6.97
Hunan	8	5.99	7.56	5.59	6.22	4.67
Anhui	8.01	5.47	7.05	4.93	5.01	3.51
Sichuan	8.11	5.21	7.85	5.28	9.13	6.06
Henan	7.49	4.31	17.44	11.24	6.02	3.8
Shan'xi	10.81	6.65	11.66	7.35	9.26	6.42
Gansu	11.36	6.24	14.16	8.25	11.5	7.17

Note: Province ordered by 1999 provincial per capita living expenditure.

Source: National Statistical Yearbooks various years. Data for the VAT, excise and consumption tax is available for the whole nation and the 10 provinces from various years of the National Tax Yearbooks.

government consumption. Since government consumption draws from tax revenues and can be largely considered as transfers to households, we assume here the proportion of indirect taxes paid by urban and rural residents as consumers is the share of final consumption in GDP, thus we can leave out the indirect taxes paid by the intermediate goods and estimate the adjusted indirect tax rates for both the urban and rural households as consumers. There we assume that per RMB Yuan of urban living expenditure pay the same amount of indirect tax as per RMB Yuan of rural cash expenditure. As shown in Table 4, the adjusted indirect tax rates are estimated for both the urban and rural households according to their respective population shares and living expenditures.

Direct tax rates for urban and rural households

With the data of personal income tax revenue, it is easy to calculate the personal income tax rates as a percentage of urban disposable incomes. As shown in Table 5, we also report the tuition expenditures as shares of urban disposable incomes, where the provinces are ordered, in a descending manner, by the 1999 provincial per capita average urban disposable incomes provided the NBS.

Next we calculate direct rural tax rates for three years of 1986, 1993 and 1999 using the FPHS data collected by the Ministry of Agriculture. This is shown in Table 6 where the province is ordered, in a descending manner, by the 1999 provincial per capita average rural net income provided by the NBS. On average, there was no significant increase of rural direct taxes as a share of rural net incomes in the period. In most

Table 5. Urban personal income tax rates and educational costs

	1999		1997		1995	
	Personal Income	Tuition	PI/1	Tuition	PI/1	Tuition
	Tax rates as a percentage of urban disposable income (%)					
National	1.54	0.44	1.36	0.42	0.87	0.42
Guangdong	2.04		1.35		0.75	
Zhejiang	2.19		1.72		1.14	
Jiangsu	1.98		1.4		0.31	
Hunan	1.26		1.43		0.37	
Sichuan	1.26		0.81		0.25	
Anhui	1.59		2.02		0.27	
Henan	1.41		0.97		0.32	
Sha'nnxi	10.81	6.65	11.66	7.35	9.26	6.42
Jilin	1.13		0.74		0.32	
Gansu	0.85		0.62		0.26	

Note: 1. Province ordered by 1999 provincial per capita urban disposable income. 2. No tuition data is available for individual provinces.

Source: National Statistical Yearbooks, Various Years.

provinces, total rural direct tax rates (formal state taxes and informal fee charges) increased only by 1–4 percentage points from 1986 to 1999. In some more developed coastal provinces such as Guangdong and Zhejiang, there was even some decline in tax rates in the whole period. This is contrary to the general belief that rural tax burdens, especially the informal fee charges have increased very fast in the period. The reason why rural tax burden became an increasingly acute issue in the 1990s is to be further explored in the next section.

Another important observation from Table 6 is that, except in the richer provinces of Guangdong and Zhejiang, local levies (as indicated by fee2 in the table) usually constituted half or more than half of the total tax burdens, although that also varied by locality. Local fees are relatively minor in rural tax revenue in the two richest provinces, but become a more serious problem in relatively poor provinces.

