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Public Policy and Long-Term Trends in Inequality in Rural China, 1988–2013

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Abstract

This study examines the long-term changes in the distribution of rural income in China from the late 1980s until the mid-2010s. The major findings are summarized as follows. First, contrasting trends are found in the contributions of agricultural income and wage earnings, which reflect the structural changes in rural income caused by the dual processes of economic development and systemic transition during the post-Mao era. Second, inequality in wealth is found to have become increasingly important for understanding rural inequality. Third, small but substantial improvements are found in the redistributive and poverty impacts of public transfers before and after implementation of the pro-rural public policies during the first decade of this century, representing a historical reversal in the long-term urban-biased public policy in contemporary China.

Keywords: rural inequality, inequality decomposition, public transfers, public policy, China

JEL Classification: D31, H23, O15, P25

I. Introduction

Rapid and prolonged economic development in China has dramatically changed the economic structure in the rural areas. Since implementation of the “reform and opening” policy in the late 1970s, rural households have been released from the constraints of collective farming and have been granted autonomy over their agricultural production and marketing, thus resulting in improved production incentives. Furthermore, the rapid growth of township and village enterprises (TVEs) and manufacturing enterprises in the urban areas has presented huge opportunities for the rural labor force to engage in off-farm employment in both the rural and urban areas. Recently, the boom in investment in real estate and stock markets has been gradually spreading to the rural areas, particularly those areas surrounding the large cities. These prolonged and drastic changes in the rural economy have influenced socioeconomic inequalities among rural households. Income inequalities in rural areas have also been rising because of the structural changes in the rural economy, thereby increasing the importance of effective rural public policy for reducing inequality in order to maintain sustainable economic development and social stability in China.

This chapter examines long-term changes in the distribution of rural income in China from the late 1980s to the mid-2010s. It focuses on changes in the redistributive and poverty impacts of public policy as well as the structural evolution of rural income and the contribution of the major income components to overall inequality. Implementation of a series of pro-rural (*huinong*) policies during the first decade of the 2000s marked a historical change in contemporary China's public policy, which during both the Mao and the post-Mao eras had been heavily biased to the urban areas. This change in policy is due to the enhancement of state capacity brought about by economic development and systemic transition during the reform era.[1]

Therefore, to better understand the economy in contemporary China, it is important to examine to what extent the new public transfers, such as production/living subsidies and social security benefits, affect the distribution of rural income. Although the pro-rural policies in the 2000s have been a common research focus, relatively few studies examine empirical significance of these policies from the perspective of income distribution. Among such studies, Wang (2010), in an examination of the redistributive impact of pro-rural policies, finds the income

[1] Reform of the household registration system (*hukou*) was implemented in the mid-1980s and, along with the urbanization of the rural areas, has been enforced since the early 2000s, resulting in a rapid expansion of rural-urban migration as well as a gradual decline in the rural population. It may be that the qualitative attributes of rural households gradually changed during this period due to natural selection and selective urbanization (e.g., older and less-educated people tended to remain in the rural areas). Rigorous examination of the selection bias caused by the structural changes in the rural economy, a subject requiring further research, is beyond the scope of this chapter.

redistribution brought about by these policies mitigated rural income inequalities and reduced urban–rural income disparities. Qi (2011) investigates the effects of the newly introduced public medical insurance system on rural income inequalities. Lin and Wong (2012), in an examination of government transfers to rural households, confirm the positive impact of subsidies and reimbursements on rural household income.

Given that this study shares a focus with previous literature, in this chapter we utilize more recent nationally representative CHIP (China Household Income Project) survey data, which include comprehensive coverage of income and transfer payments. The data are compiled from the rural household components of the five rounds of the CHIP surveys, that is, 1988, 1995, 2002, 2007, and 2013. The survey database covers rural households across the twenty-five-year period from 1988 to 2013, which was a time of rapid and prolonged changes in the rural economy in terms of the structure of household income as well as implementation of public policies affecting rural households.

Two major empirical approaches are adopted in this study. First, using inequality decomposition methodologies, we identify the major components of income that affect income inequality in rural China. Second, we examine the impacts of public transfers on income inequality and poverty by comparing inequality and poverty measures both with and without

specific public transfers.

We separate household income into six components: net income from agriculture, net income from nonagricultural self-employment/business, wage earnings, asset income, imputed rental income from owner-occupied housing (hereafter referred to as "imputed rent"), and net transfer payments. The first two components consist of income earned from production or other forms of work, whereas wage earnings consist of income from family members who are working in wage employment outside the home. Asset income includes interest, dividends, and other income from assets. Imputed rent from owner-occupied housing, an important income component, is estimated based on a rate-of-return approach.[2] In general, we employ the Gini decomposition method to estimate the contributions of each income component to total inequality.

Our definition of rural household income is basically consistent with the definition used in the

[2] We estimate our imputed rents from owner-occupied housing (R) independently to maintain consistency of the estimations among the five rounds of the survey, incorporating minor revisions of the CHIP official estimations. More specifically, according to Sato et al. (2013), we adopt the following formula:

$$R = i(V - M)$$

where V denotes the market value of owner-occupied housing, M denotes the amount of mortgage loans, and i is the rate of return from housing. The rate of return is the interest rate on thirty-year government bonds. The interest rates in 2002, 2007, and 2013 were 3.2028 percent, 4.3625 percent, and 4.8992 percent, respectively. Due to the lack of market value data for owner-occupied housing and the relevant interest rates for government bonds in 1988 and 1995, following Khan and Riskin (2001), we substitute the book value of housing construction (or purchase) cost and 8 percent of the market value as the rate of return in each year to calculate the imputed rents. In addition, mortgage loan data are not included in the 2007 CHIP survey. Because the distributions of mortgage loans in 2002 and 2013 are substantially skewed to the right (i.e., higher values), substituting the mean percentage share of the mortgage loans in the construction value in 2002 and 2013 for 2007 is unsuitable for the estimations. Therefore, we do not deduct the mortgage loans from the construction value to calculate the imputed rent. It should be noted that the amount of imputed rent for 2007 tends to be somewhat overestimated.

entire research project, as described in Chapter 1. However, we have adjusted the definitions to allow for a comparison of rural income across the various survey rounds as well as to properly evaluate the effects of public policies on income distribution and poverty.[3] More specifically, our definition of transfer payments is restricted to public transfers, and net transfer payments are defined as the sum of public transfers to households (social security benefits/reimbursements and other transfers from the government/collectives) minus transfers from households to the public sector (taxes, levies/fees, social security contributions, and other payments to the government/collectives). Other miscellaneous private transfers, such as gifts for ceremonial exchanges, are not included in the net transfer payments and total income. In addition, as noted above, we have adjusted imputed rent to maintain consistency among the five CHIP survey rounds.

Based on our definition, we can easily identify changes in public policy from the signs of the net transfer payments. If transfers from households exceed payments to households, net transfer payments are negative; such cases occurred in the 1990s and the early 2000s when there was a heavy peasant burden from taxes and levies/fees. We will examine the contributions of positive or negative net public transfers to income inequality and to the poverty indices by comparing the

[3] Regarding the 2013 CHIP, the average per capita income gap between the official CHIP and our definitions is quite small, accounting for only 2.7 percent.

outcomes with and without specific public transfers. This is our second empirical approach adopted in this chapter.

It should be noted that there are limitations to our study with respect to the estimation of net transfer payments. First, invisible public transfers through institutional/policy interventions, such as the compulsory grain purchase quota at below-market prices (*dinggou renwu*), are not counted as taxation on rural households. The interventions in grain marketing, a legacy of the Mao era, continued until the beginning of the 2000s (Ikegami 2012; Hoken 2014).[4] Second, the subsidies for compulsory education that targeted rural households are also not examined in this chapter because it is difficult to estimate the amount of school fees that were exempted. Moreover, information on boarding students is unavailable in the data.[5] Third, although unpaid labor

[4] A major reason why invisible public transfers through grain marketing are not included as public payments is because of the lack of detailed information on grain sales in the CHIP surveys. A relatively detailed questionnaire survey on sales of agricultural products was distributed only in the 1988 CHIP survey, and few households sold the same products through different marketing channels (such as grain quotas, contract sales with the government, and sales through the free market). Therefore, identification of the appropriate market prices for specific grains will produce considerable measurement errors, resulting in an inaccurate measurement of agricultural income. However, agricultural inputs tended to be distributed at discount prices to farmers who met the grain quota, which partially supplemented the hidden losses stemming from the grain quota. As the CHIP survey does not contain detailed price and quantity data on agricultural inputs, it is difficult to come up with an accurate measurement of the invisible public transfers through grain marketing channels in terms of both input and output markets.

[5] Indirect public transfers based on the policy of "two exemptions and one subsidy" (*liangmian yibu*) were implemented nationwide in 2006. The subsidy consists of an exemption from tuition and textbook fees for all rural households and subsidies for poor boarding students in rural areas. Li and Luo (2007), by utilizing the urban–rural income gap in China based on the average public education expenditure in the urban and rural areas as an estimate of the direct subsidies to households, argue that the urban–rural income gap increased when public education expenditures and other social services were incorporated into household income.

contributions (*yiwugong*) were a non-negligible component of rural taxation until the early 2000s, here we do not include the monetary value of such labor contributions to tax and levy/fee collections because of a lack of data, except in the 2002 survey.[6]

The structure of this chapter is as follows. Section 2 presents an overview of income inequality in rural China from 1988 to 2013. Section 3 decomposes total income inequality into its major components to capture the structural changes in rural household income during the unique dual processes of economic development and systemic transition in China. Special attention is paid to public transfer payments and the changing redistributive effects of these transfers. Section 4 summarizes the structure of pro-rural policies in the 2000s and further investigates the redistributive and poverty impacts of various types of public transfers. The conclusion in Section 5 describes policy implications for improving income inequality in rural China.

