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Bjorn Gustafsson

Sai Ding

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Bjorn Gustafsson and Sai Ding

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Unequal Growth: How Household Incomes and Poverty in Urban China Have Developed since 1988, with an Emphasis on the Period from 2007 to 2013

Björn Gustafsson
Professor, Department of Social Work, University of Götenburg
Research Fellow, Institute for the Study of Labor (IZA)

Sai Ding
Professor, Institute of Ethnology and Anthropology
Chinese Academy of Social Sciences

Abstract

This chapter investigates how household income, income inequality, and poverty among urban residents in China have developed since 1988, with an emphasis on the period from 2007 to 2013. We use data from the China Household Income Project (CHIP) to show that during a period when many countries in the West were experiencing stagnating or falling incomes, household incomes in urban China were growing by an average of 7 percent per annum. However, unlike during previous periods, earnings were growing by not more than 3 percent per annum, but pensions and imputed rents of owner-occupied housing were growing more rapidly. The trend whereby fewer persons in urban China have incomes that are lower than the poverty line, expressed as the constant purchasing power, continued between 2007 and 2013. We also show that income growth from 2007 to 2013 was slower in the lower part of the income distribution and thus the trend of increased income inequality in urban China continued. This also applied to the number of people falling below the relative poverty line.

Keywords: China, income, income distribution, poverty

JEL Classification: D31, O15, P25

I. Introduction

In 2008 the Great Recession hit most high-income countries. GDP fell and average household income decreased. Unlike in the countries in the West, in the People's Republic of China (PRC) GDP continued to grow at rates between 7 to 10 percent per annum (World Bank, 2016). How did this affect trends among Chinese urban residents, that is people with urban residence permits (*hukou*)? More specifically, we ask: What was the average household income growth and what were the trends in the income distribution? Did income inequality increase, remain constant, or decrease? How and why did poverty grow? How did different income components develop, and how were they related to disposable income?

In this chapter, we report new results based on data from the China Household Income Project (CHIP) for 2007 and 2013. As very similar data were collected for 1988, 1995, and 2002, we use these surveys to put development between 2007 and 2013 in perspective against the background of China's two and one-half decades of rapid economic growth and transition toward a market economy. During this long period, political priorities as well as the political leaders changed several times. Policies under the leadership of Jiang Zemin, from 1989 to 2003, are often described as placing on a priority of economic growth, whereas under the leadership of Hu Jintao and Wen Jiabao from 2013 to 2013 there was more of a focus on equality.

We use the CHIP definition of income for all years, which, unlike the National Bureau of Statistics (NBS) definition, includes imputed rents from owner-occupied housing. We add the income for all household members, divide it by the number of household members, and then assign this per capita household income to all household members. The motivation for

aggregating income to the household is that people typically live with other household members with whom they share income. It is true that in many households' earnings are from paid work or self-employment, which are the most important sources of income. However, a household often receives income from various other sources as well. For example, pensions are the most important source of income for the elderly. The levels and inequality of household income do not necessary develop as levels of earnings and earning inequality among workers.

Several authors have studied how household income, income inequality, and poverty in urban China have developed since the latter part of the 1980s. Rapid increases in income, accompanied by increases in inequality, are typically reported in studies that analyze the early years after the introduction of the reforms. One example is Meng (2004) who uses data from the 1988, 1995, and 1999 CHIP surveys. Another example is Wang (2008) who focuses on development during the period from 1986 to 2000. A third example is Cai, Chen, and Zhou (2010) who study income as well as expenditure inequality from 1992 to 2003 using the Household and Expenditure Data from the NBS. Appleton, Song, and Xia (2010), who study income poverty during 1988, 1995, 1999, and 2002, report fewer households and fewer persons falling below the poverty line, as expressed as the constant purchasing power during the year under study. However, authors who analyze the annual rounds of the NBS urban household surveys have pointed out that the movement toward fewer persons with incomes below a poverty line expressed as the constant purchasing power has not always been smooth.[1]

In studies of the more recent years, Gustafsson and Ding (2013) use the CHIP data for 1995, 2002, and 2007 to investigate how larger proportions of those who are of active work ages were not earning incomes. They find that much this lack of earnings was absorbed within the

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[1] See Fang, Zhang, and Fan (2002) who analyze 1992 and 1994–98, and Meng, Gregory, and Wang (2005) who study the period from 1986 to 2000.

households. Deng and Gustafsson (2013), using the CHIP data, report a rapid increase in urban income between 2002 and 2007 as well as an increase in income inequality. Their study also shows that the previous trend of fewer persons living in households with incomes below the constant purchasing power continued. However, larger proportions of people were living on incomes below a poverty line set to a proportion of the contemporary median income. As stated above, the period of study in this chapter places the developments since 1988 into perspective. We are not aware of any previous study that has investigated income, income inequality, and poverty in urban China over such a long period.