Total tax burdens for urban and rural households

To estimate the total tax burdens for urban and rural households, one only needs to sum the direct and indirect taxes. However, there is some bias in our Fixed Point Household Survey data that the average per capita rural net incomes calculated from it are not exactly the same as the per capita rural net incomes by the rural household surveys of the NBS as provided by the *National Statistical Yearbooks*. Such bias may come from the fact that the FPHS is not fully random in its choices of sample villages, as compared to the fully random sampling of the NBS rural household surveys.⁴ Therefore, some adjustments have to be made to correct for such a bias. Specifically,

Table 6. Rural direct taxes as a percentage of rural net income (%)

Province	Year	feel	fee2	fee3
Zhejiang	1986	4.9	0.7	0.0
	1993	3.1	0.7	0.1
	1999	4.2	0.8	0.5
Guangdong	1986	6.6	2.7	0.4
	1993	3.9	1.0	0.1
	1999	3.6	0.5	0.0
Jiangsu	1986	6.0	4.4	0.9
	1993	6.0	4.6	1.3
	1999	8.8	6.4	1.2
Jilin	1986	8.6	4.3	0.8
	1993	7.0	3.7	0.1
	1999	9.1	4.7	0.2
Hunan	1986	5.7	3.1	0.9
	1993	6.3	3.9	1.6
	1999	8.6	4.6	1.2
Henan	1986	4.6	2.2	1.0
	1993	5.3	2.9	1.4
	1999	7.3	3.8	1.1
Anhui	1986	4.8	3.0	0.9
	1993	3.9	1.7	0.1
	1999	5.4	2.6	0.0
Sichuan	1986	5.6	2.3	0.1
	1993	6.4	3.4	0.2
	1999	9.5	3.7	0.9
Sha'nnxi	1986	7.3	4.5	1.5
	1993	5.1	2.7	1.0
	1999	5.3	2.6	0.2
Gansu	1986	3.7	1.7	1.0
	1993	7.0	5.1	1.1
	1999	7.6	3.1	0.3

Note: 1. Feel is defined as all formal taxes paid by individual households plus all township and village informal levies as a percentage of household net income. 2. Fee2 is defined as township and village levies including village and township levies permitted by the central government, plus various local charges not legitimated by national government policy as a percentage of household net income. 3. Fee3 is defined as those various charges not legitimated by national government policy but imposed by local (county or township) government and village community organizations as a percentage of household net income. 4. Province ordered by 1999 provincial per capita rural net income.

we have the published provincial per capita rural income from the NBS rural household survey for the i th province in the j th year, say \bar{y}_{ij} and use it as benchmark. We then choose, for every i and j , all the households in our FPRS sample whose per capita income is within a range $(\bar{y}_{ij} - c, \bar{y}_{ij} + c)$ and calculate the average direct tax rate for these households. The tax rate is then used as the 'real' direct tax rate of the i th

province for the j th year. The choice of c is made so that the number of households for each year is approximately equal among all provinces to increase the comparability across provinces. Such an approach is chosen because there is no provincial rural direct tax data from the NBS rural household survey. Under this approach, the chosen households from the FPRS data would have a per capita income very close to the per capita income from the NBS rural household survey, thus the calculated tax rates from this approach can be expected to approximate the 'real' provincial average tax rates. Since the average rural incomes grew significantly along the years for each individual province, the values of c for the range $(\bar{y}_{i,j} - c, \bar{y}_{i,j} + c)$ are also adjusted for different years to adjust to the increasing incomes. We choose $c = 700$ for 1999 and 1998, $c = 600$ for 1997 and 1996, $c = 500$ for 1995, $c = 400$ for 1993, $c = 300$ for 1989, 1988, $c = 200$ for 1987, 1986. At the same time, we have the national rural direct tax data for 1995, 1997 and 1999, and thus are able to calculate the national rural direct tax rates. The results for the national and 10 provincial rural direct tax rates are presented in Table 7, which also includes the corresponding rural indirect tax rates calculated earlier. The provinces in the table are ordered, in a descending manner, by the 1999 provincial per capita average rural net incomes as provided by the NBS. As shown in Table 7, the national direct rural tax rate was 6.8 percent in 1999, but lower in 1997 (6.3 percent) and in 1995 (6.0 percent). Among all provinces, the relatively low income ones usually had higher direct tax rates.