II. The Trend in Income Inequality from the late 1980s through 2013

A. Income Per Capita and the Gini Coefficients in the CHIP Surveys

Table 5.1 shows the average per capita rural household income during the five rounds of the

[6] See Sato, Li, and Yue (2008) for a discussion about regressivity in rural taxation in 2002, including the unpaid labor contributions.

CHIP surveys based on the above-mentioned income definition. We utilize regional weights to estimate the national average of per capita income and the Gini coefficients for rural households (not including migrant households). Regional (Eastern, Central, and Western) weights, which are calculated based on the sizes of the provincial and regional rural populations, were prepared by the CHIP research team for 2007 and 2013. We extend these weights by using the same procedures on the previous CHIP rounds. In addition, we employ the Purchasing Power Parity (PPP) index developed by Brandt and Holz (2006) as well as their updated database in order to examine the impacts of spatial price differences.

As shown in Table 5.1, the average unadjusted per capita income is slightly higher than adjusted per capita income, except in 1988. With regard to 2007 and 2013, the gaps are 6.36 percent and 5.98 percent, respectively, slightly larger than the gaps during the earlier rounds. Compared with the average per capita rural income of the National Bureau of Statistics (NBS), average per capita incomes in the CHIP are relatively higher at 31.2 percent (1988), 24.0 percent (1995), 17.2 percent (2002), 11.3 percent (2007), and 36.8 percent (2013).[7]

[7] The gaps can be explained by two factors. One is our reevaluation of agricultural products consumed by rural households for the 1988 and 1995 CHIP using market prices instead of the official agricultural procurement price. The other is the inclusion of imputed rent for owner-occupied housing, which is not accounted for in the NBS rural household income. The latter effect is more obvious in 2013, constituting approximately 57 percent of the income gap between the CHIP and the NBS. During the period from the late 1980s to the mid-1990s, the contributions of imputed rent were limited because of the lower housing prices of housing as well as because the housing market in China was underdeveloped. However,

The estimated Gini coefficients are also presented in Table 5.1. The Gini coefficients adjusted by the regional weight and the PPP are relatively lower than those that are unadjusted, but the gaps are quite small, at 1–3 percent, except for in 1988. The long-term trend in income inequality in rural China measured by the adjusted Gini coefficients can be summarized as follows. A considerable rise in the Gini coefficients in the CHIP survey is observed between 1988 and 1995, increasing from 0.323 in 1988 to 0.387 in 1995. In 2002, the coefficients remained almost the same level, at 0.370, but in 2007 they dropped slightly to 0.355. Since then, the coefficient rose again, reaching 0.398 in 2013, which was the highest in all the rounds. In comparison, , the Gini coefficients reported by the NBS based on the NBS rural household survey exhibited a gradual rise from the 1980s to the 1990s; thereafter, beginning in the early 2000s it remained stable at a relatively elevated level (Guojia tongjiju, Zhuhu diaocha bangongshi 2014).

[Table 5.1 about here]

B. Annual Growth of Per Capita Income by Income Decile

To understand income inequality in China, it is necessary to look at the differences in income

selection of the price index for self-consumption of agricultural products is more crucial for explaining income differences during this period. See Riskin, Zhao, and Li (2001).

growth among the different income strata. Figure 5.1 shows the annual real growth of adjusted per capita income between each CHIP survey round by income deciles. It is apparent that the annual income growth rates between 2007 and 2013 are much higher than those in the previous years for all the income deciles. The growth rates between 2007 and 2013 reach approximately 10–14 percent and they are distributed proportionally among the income deciles. As will be discussed in the following section, the rapid growth of real income between 2007 and 2013 was mainly caused by an upsurge in the share of imputed rent in total income, which reached no less than 13 percent for all income deciles.

Relatively even income growth among the income deciles is observed between 2002 and 2007, except for the bottom decile, and the growth rates during this period are generally much lower than those from 2007 to 2013. These results indicate that rural households of all income strata experienced high growth from 2002 to 2007, but the benefits were relatively limited in the lower income strata, especially for the bottom decile.

In contrast, the distribution of the annual income growth from 1988 through 2002 among the income deciles is rather different than that after 2002. Specifically, except for the lowest income decile, the real growth rate of annual income between 1988 and 1995 shows a positive correlation with the level of income, resulting in a relative upsurge in the Gini coefficient

between 1988 and 1995. Between 1995 and 2002, however, the growth rate of income decreased slightly from lower to higher income strata, that is, lower-income households enjoyed faster income growth than higher-income strata, leading to a slight reduction in the Gini coefficient from 0.387 to 0.370.

[Figure 5.1 about here]

C. Regional Disparities in Income Inequality

To investigate regional differences in the change of income inequality, we divide China into three geo-economic regions: the Eastern (coastal) region, the Central region, and the Western (inland) region. Figure 5.2, which summarizes the trends in the Gini coefficients of per capita income by region, suggests that until 2007 the Gini coefficients were highest in the Eastern region, where economic development was the most advanced among the three regions. However, trends in the Gini coefficients from 2007 through 2013 are similar across regions. Specifically, the Gini coefficients increased from 1988 to 1995 in all three regions. Thereafter, the Gini coefficients gradually dropped in the 2000s, but then rose again between 2007 and 2013, especially in the Central and Western regions.

[Figure 5.2 about here]

It should be noted that the exacerbation of income inequalities in the Central and Western regions from 2007 to 2013 was principally caused by changes in the income structure. The shares of imputed rent in total income surged from 7 percent to 14 percent in the Central region and from 7 percent to 15 percent in the Western region, whereas the shares of net income from agriculture were reduced dramatically, from 43 percent to 19 percent in the Central region and from 46 percent to 28 percent in the Western region. With respect to the Eastern region, although the change in income composition is less distinct, the share of imputed rent increased slightly from 11 percent to 19 percent. According to this analysis of income composition, the major cause of the worsening income inequality was the sharp increase in imputed rent from owner-occupied housing. To more closely investigate the contributions to income inequality by income source, in the next section we employ the Gini decomposition method.

III. Inequality Decomposition by Income Components

A. Decomposition Methods

We follow the Gini decomposition method proposed by Lerman and Yitzhaki (1985) and Stark, Taylor, and Yitzhaki (1986) to investigate the contribution of each income component to per capita income inequality. Let Y_k $(k = 1, \cdots, K)$ represent the kth component of household

income and Y be the total household income, such that $Y = \sum_k Y_k$. The Gini coefficient of per capita income is defined as follows:

$$G(Y) = \sum_k S_k = \sum_k u_k G(Y_k) R_k \tag{1}$$

where u_k denotes the share of component k income, S_k denotes the contribution of the k th component to total income inequality, and $G(Y_k)$ is the Gini coefficient corresponding to income component k. R_k is the ratio of Spearman's rank correlation between income from source k and the cumulative distribution $F(.)$ of total household income or income from the k th component , which is expressed as:

$$R_k = \frac{\text{cov}(Y_k, F(Y))}{\text{cov}(Y_k, F(Y_k))}. \tag{2}$$

Therefore, the contribution of the k th component of income to total income inequality can be measured as:

$$s_k = \sum_k u_k \frac{G(Y_k) R_k}{G(Y)} = \sum_k u_k c_k \tag{3}$$

where c_k denotes the pseudo-Gini coefficient (or the coefficient of concentration). However, Shorrocks (1982) points out a serious defect in this Gini decomposition method because the

coefficients are not determined uniquely since they depend on the precise formula used to represent the inequality index. Therefore, the method cannot guarantee independence from the inequality measure selection. Therefore, Shorrocks (1982) proposes a theoretically consistent decomposition formula in which the coefficients of the decomposition are uniquely determined. The contribution of income component k is defined as follows:

$$S_k = \frac{S(Y^k,Y)}{G(Y)} = \frac{cov(Y^k,Y)}{\sigma^2(Y)}. \quad (4)$$

Employing these two decomposition methods, we divide the income sources into six components to discuss the contribution of each component during the twenty-five years of our data.

B. Results of the Decomposition

The results of the Gini decomposition of adjusted per capita income are summarized in Figures 5.3 and 5.4. Figure 5.3 shows the percentage share of each income component in total income and Figure 5.4 shows the contribution of each income component to total income inequality. The share of net income from agriculture dropped significantly, from 76.5 percent in 1988 to 56.8

percent in 1995, and its contribution to total income inequality also declined from 57.4 percent in 1988 to 35.4 percent in 1995.[8] Both the share in total income and the contribution to total income inequality of net income from agriculture continued to decline in 2002, 2007, and 2013. In 2013 the share of agricultural income in total income dropped to 19.0 percent, while its contribution to total income inequality dropped to 11.9 percent. It should be noted that the contribution of net income from agriculture to the total income inequality is uniformly below its share in total income, indicating that agriculture, as the self-employed livelihood sector, acts as an equalizing income component.