Looking at the results from 2007 to 2013, we find that real income among Chinese urban residents grew by an average of 7 percent per annum. This means a growth rate only marginally lower than the trend since 1988. However, earnings grew by not more than 3 percent per annum, much lower than that in previous years. In contrast, pensions and imputed rents from owner-occupied housing grew much more rapidly and together they represented slightly more than one-half of the growth in average household income. The trend of fewer persons in urban China having incomes lower than a poverty line expressed as the constant purchasing power (as found in research on previous periods) continued between 2007 and 2013. However, we also report that income growth from 2007 to 2013 was slower at the lower part of the income distribution. The trend of increased income inequality continued, as did the trend toward more people falling below a relative poverty line.

The remainder of this chapter is organized as follows: In the next section we discuss changes in urban China that are particularly relevant to our research questions. In Section 3 our data and definitions are presented. Section 4 contains the results in terms of the development of household income, income inequality, and income poverty. In Section 5 we report how the

development of various income components is related to household income, thus providing some insights into those channels by which income inequality increased. Section 6 contains an analysis of relative poverty. Finally, we sum up and present our conclusions in Section 7.

II. Background

First, we present a brief description of early developments in urban China since the 1980s to place the longer period into perspective.[2] During the 1980s most economic activity in urban China took place in state-owned or collective-owned enterprises. Investment and productive inputs and outputs were allocated administratively. Additionally, workers were administratively allocated to their work units where they often remained until retirement and they rarely risked losing their jobs. The work units played a key role in workers' lives as they typically provided housing at a very low cost, various social services, and post-retirement pensions. The compensation package typically included consumer goods and a limited amount of money. Very few economic activities took place outside of the state and collective sectors.

This description has gradually become outdated. Foreign trade has expanded rapidly as has foreign direct investment (FDI), affecting both urban labor demand and wages. Furthermore, the economy has been growing rapidly. Consumer markets, markets for productive inputs (including for labor) have also been put in place. By the second half of the 1990s tens of millions of workers were facing layoffs, and the proportion of workers employed by state-owned enterprises (SOEs) decreased rapidly. Furthermore, the work unit no longer played such a dominant role in the lives of the workers. For example, housing was privatized and many workers bought their

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[2] For more details, see, for example, Naughton (2007).

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own apartments. Parallel to these changes, self-employment has increased and many workers are employed either by privately-owned firms or by foreign-invested enterprises.

Ever since the early days of the PRC, people who lived in rural and urban China have been treated differently. To a considerable extent, the urban population was and remains a privileged group, whereas the rural population is disadvantaged. A large income gap has prevailed for decades, though recently there have been attempts to close this gap.[3] For decades very few rural persons could find opportunities to work and live in the cities. This situation has gradually changed. More rural people have moved to the cities, either temporarily or permanently. They often take positions that pay less than those held by urban residents, and they tend to live in inferior housing. In this chapter, as in all writings on income inequality in urban China about which we are aware, the analysis does not include the migrant population. Nevertheless, the increased presence of rural migrants in urban China has had several economic consequences that have affected the incomes of urban residents. For example, the presence of migrants places downward pressures on the wages of less-skilled workers. It is also likely to increase the demand for housing and so place upward pressures on housing prices and on the imputed rents from owner-occupied housing enjoyed by urban residents.

Urbanization has been one of the most significant changes in China's population structure. There have also been major changes in other dimensions as well. One is the growth of higher education, whereby the newer cohorts of workers are better educated than the older cohorts. As is well known, high-income countries are rapidly aging. The same situation also applies to China, especially China's urban areas. Our data show that in 1988 children constituted 22 percent of urban residents, but by 2013 this figure had declined to 14 percent. In contrast, between the two years the share of the elderly population increased from 7 percent to 16 percent.

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[3] On the former, see, for example, Whyte (2010); on the latter, see, for example, Shi (2012).

China's aging population is a consequence of two rapidly growing trends. One is the low birth rate, consistent with the strict family planning policy that limited the number of babies for most urban couples until the end of 2015. The low birth rate is also consistent with the rapid increase in female education. The other cause of aging is the impressive increase in life expectancy. According to the World Bank, life expectancy at birth in China increased from as low as 43 years in 1960 to as high as 76 years in 2014, or by as much as 33 years. This means that the gap in life expectancy between China and, for example, the United States (which was 27 years in 1960) had declined to 3 years by 2014.

By the standards of high-income countries, China today has low retirement ages. The legal retirement age for women is 55 years and for men is 60 years. In fact, the retirement age for women is likely lower because by the second half of the 1990s, many enterprises had laid off female workers. To some extent this also reflected a combination of the lack of subsidized public child care in urban China and strong family norms, according to which grandmothers were to take care of their grandchildren.