In addition, with the urban indirect and direct tax rate estimations on hand, we can compare the total taxes for both the urban and rural households, as shown in Table 8. Given that urban households are more heavily subsidized in children's education than

Table 7. Rural household tax burden: indirect and direct

	1999			1997			1995		
	Indirect	Direct	Total	Indirect	Direct	Total	Indirect	Direct	Total
	(In percentage of incomes)								
National	7.1	6.8	13.9	6.9	6.3	12.1	6.2	6.0	11.2
Zhejiang	4.9	3.2	8.2	4.3	4.2	8.6	3.8	3.2	6.9
Guangdong	8.2	3.9	12.1	6.8	3.5	10.3	4.8	3.8	8.5
Jiangsu	5.7	7.0	12.7	5.1	6.0	11.2	3.9	7.0	10.9
Jilin	6.0	7.4	13.5	7.0	8.3	15.3	7.1	8.4	15.5
Hunan	5.9	6.8	12.8	5.5	7.9	13.4	4.6	9.6	14.2
Henan	4.0	6.2	10.2	10.6	7.0	17.6	3.5	8.2	11.7
Anhui	5.2	5.9	11.1	4.6	6.7	11.4	3.3	6.8	10.1
Sichuan	5.0	7.7	12.7	5.0	7.1	12.1	5.8	7.9	13.7
Sha'nnxi	6.1	6.1	12.3	6.8	5.4	12.2	5.8	5.2	11.0
Gansu	5.5	8.2	13.7	7.3	8.7	16.0	6.2	6.8	13.0

Note: 1. Rural direct tax rates for the whole nation is calculated using NBS data by adding up all agricultural-related state taxes and all township & village levies, then divided by total rural net income (rural population times rural net income per capita).

2. Province ordered by 1999 provincial per capita rural net income.

Table 8. Urban and rural household tax burden comparison (tuition excluded)

	1999		1997		1995	
	Urban	Rural	Urban	Rural	Urban	Rural
	(In percentage of incomes)					
National	12.4	13.9	11.7	12.1	10.3	11.2
Guangdong	13.5	12.1	10.4	10.3	6.8	8.5
Zhejiang	8.4	8.2	7.4	8.6	5.9	6.9
Jiangsu	10.2	12.7	8.4	11.2	6.4	10.9
Jilin	12.2	13.5	11.6	15.3	8.8	15.5
Hunan	9.3	12.8	9.2	13.4	6.6	14.2
Anhui	10.1	11.1	9.6	11.4	5.6	10.1
Sichuan	9.6	12.7	9.2	12.1	9.8	13.7
Henan	9.5	10.2	19.7	17.6	6.9	11.7
Sha'nxi	13.9	12.3	14.3	12.2	10.5	11.0
Gansu	13.1	13.7	16.2	16.0	13.0	13.0

Note: Province ordered by 1999 provincial per capita living expenditure.

the rural households who need to pay for most of it, a comparison that also takes into account the urban and rural tuition is reported in Table 9. In both Table 8 and Table 9, the provinces are ordered, in a descending manner, by the 1999 provincial per capita average living expenditures for both urban and rural households as provided the NBS.

As shown in Table 8, the rural total household tax rates are generally higher than the urban ones if we take into account both the indirect and direct tax burdens (but exclude tuition). The differences range from 1–3 percentage points. If we add tuition for urban and rural comparison as shown in Table 9, the differences are much larger, adding another 5–6 percentage points and increasing to 6–7 percent. In addition, we have not taken into account the rural corvee labor services and other hidden rural burdens such as the compulsory grain procurement at below market prices because of data unavailability. However, research drawing on data from other source has reported that corvee labor services was as high as 30 percent of all rural direct tax burdens in the late 1990s (State Planning Commission, 2000). This would add yet another 2–3 percentage points to the rural tax rate and would imply a difference of 8–10 percentage points between the urban and the rural household tax rates. Considering an urban–rural income ratio of 2.7 in 1999, the tax system in China is highly regressive between urban and rural.