Unlike the share of agricultural income and its contribution to total inequality, as shown in Figure 5.5 the coefficient of concentration (the pseudo-Gini coefficient) for net income from agriculture continuously increased from 1988 until 2013. This suggests that inter-household disparities in agricultural production were enlarging as the relative share of the agricultural sector declined. It should also be noted that regional disparities in the distributive effects of net income from agriculture have expanded. The coefficients of concentration for net income from

[8] It should be noted that self-consumption of agricultural products by rural households accounted for a large share of total and farm management income. Specifically, the shares of self-consumption of agricultural products in farm management and total income accounted for 62.9 percent in 1988 and 48.1 percent in 1995. An evaluation of self-consumption involves the problem of how to estimate "market prices." The 1988 CHIP survey questionnaire required that respondents evaluate the value of self-consumption of agricultural products by market price. Because the development of agricultural markets remained at a preliminary stage during the late 1980s, the estimated values contain relatively large measurement errors.

agriculture in 1988 were 0.317 in the Eastern region, 0.306 in the Central region, and 0.321 in the Western region, suggesting that agricultural activities were rather homogeneous among all regions. In 2013, however, the relevant figures were 0.852 in the Eastern region, 0.663 in the Central region, and 0.664 in the Western region. The variation in agricultural activity is largest in the most developed regions.

These large disparities in agricultural income are a result of implementation of the "agro-industrialization" (*nongye chanyehua*) agricultural policy in the late 1990s. Central and local governments evaluated the integration of small farmers by agribusiness enterprises through contract farming, mainly occurring in the coastal provinces, and began to officially support the establishment of agricultural conglomerates through contract farming. These agricultural policies were aimed at increasing the profitability of agricultural production and improving the living standards of rural residents (Fock and Zachernuk 2006; Nongyebu, Nongye chanyehua bangongshi, Nongyebu nongcun jingji yanjiu zhongxin 2008).

The penetration of agro-industrialization appears to facilitate the diversification of agricultural production into large-scale specialized farming and self-supported small-scale farming. According to our calculations using published data (Nongyebu (Ministry of Agriculture) 2010, 2014), the percentage shares of leased-in farmland to total contracted farmland have been

increasing rapidly since the end of the 2000s, with the share rising to 25.7 percent in 2013 from its 12.0 percent in 2009. Related to this, institutional arrangements that allow and encourage the development of rental markets for farmland are a source of the diversification of farming structures. Namely, implementation of the Rural Cultivated Land Contracting Law in 2003 and policy support for farmland rental transactions have facilitated the diversification of agricultural production (Gao, Huang, and Rozelle 2012). These agricultural structural changes are reflected in the increasing coefficients of concentration for net income from agriculture.

In contrast to agricultural income, a different trend is revealed in wage earnings, including migration income. The percentage share of wage earnings in total income jumped from 11.1 percent in 1988 to 36.6 percent in 2002, and its contribution to total income inequality doubled from 22.6 percent in 1988 to 44.8 percent in 2002. The contribution of wage earnings to total inequality was higher than its share in total income between 1988 and 2002, indicating that wage earnings rapidly expanded to become the most influential income component. At the same time, it should be noted that the coefficient of concentration for wage earnings had been declining from a considerably elevated level of 0.903 in 1988 to 0.649 in 2002 (see Figure 5.5). This finding reflects the expansion of non-agricultural job opportunities. However, as shown by Zhang (2001) and Li (2001), the development of rural industries, such as the TVEs, remained

geographically unbalanced, and opportunities to secure off-farm occupations were relatively limited until the early 2000s.[9] Therefore, rural households that were in relatively developed areas or laborers who had more opportunities to migrate appear to have benefited from wage income more than others, thus accelerating income inequalities among rural households.

[Figure 5.3 about here]

[Figure 5.4 about here]

From 2002 to 2013, however, off-farm opportunities, including migrant jobs, continued to expand and spread widely, hence the relatively easy access to off-farm jobs mitigated the disparity effects of wage earnings. More specifically, the share of wage earnings in total income continued to increase, from 36.6 percent in 2002 to 44.5 percent in 2013, and the coefficients of concentration decreased from 0.649 in 2002 to 0.557 in 2013, resulting in an approximately constant contribution of wage earnings to total income inequality, at 40-45 percent. Luo and Sicular (2013) point out that the contributions from migration and local employment were quite different between 2002 and 2007, but the total contributions from wage earnings, including migration income, remained at the same level during this period.

[9] As discussed in Glauben, Herzfeld, and Wang (2008) and Yang (1997, 2004), the probability of obtaining off-farm occupations was determined significantly by the attributes of the rural households (i.e., age, educational level, and household size) as well as by the economic conditions in each locality.

Due to data limitations in the 2013 CHIP, we could not disaggregate the contributions from migrant and local employment to wage earnings. However, considering the ongoing increase in Chinese migrant labor from 140.41 million people in 2008 to 166.10 million people in 2013 as estimated by the NBS,[10] it was highly likely that an increasing contribution of migration income was offset by a reduction in the contribution of local employment. This evolution of off-farm employment from initial scarcity to becoming more prevalent as well as the continuous growth of migrant labor appear to characterize the change in overall income inequality in rural China.

[Figure 5.5 about here]

The share of asset income in total income remained at less than 1 percent until 2002. Although the share of asset income in total income was still relatively small in 2013, its contribution to total income inequality became more significant in the second decade of the 2000s, at 9.3 percent by 2013. However, the contributions of imputed rent began to increase rapidly from the beginning of the 2000s. The percentage share of imputed rent in total income increased from 6.4 percent in 2002 to 15.6 percent in 2013, while the contribution to total income inequality also increased from 5.5 percent to 16.6 percent between 2002 and 2013. Although the reform of property rights for rural land and housing is still at an early experimental stage, the increase in

[10] See *Nongmingong jiance diaocha baogao 2015.*

imputed rent suggests that rural housing will possibly become a new source of inequality in the future.

[Figure 5.6 about here]

The estimation results of the inequality decomposition using the Shorrocks decomposition are illustrated in Figure 5.6. The trend in contributions by income sources is generally consistent with that of the Gini decomposition, but the contributions of wage earnings have fallen considerably since 2002. Whereas the contribution of imputed rent increased dramatically from 1988 through 2013 (except for 1995), the contributions of agricultural management and wage earnings were less outstanding compared with those of the Gini decomposition in both 1988 and 1995. However, the contributions of non-agricultural businesses estimated by the Shorrocks method were substantially larger than those of the Gini decomposition during this period, with the contributions estimated by the Shorrocks method in 2007 and 2013 at 23.3 percent and 25.7 percent, respectively.

C. Change in the Public Transfer Policy

Changes in the direct effects of public policy on households can be traced using the impacts of public transfers on total income. Here we examine the trend of the percentage share of net public

transfers in total income and its contribution to income inequality. As reported in Figure 5.3, the percentage share of net public transfers in 1988 was slightly negative at an average of –0.3 percent, while its contribution to income inequality was 3.2 percent, larger than its income share. These outcomes imply that, overall, the amount of public transfers to and from households remained balanced in 1988.

Yet, one should focus on the differences in the percentage shares of net public transfers in total income among the different income strata. Table 5.2 summarizes the changes in the percentage shares of net transfers by income deciles during the five rounds of the CHIP surveys. As shown in the table, in 1988 the shares of net transfers for the bottom and second deciles were –16.14 percent and –4.79 percent, respectively, while those for the top deciles were 4.36 percent. These findings indicate that net public transfers were distributed regressively, playing a disequalizing role during the initial stages of the economic reforms.

During the 1990s and the beginning of the 2000s, the direct impact of rural public policy on rural household income became “exploitive” and more regressive. The shares of net public transfers in total income in 1988 were close to zero for the middle-income deciles. However, in 1995 the shares of net public transfers in total income became negative for all income deciles. Moreover, negative public transfers, which became substantially larger for the lower income

deciles in 1995, accounted for –13.91 percent and –7.68 percent for the bottom and second deciles, respectively. Although the regressivity of the public transfers was mitigated after 1995, it still had not been eliminated by 2002.

These findings clearly illustrate the increasing and heavily regressive taxes and local levies/fees on the "peasant burden" during the 1990s and the beginning of the 2000s, which created serious social tensions in rural China. The urban-biased fiscal and investment policies of local governments, which were stimulated by competition over interregional economic growth under the fiscal decentralization policies of the post-Mao era as well as by the weak fiscal redistribution ability of the central government, placed a heavy financial burden on county-, township-, and village-level authorities and led to the "peasant burden" problem (Bernstein and Lü 2003; Lü 1997; Sato, Li, and Yue 2008; Yep 2004).

[Table 5.2 about here]

Against this background, pro-rural public policies were implemented, first by the rural taxation reform in 2002 and then by a series of public transfer programs. As a result, the structure of public transfers fundamentally changed during the first decade of the 2000s. According to our analysis of the 2007 and 2013 CHIP surveys, the signs of the percentage shares of net transfers became positive: 4.84 percent and 4.90 percent, respectively. Their contributions

to inequality appear to be neutral, and slightly lower than the percentage shares. As shown in Table 5.2, the percentage shares are also positive for all income deciles, with the shares relatively favorable to the lower income deciles (except for the bottom decile). Specifically, the shares for the bottom decile in 2007 and 2013 are 8.55 percent and 2.86 percent, and those for the second decile are 5.57 percent and 9.08 percent, respectively. To further investigate the direct impacts of rural public policies on structural changes in rural household incomes, we will discuss in further detail the effects of the public transfer programs in the following section.