In urban China, most elderly people receive pensions as they were employed for most years of their working lives. Some receive generous pensions, whereas for others the pensions are not so generous and for some there are even no pensions at all. Furthermore, a slowing of the rapid economic growth may cause challenges to funding the growing pension expenditures. Until now, there has not been much discussion of policy measures to increase the age at which one receives a pension. It is conceivable that in the future China will take steps to increase the general retirement age.

Anyone who has regularly visited China cannot have missed the substantial changes in the housing market. Many new dwellings have been constructed, and others are in the process of

construction. A possible fall in the historically high housing prices is not out of the question. Reasons why housing prices have increased so rapidly are multiple. One is the increased migration from the rural areas. Also, rapidly increasing incomes have made it possible for urban households to afford larger apartments. To these reasons can also be added expectations of future increases in income due to recent historical experiences as well as increased possibilities to obtain loans. As one component of household income, this study includes the value of imputed rents from owner-occupied housing. Similar to other studies on income inequality in urban China, we do not include in income the realized capital gains when housing is sold at higher prices than the purchase prices.

In the West, the government assumes responsibility for providing many social services and transfers to the population. For example, most high-income countries except for the United States provide families with regular child allowances. In addition, some countries allocate funds to child-care programs and to programs for parental leave. Much of the funding for these programs comes from taxes. The situation in urban China is somewhat different and has evolved over time. In urban China the work units assumed many of the roles that in the West are the responsibilities of local governments, the central government, or social insurance systems. The work units paid for these programs from their sales revenue, so that it was less necessary, as compared to the situation in the West, to fund such programs through taxes. As we will see, in this respect the situation in China has not radically changed since the 1980s. In addition, the retreat of the work units from the lives of urban employees has not been fully matched by increased government commitments.

We now turn to macroeconomic developments in China since 2007.[4] In that year the financial crisis in the United States sent the world economy on a downward spiral. The Chinese economy was adversely affected due to its international ties. Inward direct investments fell rapidly as did foreign demand for manufactured goods. Consequently, labor demand put downward pressures on earnings, particularly on those earnings that were derived from exports. The possibility of increased unemployment, losses of household income, and the resultant mass protests and social instability was most probably the motivation for the Chinese government to take rapid measures. In September 2008, the People's Bank of China (PBC) initiated a monetary easing policy, which resulted in a drastic increase in bank loans. A large fiscal stimulus package was presented in October 2008 when the government announced that CNY 4 trillion would be spent during the following two or three years. Almost one-half of the stimulus package was directed toward improvements in the transportation system, and one-quarter went to reconstruction after the 2008 Wenchuan earthquake (He, Zhang, and Zhang, 2009). Most of those investments were financed by bank loans. Most observers agree that the stimulus program had a positive effect on the Chinese economy during a period of a sharp global economic slowdown.[5]

III. Data and Definitions

We use the urban survey from the CHIP, in which income information applies to the years 1988, 1995, 2002, 2007, and 2013. Based on the five surveys, we can show changes during four

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[4] For more information, see, for example, Lardy (2012).
[5] Two concerns about the program have been raised. First, the stimulus program fueled an increased level of local debt in China. Second, it has been argued that the stimulus program accelerated the advance of the role of the state in the economy. On the latter, see, for example, Johansson and Feng (2016).

different periods covering as much as two and a half decades. The two first sub-periods generally correspond to the period when Jiang Zemin held power; the third and fourth periods correspond to the time when Hu Jintao and Wen Jiabao were the top policymakers. Because the five waves of the CHIP surveys do not cover identical provinces, to increase comparability across years, we use in our analysis only observations from those provinces that were included in all five years. The provinces are: Beijing, Shanxi, Liaoning, Jiangsu, Anhui, Henan, Hubei, Guangdong, Chongqing, Sichuan, Yunnan, and Gansu.[6] To achieve a better representation of the population under study we use the rural/urban/migrant x region (two level) sample weights developed in the CHIP project.[7]

The CHIP surveys are a sub-sample of the urban household sample used by the NBS to produce China's official statistics. This means that the surveys for 1988, 1995, 2002, and 2007 were sampled from a frame that covered areas that were defined as urban during the year of the sample.[8] In the CHIP urban household survey, the sample frame only includes urban residents with urban registrations (*hukou*). This means that people with rural residence permits living in the urban areas were not included in the sample. This would have been a minor problem in the 1980s but it has increased over time. To ameliorate the problem, the NBS recently began using a sample frame that integrates both urban and rural households.