Tax Distribution by Income

To understand better the urban and rural household taxation in China, we need to know more of the tax distribution among different income groups both in urban and

Table 9. Urban and rural household tax burden comparison (tuition included)

	1999		1997		1995	
	Urban total	Rural total	Urban total	Rural total	Urban total	Rural total
	(In percentages of incomes)					
National	12.8/1	19.4	12.1	17	10.7	15.4
Guangdong		18.1		17.5		14.3
Zhejiang		14.2		15.5		11.5
Jiangsu		17.3		16.3		18.8
Jilin		19.9		21.8		20.2
Hunan		22.7		20.7		20.9
Anhui		18.1		17.7		15.6
Sichuan		19.7		17.1		19.5
Henan		15.6		23.5		16.6
Sha'nnxi		18.1		17.5		16.7
Gansu		17.5		19.3		16.1

Note: 1. Urban tuition only includes tuition in primary schools and secondary high schools. The data is from Table 20–37 on educational fund sources of National Statistical Yearbooks for various years. We only have data for the whole nation, thus the total urban tax rate is only for the whole nation, but not for the 10 provinces. 2. The national rural tuition rates are calculated as follows: first, we calculate the average level for all the households in our rural sample survey (which covers only 10 provinces). Then as we know, the surveyed sample has an income higher than the national average income. Therefore, we add another 0.5–1 percentage point to the sample average. 3. Province ordered by 1999 provincial per capita living expenditure.

rural areas. Tax incidences among income groups will help us to understand better the regressive nature of the present tax system in China.

Rural direct taxation by income

As indicated in Table 7, there was no significant increase of rural direct taxes as a share of rural net incomes from 1986 to 1999. A question that naturally follows is how can we reconcile this with the fact that the issue of rural tax burden became increasingly acute in the late 1990s. Further investigations show that the main reason for this is the increase of rural income disparity in the 1990s and the uneven tax burdens among different income groups. Using the FPRS data, we find that rural Gini index in the 10 provinces increased from 0.40 to 0.47 from 1986 to 1999, while at the same time rural tax incidence among income groups did not change accordingly. As shown in Table 10, if we include all formal taxes and informal fees paid by rural households, the share of taxes of the lowest income group in 1986 (annual per capita income less than RMB 200 Yuan) in net income was 10.5 percent, while that of the highest income group (annual per capita income larger than RMB 4000 Yuan) was 9.5 percent. However, the share of taxes of the lowest income group (annual per capita income less than RMB 400 Yuan) in net income was 25.6 percent in 1999, while that

Table 10. Rural income level and tax burden (in percentage points)

Income Group (RMB Y)	fee1		fee2		fee3	
	1986	1999	1986	1999	1986	1999
<200	10.5	—	7.0	—	2.8	—
400	6.5	25.6	4.0	14.9	1.2	2.9
600	5.6	18.1	3.4	10.5	0.8	3.1
800	6.2	15.6	2.9	9.4	0.6	2.1
1000	4.1	13.1	2.0	7.9	0.4	1.6
1400	3.1	10.6	1.4	6.4	0.3	1.1
1800	6.8	8.0	2.4	4.2	0.2	0.5
2200	4.9	6.8	1.3	3.6	0.4	0.3
2600	9.9	5.4	1.4	3.0	0.1	0.4
3000	7.6	5.4	4.6	2.7	0.0	0.4
4000	3.1	4.4	1.6	2.1	0.1	0.3
>4000	9.5	3.4	3.9	1.5	0.4	0.3
6000	—	3.4	—	1.1	—	0.5
8000	—	3.9	—	1.0	—	0.3
>8000	—	4.4	—	0.2	—	0.1