IV. Rural Policy and Inequality

A. Institutional and Policy Background

Table 5.3 summarizes the major pro-rural public policies in China during the 2000s. Pro-rural public policies during this period are well captured by the slogan "giving more, taking less, and allowing peasants more opportunities" (*duoyu shaoqu fanghuo*) (Zhonggong zhongyang and Guowuyuan 2005).

Policies for "taking less" began with the tax-for-fee (*feigaishui*) reform at the beginning of the 2000s and ended with the nationwide abolition of agricultural taxes at the beginning of 2006. The reform of rural taxation can be divided into two phases (Sato, Li, and Yue 2008; Tian 2009).

The first phase (2000–2003) involved imposing newly defined agricultural taxes in place of local levies and fees, resulting in some reduction in the total "peasant burden" due to the taxation. The second phase (2004–2006) involved first a gradual reduction in the agricultural tax (including the special agricultural tax and the livestock tax) and then its complete abolition in January 2006, whereby the previously urban-biased institutional arrangements were transformed into rural (or agriculture)-supportive arrangements.

[Table 5.3 about here]

Despite the completion of the rural taxation reform and the increase in fiscal budgets for rural areas under the New Socialist Countryside Construction scheme, village collectives and townships still must collect money from peasants when fiscal inputs from the central/local governments are limited. This newly defined local levy, called the "one issue, one discussion collection of money and labor services" (*yishi yiyi chouzi choulao*), is monitored and controlled by the auditing department of the "peasant burden" at the county level, along with various other fees imposed on rural households. Therefore, although the level of rural taxation was fundamentally reduced after the rural taxation reform, the "peasant burden" remains a policy

issue.[11]

Policies for "giving more" consist of various public transfer programs to rural households, which can be categorized into two groups: a.) production-related transfers and b.) social security transfers. In addition, following Lin and Wong (2012), we can further classify public transfers, in terms of the three types of targeted beneficiaries: 1.) universal, 2.) pro-poor, and 3.) reimbursable. Universal transfers provide benefits without counterpart fees/contributions to almost all rural households regardless of their economic status. Pro-poor transfers, which are means-tested, target eligible poor households. Reimbursable transfers provide partial reimbursement for eligible household expenditures.

The classifications of the public transfers covered in this chapter are summarized in Table 5.4. It should be noted that there is one other group of public transfers: living/consumption-related transfers. These include subsidies for boarding students and subsidies to purchase durable goods and facilities, such as the subsidy for biogas digesters, the subsidy for electrical appliances (*jiadian xiaxiang*), and the subsidy for automobiles (*qiche xiaxiang*). Although these subsidies influence the level of household income as well as income inequality in rural China, the CHIP

[11] According to our calculations using Nongyebu (2014), the average level of levies, fees, and other "social burdens"—43.7 yuan per capita in 2013—fell for the first time after the abolition of agricultural taxes.

surveys do not contain detailed data about them. Therefore, we concentrate on production-related and social security transfers in this chapter.

[Table 5.4 about here]

Production-related transfers include both universal and reimbursement types of subsidies. The direct subsidies for food grain production and comprehensive subsidies for agricultural production materials are classified as universal transfers. Subsidies for the SLC program, providing for the restoration of forests and grasslands, are also regarded as universal transfers. However, subsidies for purchasing improved seeds and agricultural machinery are classified as reimbursable transfers.

Among the social security–related transfers, the NRCMS and the new rural PPI program are categorized as reimbursable transfers. As shown in Table 5.3, because of powerful policy support from central and local governments for large subsidy distributions, the NRCMS rapidly expanded its coverage, from 18.8 percent of rural residents in 2005 to 96.0 percent of rural residents in 2010. Coverage reached 99.0 percent in 2013, suggesting that most rural residents were participating in this program. Although the subsidies for the NRCMS premium are distributed universally by both the central and local governments as a fixed amount (or a fixed ratio) to all participants, household medical expense transfers can also be classified as

reimbursable transfers. This is because they depend on the medical expenses that households have paid.

Under the rural PPI program, pension benefits are determined by the subsidies from the central and local authorities as well as by the pension premium paid by the participants. Therefore, payments from the rural PPI can be categorized as a reimbursable transfer. Because the rural PPI was at an experimental stage in 2010, the program covered only 102.8 million rural residents, constituting 15.3 percent of the rural residents at that time. Since then, the rural PPI program has been merged with the urban PPI program, and the total number of participants has grown dramatically, reaching 497.5 million participants in 2013.

The *dibao* program is an important pro-poor subsidy. This program was introduced in the urban areas in the early 1990s, but selected rural localities (especially the more developed localities) only initiated the *dibao* program in the early 2000s. However, the *dibao* program has been widespread since 2006, mainly because of the intensification of policy support for rural households as well as the transfer of authority for the *dibao* program from the provincial governments to the central government (Luo and Sicular 2013).

The number of households that receive *dibao* increased rapidly from 8.3 million to 52.1 million between 2006 and 2010. The percentage share of households in the rural total reached 7.8

percent in 2010. Thereafter, the expansion of households has gradually slowed, reaching 8.6 percent of the total in 2013. In addition to *dibao,* pro-poor programs for rural residents also include the rural social assistance program for the elderly (*wubao*), which is the conventional rural social assistance program for food, clothing, housing, medical care, and burial expenses that began during the collective era but has recently been redefined, the poverty alleviation fund (*fupinkuan*), the medical relief fund (*yiliao jiuzhu*), and other social assistance programs.[12]

In the following sections, we first examine the impact of the rural taxation reform ("taking less") and then investigate the redistributive and poverty impacts of public transfers ("giving more"). In the investigation of the impacts of public transfers, we confine our analysis to public transfers that are universal, pro-poor, and reimbursements rather than production-related or social security transfers. This is because for the former we are better able to specify the beneficiaries of each policy, allowing for an evaluation of the policy impacts on income inequality in rural China.

B. Impacts of "Taking Less" Policies

To examine policy changes and their effects on the various income strata, we disaggregate rural

[12] There are also pro-poor programs that provide income to poor households, such as the cash-for-work program (Chen et al. 2014). Unfortunately, we are unable to distinguish wages from such programs from other wage earnings.

households into income deciles and calculate the taxation rate (the percentage of pre-tax income paid as agricultural taxes and other taxes and local levies/fees). As shown in Table 5.5, in both 1988 and 1995 taxation rates for the bottom decile were highest among all income deciles, constituting 16.28 percent and 12.55 percent of pre-tax income respectively, and the shares declined for the higher income deciles. Comparing the shares between 1988 and 1995, the shares in 1995 were considerably higher than those in 1988 for all income deciles, although the gaps between 1988 and 1995 still declined progressively for the higher income deciles. These outcomes suggest that tax and fee payments were levied regressively and the burdens were most serious for the lower income deciles.

A notable change in tax rates was observed in both 2007 and 2013. Specifically, the tax rates were reduced drastically for all income deciles, and the average shares decreased to 0.24 percent and 0.26 percent, respectively. These changes reflect the impacts of the comprehensive rural tax and the fee reforms implemented since 2000. Although the tax rates in 2007 and 2013 were slightly regressive, the rates were less than 1 percent for all deciles, except for the lowest decile in 2013. These findings suggest that “taking less” policies succeeded in resolving the problem of higher tax burdens for poor households in the 2000s.

[Table 5.5 about here]

C. Impacts of "Giving More" Policies

In our examination of the "giving more" policies, we focus on the 2013 CHIP to estimate the effects by comparing income inequality and the poverty index with/without specific transfers. Although the pro-poor public transfers were introduced in the early 2000s, because the CHIP survey was not designed to track the same households during that period it is difficult to evaluate the impact of specific pro-poor public transfers before and after this analysis. In addition, the CHIP 2007 data do not include the disaggregated amounts of the transfers, such as the universal, pro-poor, and reimbursable transfers. Therefore, we utilize disaggregated public transfers in 2013 to examine the impacts on income inequality.

[Table 5.6 about here]

The 2013 CHIP questionnaire asked each household member whether they participated in social security programs. Table 5.6 reports the percentages of households that were beneficiaries of specific types of social security programs. The recipients of *dibao* constituted 6.2 percent of the rural households. When other types of social relief (i.e., *wubao*, and so forth) are added, the percentage share of households increased to 8.0 percent.[13] Participants in public medical

[13] Luo and Sicular (2013) use the 2007 CHIP dataset to conduct a detailed analysis of *dibao* households.

insurance, including both the NRCMS and the employee insurance program, constituted 98.9 percent of all rural households, of which participants in the NRCMS accounted for 90.3 percent of all rural households. The pension participation rate was 87.3 percent, including participants in the employee pension scheme and other public pension programs, while the participation rate in the rural PPI was 76.0 percent. Participation rates in social insurance programs in the 2013 CHIP rural sample are generally consistent with those described in the official national statistics, as shown in Table 5.3.[14]

Table 5.7, based on income data from the 2013 CHIP survey, summarizes households that received public transfers, by both transfer types and regions. The upper part of Table 5.7 shows that the percentage share of households benefiting from reimbursable transfers among the total sample of households was the highest of all types of public transfer programs, at 59.5 percent. The shares were slightly higher in the less-developed provinces, i.e., those in the Central and Western regions. Among the reimbursable transfers, the share of rural PPI beneficiary

Because the estimated results from our re-examination of *dibao* households in 2007 are consistent with those of Luo and Sicular (2013), we omit the descriptions for 2007.