Note: 1. fee1, fee2 and fee3 as defined in Table 6; 2.—means there is no sample for the income group.

of the highest income group (annual per capita income larger than RMB 8000 Yuan) was 4.4 percent. Given the income level of low-income groups, the higher tax rates obviously reduced their income significantly and further aggravated their poverty. Therefore, it was rather the increasingly regressive nature of rural taxation and the heavier burdens on poor farmers than the increase of the average rural tax level that led to increasing complaints from low-income farmers in China.

The reason that the poor farmers pay much higher shares of their incomes for taxes and fees is related to the nature of rural tax system in China. Taxes on rural households are dominantly agricultural taxes levied on arable lands. However, since the early 1990s, an increasing share of rural income came from the non-agricultural sources such as township and village enterprises and the migration remittances, which are not subject to state tax administration given an ineffective tax administration in China. As shown in Table 11, since the poor people are usually the group of people with the lowest proportion of income from non-agricultural sources, they are more vulnerable to rural direct taxes.

Urban and rural household taxation by income

Now we compare the tax burdens of different income groups for both urban and rural households. Urban survey data from the NBS Urban household surveys and the FPRS data are used for urban and rural estimations respectively.⁵ We are able to

Table 11. Rural income level, income structure and tax burdens

Income per capita	average income/1	Income structure/2	fee1/3	fee2/4	fee3/5
<800	522.4	86.5	17.5	11.5	2.5
800–1600	1204.9	82.2	10.4	6.7	1
1600–2400	1970.4	73	6.7	4.1	0.4
2400–3200	2766.3	60.2	5.2	2.9	0.4
3200–4000	3570.7	46.4	4.3	2.2	0.3
4000–6000	4804.1	41.8	3.4	1.4	0.4
6000–8000	6868.6	30.5	3.9	1.2	0.3
8000–12000	9532.3	22.3	2.9	0.3	0.1
>12000	23594.9	6.9	5.1	0.3	0.1

Note: 1 Average income is net income per capita for the specific income groups; 2. Income structure is the total operating income from agriculture as a percentage of total operating income for specific income group; 3. Fee1, Fee2, Fee3 as defined in Table 6.

obtain data of urban consumption expenditure, real income, and disposable income per capita for different income groups from the NBS urban surveys and thus calculate the tax burdens for the 10 provinces and for the nation as a whole. In the indirect tax estimation, we assume that per unit RMB of consumption pays the same amount of indirect taxes (VAT, excise and consumption taxes). With the total indirect taxes of urban households estimated earlier, we are able to calculate the indirect taxes as a percentage of urban disposable incomes for different urban income groups. For urban direct tax, the personal income tax paid by urban households is calculated by the difference between the real income and the disposable income. Since urban incomes are much higher than those of rural households, and the sample for urban households with per capita annual income lower than RMB Y 800 is very small, the lowest annual income group for urban households is defined as that between RMB 800 to 1400 Yuan per capita. For rural tax distribution, the FPHS data of 10 provinces is used since it has more detailed information on rural direct tax. We assume the estimations are good approximations to the national averages because of FPHS's large sample size and the representative nature of the 10 provinces for China. The rural indirect tax rates are also estimated for each income group with the cash expenditures for all rural households in the FPHS data by assuming per RMB of cash expenditure on consumption pays the same tax. The results are presented in Table 12.

As shown in Table 12, rural household taxation was more regressive than the urban one. For example, the 1999 urban tax rate was 12 percent for the lowest urban income group, while it was 7.3 percent for those with per capita annual income higher than RMB Y 20000. However, the rural figures were 30.6 percent and 9.7 percent if we exclude tuition, and 43.3 percent and 11.5 percent if we include tuition. Another way to look at it is to select the income group with a similar position in urban and rural households. For example, in rural areas, annual income of RMB Y 800–1400 can be designated as the low-income group. We select an urban income group that is about

Table 12. Urban and rural total tax burdens for different income groups

Income	1995			1997			1999		
	Rural/2			Rural			Rural		
	Urban/1	Rural/3	Rural/4	Urban	Rural/3	Rural/4	Urban	Rural/3	Rural/4
	(As percentages of incomes)								
0–800	—	21.8	29.8	—	31.2	41.9	—	30.6	43.3
800–1400	9.1	15.4	21.3	10.4	18.6	26.3	12	19.4	28.1
1401–1800	8.7	12.9	18	10.1	15.7	22.3	10.4	15.8	23.1
1801–2200	8.6	12	17	9.5	13.4	19.5	10.8	14.5	21.7
2201–2600	8.4	10.7	15.5	9.2	12.6	18.4	9.9	13.3	19.4
2601–3000	8.3	11	16.4	9	13.3	18.9	9.5	13.2	19
3001–4000	8.1	9.5	14.1	8.8	11.3	17	9.4	12.6	18.2
4001–5000	7.8	10.3	13.8	8.7	10.5	15.5	9.1	11.2	15.7
5001–6000	7.6	9.4	12.9	8.6	9.7	13.2	9	11.6	16.6
6001–8000	7.4	10.6	12.8	8.3	10.3	13.8	8.8	11.3	15.3
8001–10000	7.1	11.9	13.7	8.1	9.6	11.7	8.5	8.5	11.3
10001–15000	6.9	14.1	16.4	7.4	8.6	10.8	8.1	10.1	12.9
15001–20000	7.2	11.4	12	7.1	15.9	16.9	7.6	11.5	13.2
>20000	7	8.8	9.4	6.3	9.7	10.7	7.3	9.7	11.5

Note: 1. Urban rates are from data provided by the NBS Urban Survey Team; 2. Rural rates are from the 10 province survey data. We assume the estimations are reasonable approximations of the national average; 3. The first column under “rural” includes formal state taxes and informal fees; 4. The second column under “rural” includes state taxes, informal fees, and tuition.

the same percentage below the mean. Because RMB Y 800–1400 is about 50 percent of the rural mean income of RMB Y 2201 in 1999, the urban low-income group then would be the group with income between RMB Y 2600–3000 (urban mean income was RMB Y 5854 in 1999). As shown in Table 12, in 1999, the tax rates on the rural income group of RMB Y 800–1400 are 19.4 percent and 28.1 percent respectively before and after tuition is considered, while those for the urban group of RMB Y 2600–3000 is only 9.5 percent before tuition.

A caveat here is that the tax rates for high-income households are probably underestimated somewhat because these households may also be subject to tax categories that are not included here, such as the commercial taxes levied on their business. We believe such an effect is likely to be relatively minor. Another caveat is that our rural tax incidence estimations are based on the cash income as well as the value of rural home-produced and home-consumed products, but in the urban estimation we have not included the in-kind subsidies received by urban households in the form of housing, medical care and other state transfers. For rural households there is also another in-kind income, i.e. the rental value of rural housing. Although the urban-to-rural income ratio as published was around 2.7 in 1999, the real difference, if all in-kind income were to be included, would be significantly higher, reaching around 3.5–3.6 in 1999 (Li, 2002).

Conclusion

In this research, it is found that in the 1990s the tax burdens on the Chinese urban households were mainly the indirect taxes from their consumption of goods and services in addition to a relatively small amount of personal income tax, while the tax burdens on rural households were in a large part direct taxes such as agricultural tax, local fees and educational charges, in addition to some indirect taxes from their consumption in cash.