[14] According to Golan, Sicular, and Umapathi (2015), which employs the 2007 CHIP and a related survey for 2008 and 2009, *dibao* participation rates in their dataset are notably lower than those in the official data during this period, as contrasted with our results for 2013. The discrepancy might be due to improvements in the *dibao*, both in terms of enforcement as well as because of increasing recognition of the *dibao* institution by rural farmers. A detailed investigation of *dibao* coverage over time is left for future research.

households was higher than that for public medical insurance in all regions and provinces.[15]

[Table 5.7 about here]

As shown in Table 5.7, universal transfers were widely spread and affected almost one-half of the rural households (46.2 percent). The share of universal transfer beneficiary households was relatively low in the advanced provinces, such as Beijing, Guangdong, and Jiangsu. The beneficiary households receiving pro-poor transfers were also a substantial proportion of the entire sample, constituting 36.4 percent. The share of rural households that received anti-poverty relief through the *dibao* program was 7.5 percent, slightly lower than the national average (8.6 percent). Also, the percentage share of households receiving *dibao* was higher in the less-developed provinces, such as Gansu and Sichuan in the Western region.

The average amounts of public transfers to beneficiary households are summarized in the lower part of Table 5.7. The average amount of reimbursable transfers was 2,021 yuan per household per year, making it the largest of all types of public transfers. It is noteworthy that households in the Eastern region enjoyed significantly larger transfers. The same pattern is observed for rural PPI and public medical insurance. These results indicate that reimbursable transfers appear to increase income inequality in rural China.

[15] The occurrence of reimbursable transfers through medical insurance was considerably lower in Beijing, Shanxi, and Gansu.

Meanwhile, the average pro-poor transfer was relatively large for households in the Western region, reaching 1,920 yuan per household. However, there were no significant differences in the average amount of *dibao* transfers between the Eastern and Western regions. This is probably because, in accordance with its higher minimum living costs, the Eastern region had a relatively stronger local fiscal capacity. The average universal transfer was much lower than that of the other types of transfers and, regarding its regional differences, larger amounts were distributed in the Eastern and Western regions.

D. Impacts of Public Transfers on Income Inequality and the Poverty Index

To identify the impacts of public transfers on income inequality in rural China, we estimate the Gini coefficients with/without public transfers, assuming all else being equal. Because public transfers appear to be more important for lower-income households, especially households whose income is below the poverty line, we also estimate the Foster–Greer–Thorbecke poverty indices (FGT indices) with/without public transfers. The FGT indices are defined as follows:

$$FGT(\alpha) = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{z - y_i}{z}\right)^{\alpha} \tag{5}$$

where z denotes the poverty threshold, which was defined as 2,300 yuan per capita in 2010

prices by the NBS (Guojia tongjiju, Zhuhu diaocha bangongshi 2015) and we extended this to 2013 using the weighted average of the rural CPI and the rural Food CPI. N is the number of households, H is the number of poor households, and y_i is the income per capita of household i. With the parameter $\alpha = 0$, equation (5) corresponds to the headcount ratio (the fraction of households below the poverty line). With parameter values $\alpha = 1$ and $\alpha = 2$, equation (5) corresponds to the poverty gap index and the squared poverty gap index, respectively. The higher the value of parameter α, the greater the weight placed on poorer households. Because the official poverty level is determined according to the NBS household income, we exclude imputed rent from our CHIP household income to calculate the FGT indices.

In estimating the Gini coefficients and the poverty indices, as discussed in previous subsections, the impacts of public transfers on income inequality differ according to the type of transfers. Therefore, to calculate the indices, we classify public transfers into: 1.) universal, 2.) pro-poor, and 3.) reimbursable transfers. Because of a lack of detailed data on public transfers, examination of the public transfer decomposition is limited for 2013.

[Table 5.8 about here]

Initially, we calculated the Gini coefficients with/without net public transfers to compare 2002 and 2013. As described in the previous section, because negative transfers were implemented

between the 1990s and the early 2000s, a comparison of 2002 and 2013 will enable us to evaluate the impacts of the transformation of public policy on income inequality. Table 5.8 reports the estimation results. It shows that there is slight change in the Gini coefficients between these years with or without net public transfers, regardless of region. However, the Gini coefficients for 2013 without net public transfers are approximately 3.63 percent larger than those with net public transfers, and the gaps are larger in the Eastern and Western regions. These findings indicate small but substantial improvements in the redistributive impacts of public transfers between 2002 and 2013. Moreover, the strength of the redistributive impacts is not proportional to the level of regional development, with the greatest impact being in the Western region and the least impact in the Central region. Therefore, it can be argued that implementation of pro-rural public policies during the first decade of this century represented a historical reversal of the urban-biased public policy in contemporary China.

Next, we calculated the Gini coefficients with/without the three types of public transfers; the results are summarized in Table 5.9. The contributions of both pro-poor and reimbursable transfers in 2013 are high compared with those of universal transfers, both for total households and all regions. The largest reduction in the Gini coefficient is observed in the Eastern region, at 2.33 percent. However, the impact of pro-poor transfers on improvements in income inequality

was low, although the contribution was more important (at 1.88 percent) in the Western region. The impact of universal transfers on income inequality accounted for only 0.51 percent, and the regional differences in the impacts are not obvious.

[Table 5.9 about here]

Although the impacts of specific public transfers on total income inequality are less distinct, they tend to be targeted at relatively poor households, probably resulting in an overall smaller impact on income inequality. Thus, we calculate the FGT indices to evaluate the impacts on poverty, using the official rural poverty threshold.[16] Table 5.10 summarizes the estimated results for the FGT indices in 2013, with and without the specific types of public transfers.

The poverty impacts of universal transfers are limited at best. Improvements in the FGT indices when universal transfers are included are 7.9 percent for the poverty headcount ratio (FGT(0)), 7.6 percent for the poverty gap (FGT(1)), and 7.2 percent for the squared poverty gap (FGT(2)). The poverty impacts of universal transfers differ among regions, with those in the Central region higher than those in the Eastern and Western regions.

[Table 5.10 about here]

The strength of the poverty impact from pro-poor transfers is almost the same, but inversely

[16] The current official poverty threshold is annual per capita income of 2,300 yuan, in 2010 constant prices.

proportional to the regional developmental level. The improvement in FGT(1) when pro-poor transfers are included was 13.7 percent in the Eastern region, 24.5 percent in the Central region, and 20.7 percent in the Western region. This finding suggests that the targeting of pro-poor transfers worked effectively in the Central and Western regions where the incidence of poverty was more serious.

Improvements in the poverty indices when public transfers are included were larger for reimbursable transfers than for the other two types of public transfers. Changes in the FGT indices improved when reimbursable transfers were included: 21.1 percent (FGT(0)), 26.0 percent (FGT(1)), and 31.2 percent (FGT(2)). Regional differences in the poverty impacts from reimbursable transfers are in line with those from the two other types of public transfers, that is, the redistribution effects are much larger in the Eastern region than they are in the Central and Western regions. The impact is noteworthy in the Eastern region, where reimbursable transfers produce a 48.4 percent reduction in FGT(0).

V. Conclusion

This study examines long-term changes in the distribution of rural income in China from the late

1980s to the mid-2010s. The major results are summarized as follows. First, regarding the results of a decomposition analysis of income inequality, we found contrasting trends in the contributions of agricultural income and wage earnings, which reflect the rapid change in rural household income structure caused by the dual processes of the economic development and the systemic transition during the post-Mao era. Both the share of total income and the contribution to total income inequality from agricultural income were decreasing rapidly between 1988 and 2013. In contrast, both the share of total income and the contribution to inequality from wage earnings increased rapidly between 1988 and 2002, and by 2002 wage earnings had become the largest disequalizing income component. Between 2002 and 2013, this contribution remained constant, whereas its share of total income continued to increase.

Second, the increasing contribution of asset income and imputed rent from owner-occupied housing to income inequality suggests that inequality in wealth is becoming increasingly important for an understanding of rural inequality.

Third, there were small but substantial improvements in the redistributive impacts of public transfers between 2002 and 2013. Implementation of pro-rural public policies in the first decade of this century marked a historic reversal in the long-term urban-biased public policy of contemporary China. Comparing the redistributive impacts among the several types of public

transfers in 2013, we found that the contribution of reimbursable transfers was the largest and the contribution of pro-poor transfers was limited.

Fourth, our estimations of the poverty impacts of public transfers in 2013 reveal comparable results to those of the redistributive impacts of public transfers. The improvement in the poverty indices was largest for reimbursable transfers, even though pro-poor public transfers improved poverty indices and the strength of the impact of poverty was relatively larger in less developed regions

This study is based on aggregated indicators, such as the Gini coefficient and the FGT indices. To further investigate the dynamics of income inequality in rural China, it will be necessary in the future to carry out a further econometric examination, controlling for the socioeconomic attributes of households.

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Table 5.1. ***Income per capita and Gini coefficients adjusted by regional weights and PPP***

	1988	1995	2002	2007	2013
(a) Income per capita (yuan) unadjusted	688	1,976	3,022	4,904	12,895
(b) Income per capita (yuan) adjusted by regional weight and PPP	715	1,956	2,902	4,610	12,166
(c) Gini coefficient of (a)	0.351	0.400	0.376	0.371	0.408
(d) Gini coefficient of (b)	0.323	0.387	0.370	0.355	0.398
Difference between (a) and (b) (%)	-3.79	1.03	4.11	6.36	5.98
Difference between (c) and (d) (%)	8.74	3.44	1.57	4.50	2.49

Notes: Whole rural household observations (not including migrant households) are utilized to estimate the per capita income and the Gini coefficient. Regional weights are calculated based on the share of the provincial agricultural population to the regional agricultural population.

Sources: Authors' estimations based on the CHIP surveys. We utilize the PPP index for provincial rural households as estimated in Brandt and Holz (2006), and extend to 2013 by utilizing the official CPI in the rural areas.

Table 5.2. ***Percentage shares of net transfer income by region and decile***

Unit: %

		1988	1995	2002	2007	2013
Total average		0.44	-3.66	-1.61	4.84	4.90
Region	Eastern	1.50	-2.61	-0.83	5.24	3.41
	Central	-2.91	-6.29	-2.93	3.57	5.33
	Western	0.02	-3.69	-1.89	4.92	6.65
Decile	Bottom	-16.14	-13.91	-6.00	8.55	2.86
	2nd	-4.79	-7.68	-3.55	5.57	9.08
	3rd	-2.09	-6.92	-2.99	5.24	7.81
	4th	-2.12	-6.57	-2.91	4.89	6.59
	5th	-0.70	-6.34	-3.02	4.01	7.14
	6th	-0.30	-5.21	-2.25	4.21	5.53
	7th	-0.88	-4.60	-2.12	5.41	5.03
	8th	0.12	-3.77	-1.72	4.61	5.13
	9th	0.98	-2.36	-1.13	4.35	3.98
	Top	4.36	-0.89	0.05	4.95	3.45

Notes: 1.) Net transfer payments are defined as the sum of public transfers to households (social security benefits/reimbursements and other transfers from the government/collectives) minus transfers from households to the public sector (taxes, levies/fees, social security contributions, and other payments to the government/collectives). It should be noted that in this study other miscellaneous private transfers, such as gifts for ceremonial exchanges, are not included in the net transfer payments and in the total income. 2.) Post-transfer per capita income is utilized as the denominator to calculate the net transfer share.

Sources: Authors' estimation based on the CHIP surveys.

Table 5.3. ***Major pro-rural public policies in the 2000s***

	Period of nationwide implementation	Number of beneficiaries/participants, in millions of persons (% of rural residents in parentheses)		
Policy of "Taking less"		2005	2010	2013
Tax-for-fee (*feigaishui*) reform	2002	–	–	–
Abolition of agricultural taxes	2006	–	–	–
Policies of "Giving more"		–	–	–
Direct subsidies for agricultural production	2002	–	–	–
Subsidies for the sloping land conversion (SLC) program	2002	–	–	–
New Rural Cooperative Medical Insurance System (NRCMS)	2003	179 (18.8)	836 (96.0)	802 (99.0)
Rural minimum living standard guarantee (*dibao*)	2007	8.3 (1.1)	52.1 (7.8)	53.9 (8.6)
Newly defined conventional rural social assistance (*wubao*, five-guarantee assistance)	2006	–	5.6 (0.8)	5.4 (0.9)
New rural public pension insurance (PPI) program	2009	–	102.8 (15.3)	497.5 (79.0)**

Notes: 1.) Direct subsidies for agricultural production include a subsidy for food grain production, comprehensive subsidies for agricultural production materials, subsidies for improved seeds, subsidies for the purchase of agricultural machinery, and other local subsidies for staple agricultural products. 2.) ** includes urban residents, and the percentage share is calculated by the total population.

Sources: Li, Sato, and Sicular (2013); Lin and Wong (2012); Guojia tongjiju (various years).

Table 5.4. ***Classification of the pro-rural public transfers in this study***

	(1) Universal types of transfers	(2) Pro-poor types of transfers	(3) Reimbursement types of transfers
(a) Production-related transfers	Direct subsidies for food grain production, comprehensive subsidies for agricultural production materials, SLC subsidies		Subsidies for purchasing improved seeds, subsidies for purchasing agricultural machinery
(b) Social security transfers		*Dibao*, *wubao*, poverty alleviation fund, medical relief fund	NRCMS, rural PPI

Sources: Lin and Wong (2012); Sato and Wang (2014).

Table 5.5. ***Tax rates by region and decile***

Unit: %

		1988	1995	2002	2007	2013
Total average		3.94	4.22	2.95	0.24	0.26
Region	Eastern	3.17	2.80	2.25	0.18	0.24
	Central	6.53	6.63	4.01	0.34	0.24
	Western	2.63	4.05	3.16	0.27	0.30
Decile	Bottom	16.28	12.55	8.05	0.27	1.58
	2nd	7.55	7.52	4.88	0.40	0.39
	3rd	6.05	7.18	4.72	0.23	0.42
	4th	4.88	6.80	4.06	0.29	0.19
	5th	4.66	6.26	4.08	0.22	0.32
	6th	4.23	5.55	3.49	0.25	0.34
	7th	3.96	5.04	3.12	0.21	0.22
	8th	3.50	4.55	2.82	0.27	0.16
	9th	2.91	2.95	2.24	0.14	0.22
	Top	2.04	1.69	1.60	0.25	0.19

Notes: 1.) Tax payments include agricultural taxes, other taxes, and local levies/fees paid to local governments and collectives. 2.) Pre-tax income is used as the denominator to estimate the tax rate.

Sources: Authors' estimation based on the CHIP surveys.

Table 5.6. ***Percentage share of rural households that received specific types of social security, 2013***

	% of beneficiaries/participants
Dibao or social relief	8.0
Dibao	6.2
Medical insurance	98.9
NCMS	90.3
Public pension insurance	87.3
Rural PPI	76.0

Note: The observations for Xinjiang province are not included in the table because of differences between the Xinjiang questionnaires and those distributed elsewhere.

Source: Authors' estimation based on the 2013 CHIP survey.

Table 5.7. ***Percentage shares of beneficiary households among all rural households, 2013***

	Universal transfers	Pro-poor transfers	*Dibao*	Reimbursable transfers	PPI	Medical insurance
(a) Share of beneficiaries among all rural households (%)						
Total	46.2	36.4	7.5	57.2	28.0	11.3
Eastern	34.6	34.3	2.8	52.8	32.9	8.7
Central	57.3	35.4	7.7	58.6	25.2	14.8
Western	45.0	40.1	12.3	60.5	26.3	9.9
(b) Average amount of public transfers for beneficiaries (yuan)						
Total	524	1,204	1,603	2,021	2,281	2,739
Eastern	635	767	1,770	2,833	3,212	3,816
Central	393	929	1,240	1,551	1,436	2,382
Western	638	1,920	1,846	1,810	2,011	2,369

Notes: 1.) The average amount of public transfers is calculated only for households that receive transfers. 2.) Households that received the transfers but the amounts were zero are excluded from the estimation. 3.) It is possible that the average amount of the subtotal exceeds the total.

Source: Authors' estimation based on the 2013 CHIP survey.

Table 5.8. ***Comparison of per capita income Gini coefficients with and without public transfers, 2002–2013***

	2002			2013		
	(a) Gini coefficient with public transfers	(b) Gini coefficient without public transfers	(c) % change of Gini coefficient	(a) Gini coefficient with public transfers	(b) Gini coefficient without public transfers	(c) % change of Gini coefficient
All households	0.370	0.371	0.22	0.395	0.409	3.63
Eastern	0.375	0.376	0.12	0.374	0.388	3.56
Central	0.289	0.292	0.91	0.363	0.377	0.43
Western	0.328	0.328	0.08	0.401	0.417	4.00

Sources: Authors' estimation based on the 2002 and 2013 CHIP surveys.

Table 5.9. ***Per capita income Gini coefficients with and without specific public transfers, 2013***

	Total	Eastern	Central	Western
Gini coefficients with public transfers	0.395	0.374	0.363	0.401
Gini coefficients without specific public transfers				
(i) Universal	0.397	0.376	0.366	0.403
(ii) Pro-poor	0.400	0.377	0.369	0.408
(iii) Reimbursable	0.401	0.383	0.368	0.406
% change in Gini coefficients				
(i) Universal	0.51	0.33	0.75	0.58
(ii) Pro-poor	1.37	0.67	1.58	1.88
(iii) Reimbursable	1.53	2.33	1.28	1.30

Source: Authors' estimation based on the 2013 CHIP survey.