It is also found that although the income and consumption of rural households were much lower than those of their urban counterparts, rural households on average were taxed more heavily relative to their incomes. The differences were 1–3 percent if we include all the indirect and direct taxes but exclude tuition, but rose to 6–7 percent with tuition included. If we further take into account the corvee labor services by rural laborers, the differences further rose to 8–10 percentage points. We also find that rural household taxation was much more regressive than that of urban mainly because of the highly regressive nature of the rural direct tax system.

We also find that, on average, the level of rural direct taxes relative to rural net incomes in the 1990s did not increase very fast. The fact that rural taxation became an increasingly acute issue in this period can be largely attributed to the rising rural income disparity and the uneven tax burdens biased against lower income groups in rural areas who were more vulnerable to agricultural-based taxes and fee charges. In addition, local informal fee rates were generally much higher in low-income provinces.

The paper highlights the importance to establish a more equitable public finance system that would help to narrow the large income disparity between the urban and the rural and within rural. Better revenue sharing arrangements among different layers of government need to be in place to achieve this end. Especially in less developed regions where local revenues are dominantly agricultural-based, local governments, facing high expenditure needs to operate local bureaucracy and fulfill various un-funded mandates imposed from above, had to levy various informal fees on farmers. To solve the problem of farmers' tax burdens, in 2002 the Chinese government initiated a rural tax reform in 20 provinces that aimed to remove all informal fee charges but retained the formal agricultural tax. The reform was accompanied with more fiscal transfers from the center. Some further actions have been taken since then. Premier Wen Jiaobao, in the 2005 People's Congress Annual Meeting, stated that all agricultural taxes would be removed within three years. This policy, if implemented, means that the issue of tax incidence among farmers would vanish. This itself would be a historical event whose significance cannot be overestimated. However, such a reform also means that local governments in less developed regions would be much more dependent on transfers to finance local expenditures. While no more taxes is always laudable, whether local governments in less developed regions that are so heavily dependent on upper level transfers can be held accountable to local population is still an important question yet to be answered.

We believe that higher transfers alone may not be sufficient to solve the great host of problems that we have seen in local governance practices in China. Due to the lack of government accountability to local population under the current centralized political system, increasing transfers alone cannot guarantee better local government efficiency and public service provision, because the upper level government usually cannot effectively track where, how, or how much the public money has been spent and what services have been delivered by local public sectors. Under these circumstances, enhancing transfers may only result in more political competition for the transfers, further expansion of local bureaucracies, and rent-seeking behavior. As argued by Liu and Tao (2004), if free elections are not achievable in the short run, improving local governance in China at the current stage requires a fundamental change of the current 'growth-centered' development strategy that imposes policy burdens and various development mandates from the center. Only when the unreasonable policy burdens are downgraded and local governments are reoriented to public goods more closely related to local needs, can the conditions for actually downsizing excessive local bureaucracies be created and the role of healthy regional competition be strengthened to contain local misbehavior. In the long run, good local governance will be the outcome of a more decentralized administrative and fiscal system, which includes a sound inter-governmental fiscal arrangement, of wider local political participation and competition under free elections and, ultimately, of stronger factor mobility across regions.

Acknowledgments

The authors want to thank the Ford Foundation, the Chinese National Science Foundation for financial help in conducting this research. We are most grateful to D. Gale Johnson, Vivienne Shue, George Tolley and Larry Sjaastad, Chris Ahlin, Rodrigo Garcia Verdu for their help in conceptualizing the paper as well as valuable comments. The usual disclaimer applies.