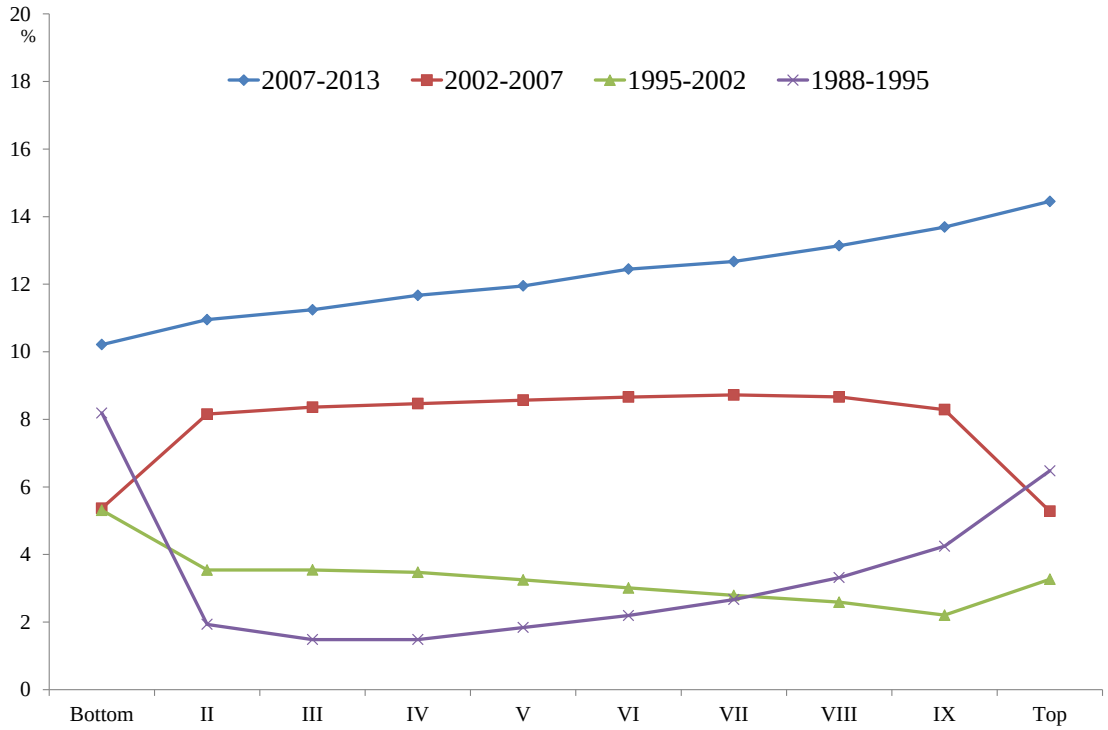
Table 5.10. ***Poverty index with and without specific public transfers, 2013***

	Total			Eastern			Central			Western		
	FGT(0)	FGT(1)	FGT(2)	FGT(0)	FGT(1)	FGT(2)	FGT(0)	FGT(1)	FGT(2)	FGT(0)	FGT(1)	FGT(2)
Poverty index with all public transfers	0.051	0.014	0.007	0.021	0.007	0.003	0.051	0.013	0.006	0.086	0.025	0.011
Poverty index without specific public transfers												
(i) Universal	0.055	0.015	0.007	0.022	0.007	0.003	0.056	0.015	0.006	0.092	0.026	0.012
(ii) Pro-poor	0.058	0.017	0.008	0.023	0.007	0.004	0.058	0.016	0.007	0.100	0.030	0.014
(iii) Reimbursable	0.061	0.018	0.009	0.031	0.010	0.005	0.060	0.016	0.008	0.099	0.029	0.014
% change in poverty index												
(i) Universal	7.9	7.6	7.2	5.3	1.5	-3.1	11.0	11.4	11.8	6.6	7.1	8.1
(ii) Pro-poor	14.6	20.8	23.2	11.3	13.7	13.1	14.0	24.5	29.5	16.0	20.7	23.3
(iii) Reimbursable	21.1	26.0	31.2	48.4	55.2	61.2	18.5	24.5	33.0	15.0	17.9	20.2

Note: The poverty indices are estimated by employing per capita income.

Source: Authors' estimation based on the 2013 CHIP survey.

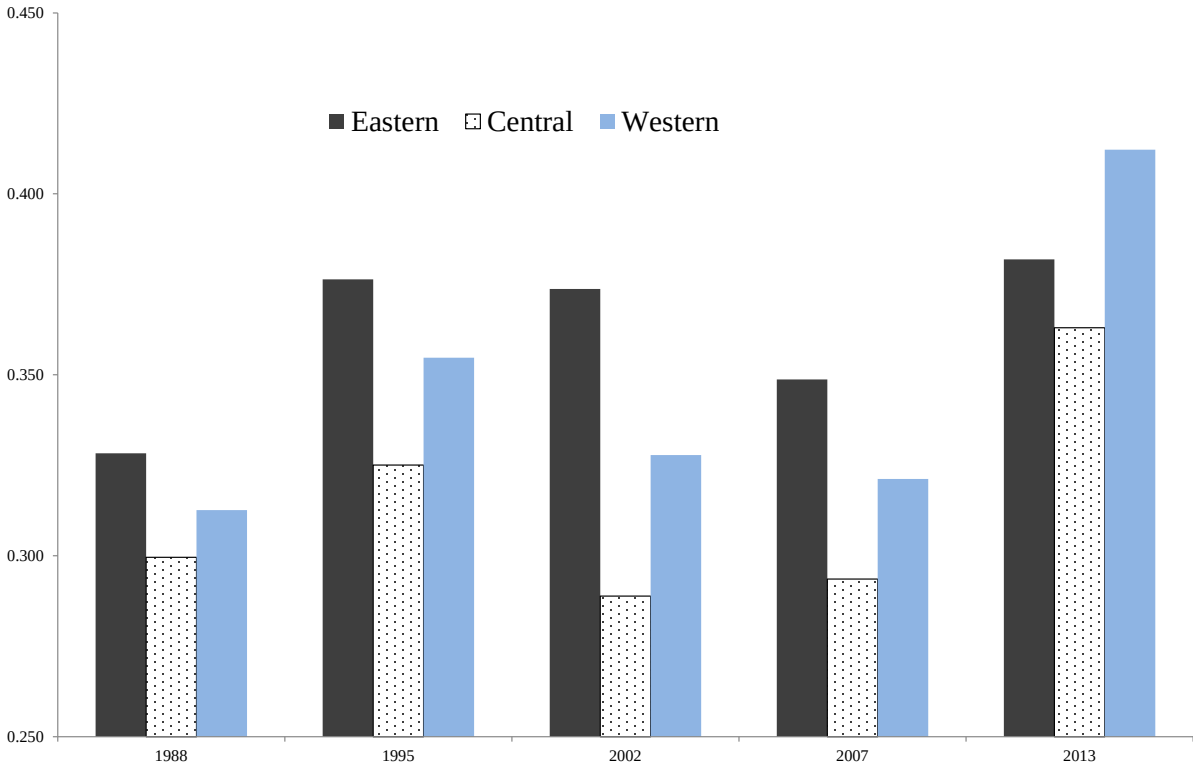
Figure 5.1. ***Real growth rates of annual income between survey rounds***



Notes: Income is adjusted by the regional weight and the PPP index. Per capita income is deflated by the rural CPI (2013=100). The rural CPI is from Guoji tongjiju (various issues).

Sources: The authors' estimation based on the CHIP surveys.

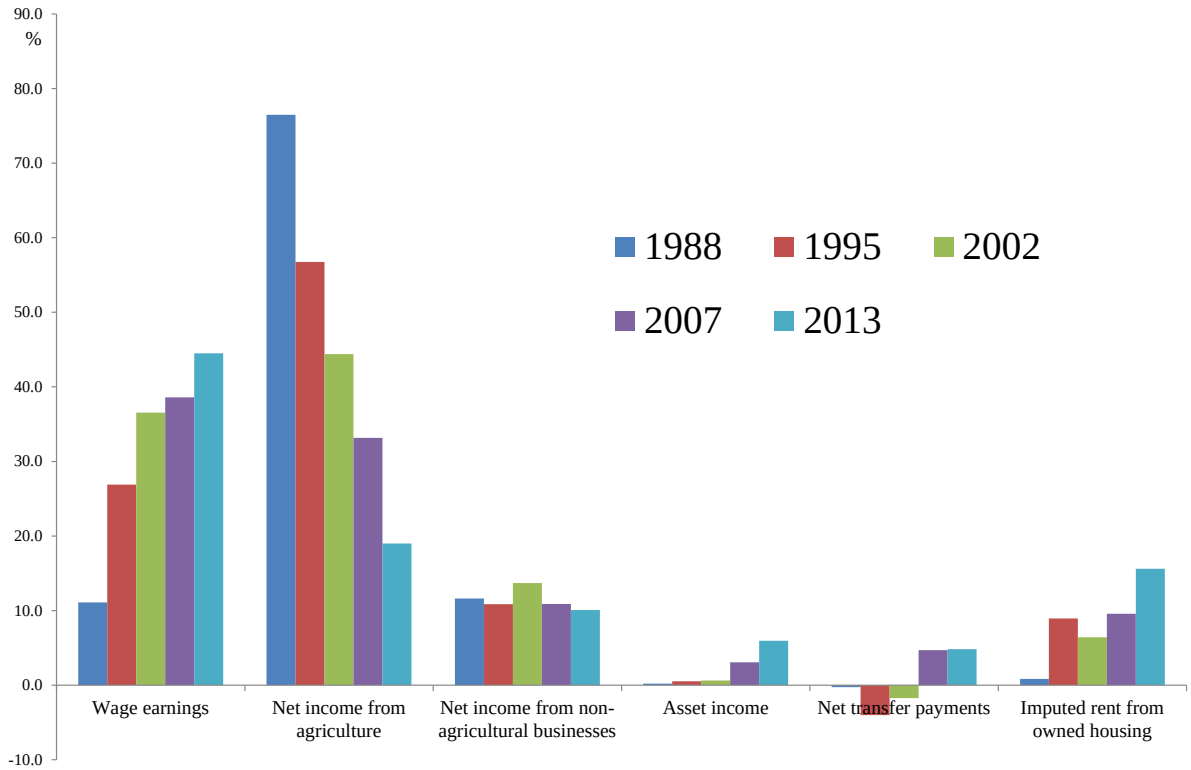
Figure 5.2. ***Gini coefficients of adjusted income per capita by region***



Notes: 1.) The regional classifications are as follows: Eastern region (Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, and Hainan), Central region (Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, and Hunan), Western region (Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia, and Xinjiang). 2.) Income is adjusted by the regional weight and the PPP index.