Notes

1. There are many other taxes such as corporate income tax (RMB Y 121 billion), city maintenance and construction tax (RMB Y 31.5 billion), urban and township land use tax (RMB Y 10.2 billion), resource tax (RMB Y 6.3 billion), fixed asset investment orientation tax (RMB Y 13.0 billion), customs (RMB Y 56 billion), stamp tax (RMB Y 19.1 billion), as well as real estate tax, land appreciation tax, and vehicle and vessel usage tax etc. These other taxes are not included in the estimations we make of tax incidence.
2. However, in our indirect tax estimation, we also check the effect of including these taxes on the estimation of average tax rates for both the urban and the rural households, under the assumption that such taxes are paid by the households in proportion to their cash expenditures. It turns out such adjustments do not make much difference.
3. The Fixed Point Rural Survey has been carried out annually by the Ministry of Agriculture since 1986. The survey covers not only rural households, but also villages and rural enterprises. All household

samples are selected randomly. For villages, the rural areas are first divided into different categories such as mountainous area, hilly area and plain area; urban suburbs and non-urban suburbs; rich areas and poor areas, then the villages are randomly selected within these areas. The survey questionnaire was revised in 1991 and 1993 respectively to include more questions. The household survey covers information on population, labor force, land, fixed assets, agricultural plantation, output of main agricultural products, sales of agricultural products, purchase of productive materials, family revenue and expenditures, consumption of major food items, and the durable good consumption. The data we have is for 10 provinces, covering about 6000 households and over 120 villages from 1986 to 1999.

4. The NBS rural household survey where the provincial rural net incomes come from is implemented by the rural survey team that carry out, by random sampling, household surveys that cover 68,000 rural households in 7100 villages across China. However, the NBS rural household survey does not have as detailed information of state tax and informal fee burdens as the FPRS dataset we are using in our rural direct tax estimation.
5. Here both the NBS urban household survey data and HPRS data are used because the NBS rural household survey does not have as detailed information of state tax and informal fee burdens as the FPRS dataset. The NBS urban household survey covers over 50,000 urban households across 226 cities and counties in China and we are able to obtain the national and 10 provincial urban income distribution information from the NBS.

References

- Atkinson, Anthony & Stiglitz, Joseph E. (1980) *Lectures on Public Economics* (New York: McGraw-Hill).
- Bernstein, Thomas Paul & Lu, Xiaobo (2000) Taxation without representation: farmers, the central and local state in reform China, *China Quarterly*, September.
- Cao, Jingqing (2001) *Huanghe Biande Zhongguo [China on the Yellow River Side]* (China: Shanghai Art Press).
- CASS (2000) Lun Dangqian Jingjijinsuo [On China's Current Deflation, *Jingji yanjiu (Economic Research)*].
- Li, Shi (2002) Guanyu Zhongguo Shouru Fenpei de Wenxian Zongshu [A Literature Review of Income Distribution in China]. Working Paper Presented to Social Justice and Equality in China's Transition Conference. CCEER, Peking University.
- Lin, Justin, Yifu, Cai Fang, & Li, Zhou (2003) *The China Miracle: Development Strategy and Economic Reform* (Hong Kong: The Chinese University Press).
- Liu, Mingxing & Tao, Ran (2004) Regional competition, fiscal reform and local governance in China. Paper presented in the conference *Paying for Progress. Public finance, Human Welfare, and Inequality in China*, 21–23 May 2004 (Oxford: Institute for Chinese Studies).
- NBS (various years) *National Statistical Yearbooks* (China Statistical Press).
- NBS (various years) *National Tax Yearbooks* (China Statistical Press).
- Johnson, D. Gale (1999) China's Reforms – Some Unfinished Business, Office of Agricultural Economics Research. The University of Chicago Paper No. 99-08.
- Qin, Hui (2001) Guanyu Nongchu Shuifei Wenti [A Note on Rural Taxation], Working Paper, Tsinghua University, 2001, Beijing.
- Murphy, Rachel (2002) *How Migrant Labor is Changing Rural China*, pp. 92–94, 96 (New York: Cambridge University Press).
- State Planning Commission (2000) Nongcun Shuifei Wenti Neibu Baogao [Internal Report on Rural Taxation] Beijing
- World Bank (2002) *China National Development and Sub-National Finance: A Review of Provincial Expenditures*, (Washington, D.C., World Bank).