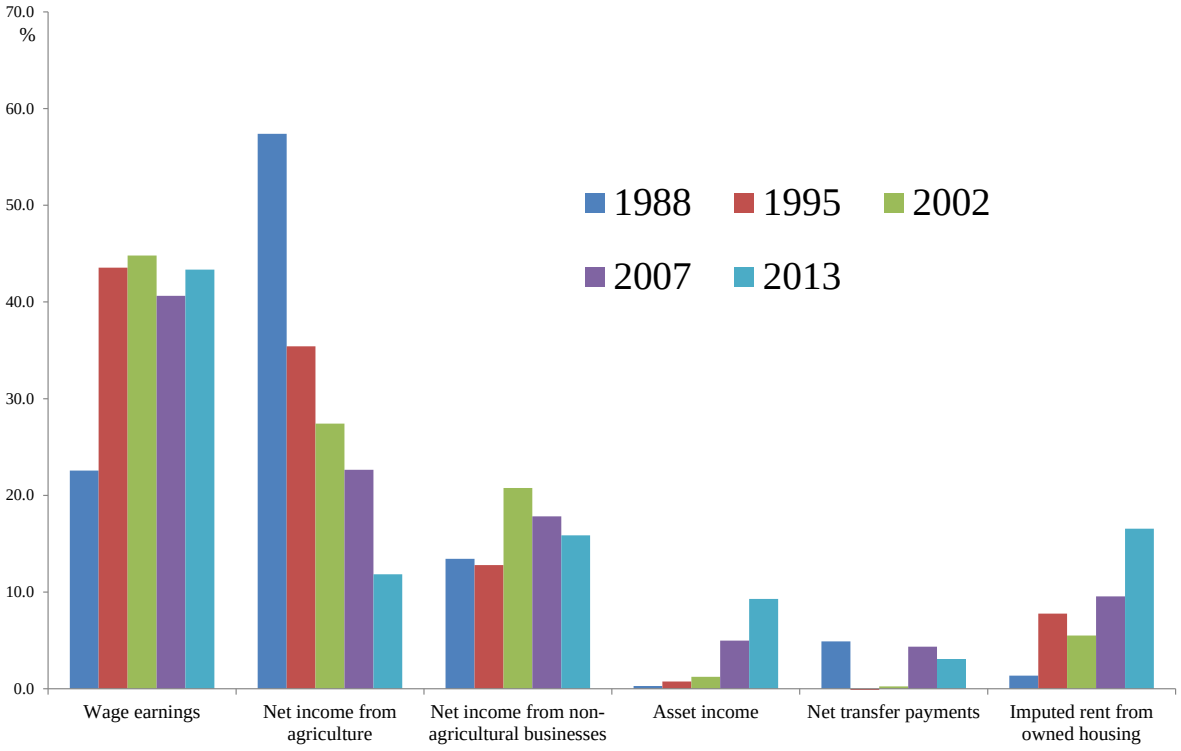
Sources: Authors' estimation based on the CHIP surveys and National Bureau of Statistics, Department of Household Surveys (2013).

Figure 5.3. ***Percentage shares of income components in total income***



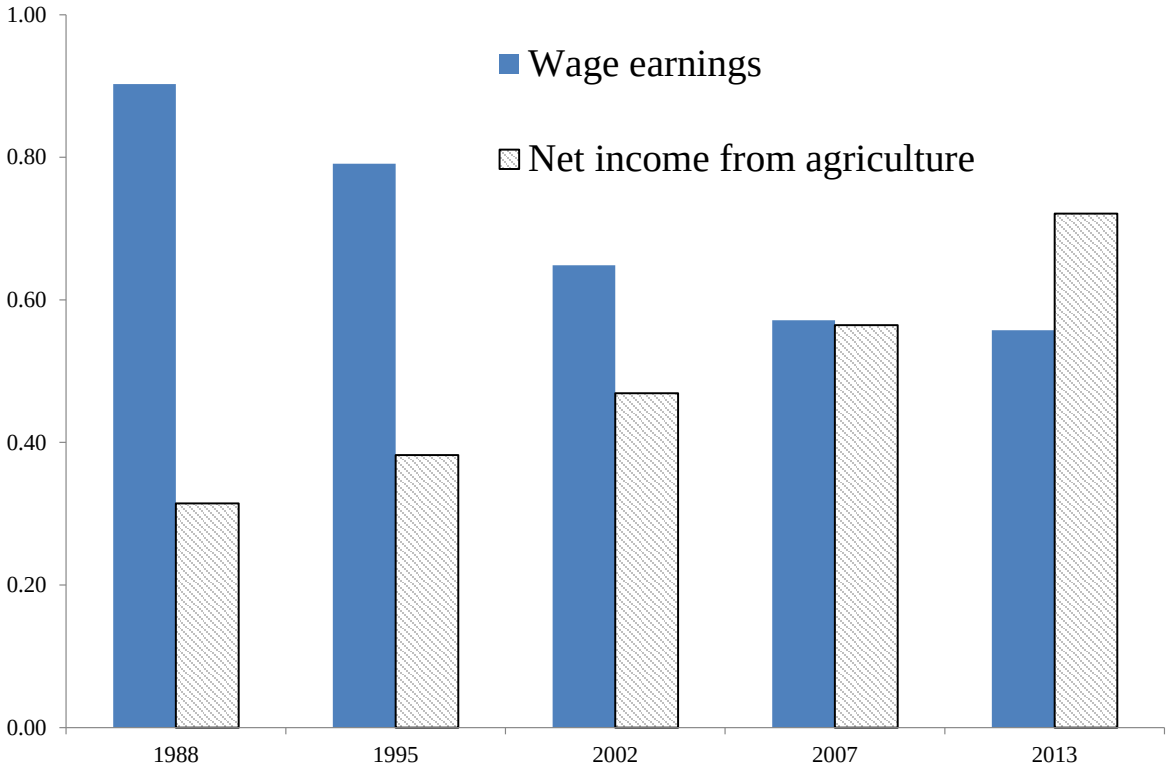
Sources: Authors' estimation based on the CHIP surveys.

Figure 5.4. ***Contributions of income components to income inequality***



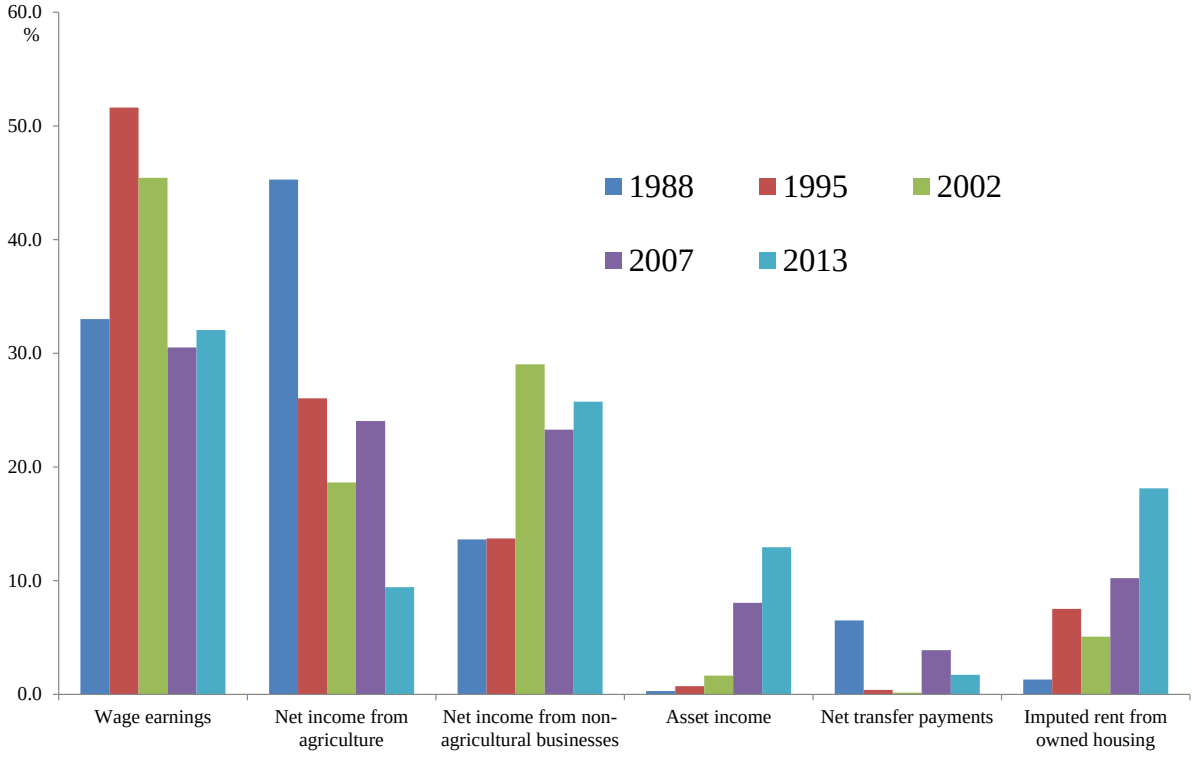
Sources: Authors' estimation based on the CHIP surveys.

Figure 5.5. ***Comparison of the distributive effects (coefficient of concentration) of per capita income between agriculture and wage earnings***



Sources: Authors' estimation based on the CHIP surveys.

Figure 5.6. ***Results of the Shorrocks decomposition***



Sources: Authors' estimation based on the CHIP surveys.