Collection of the data for the CHIP survey has taken advantage of the NBS survey apparatus. Sampled households were regularly visited by enumerators during the years they were

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[6] Chongqing separated from Sichuan Province in 1997 and became a separate province. This means that the territory of present-day Chongqing was included in the sample frame of Sichuan Province during for the first two surveys.
[7] This differs from Deng and Gustafsson (2013) who did not use sample weights.
[8] The territory of China has experienced rapid urbanization as an increasing number of homes have been constructed on formerly agricultural land. Taking this into consideration, more areas are now administratively defined as urban. In some cases, local leaders have perceived urban status to be advantageous and thus they have actively pushed for re-classifications.

included in the sample. This is an advantage compared to other surveys that collect data only once during the year. But, as in similar surveys, there are still non-response and underreporting problems. Such problems are particularly acute in urban China and among high-income households. To the extent that this affects our estimates, like all estimates of which we are aware, the "true" income inequality in urban China will probably be underestimated. In cases where problems of non-response and underreporting have increased over the years, then we will have underestimations rather than overestimations of the "true" increase in income inequality.

In addition to income information taken from records, the CHIP urban survey also includes responses to questionnaires that were designed by the research team. The latter, by adding the value of imputed rents from owner-occupied housing, allow a definition of household income that is more in line with international practices. Household income is defined as including the components of earnings, pensions, property income, in-kind income, housing subsidies, and net transfer income. Net transfers are in some cases positive, such as social assistance (*dibao*), and in other cases negative, such as income taxes. As we will report in more detail in Section 5, the relative importance of different income sources has changed dramatically over the years.

Following what is now customary practice in such studies, in the following analysis we add the income of all household members and divide this income by the number of household members to obtain the per capita income. After the per capita household income is assigned to each household member, we can study the income distribution among individuals.

IV. Overall Development

[Figure 7.1 about here]

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We start the overall description by presenting the income growth curves (Ravallion and Chen, 2003) computed by percentiles, as shown in Figure 7.1 for the four periods—1988–1995, 1995–2002, 2002–2007, and 2007–2013. Income is measured in constant prices using the urban Consumer Price Index of the NBS. We find that the overall level of income growth between 2007 and 2013 was similar to that during the first two sub-periods, but lower than that between 2002 and 2007 when the median per capita income grew by 6.8 percent per annum.

These results merit some comments: First, we find a slowing of median income growth from 12.3 percent during the period from 2002 to 2007. On the one hand, Chinese households may have been disappointed as the growth rate slowed to almost one-half that in the previous period, and this probably led to downward adjustments to expectations regarding future income growth. On the other hand, seen from the perspective of the income growth experienced by households in high-income countries, a median income growth of 6.8 percent was still very impressive. For example, Thervissen et al. (2015) report that based on median household growth rates computed for twenty-nine countries over relatively extended periods, only one country, Estonia (2000 to 2010; 6 percent) is reported to have a growth rate similar to that of urban China from 2007 to 2013. The growth rate of urban China at 6.1 percent between 1988 and 2013 can be compared to the second most rapidly growing countries in Thervissen et al. (2015), that is, Ireland, with a growth rate of not more than 3 percent (between 1987 and 2010), or to the median growth rate of 0.3 percent in the United States (1979–2013).

[Table 7.1 about here]

[Figure 7.2 about here]

Second, by examining the shape of the growth curves we can make statements about how income inequality developed. There is a tendency for the curves to slope upwards, meaning that

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income inequality has increased. This is very clear for the period from 1988 to 1995, and relatively clear for the period from 2002 to 2007 and the period from 2007 to 2013. Information on the numerical values of the summary inequality indices reveals a comparable situation. The Gini-coefficient shows an increase of as much as ten units between 1988 and 1995. This is similar to the increase that Atkinson, Song, and Xia (2015) report for the United Kingdom between 1980 and the end of the 2000s. Since 1995, however, increases in income inequality in urban China have been modest (Table 7.1 and Figure 7.2). Our estimate of the Gini for urban China in 2013 is 0.35, which is lower than that reported for many high-income countries.[9]

A closer look at the upper-segments of the growth curves and the information in Table 7.2 reveals that after the period from 1988 to 1995 there were no obvious signs of increased inequality at the top of the income distribution. For example, the proportion of persons with incomes higher than 200 percent of the median varied irregularly from 1995 to 2013, and they were very similar during the two years. As we will see, income inequality in urban China since the beginning of the CHIP surveys in 1988 has been characterized by those at the lower part of the distribution not experiencing the same income growth as those at the higher part of the distribution.

The trend whereby urban residents at the lower part of the income distribution are lagging behind those who are at the higher end of the distribution becomes clear once we examine the movement of relative poverty rates over time. The relative poverty rates reported here are derived from the poverty lines based on the median income observed during the same year. They are based on a poverty line set at 40, 50, 60, and 70 percent of the median per capita income

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[9] See http://www.lisdatacenter.org/data-access/key-figures/inequality-and-poverty/. Accessed March 8, 2017. Our estimate for urban China is based on a definition of disposable income that includes imputed rents from owner-occupied housing; these are not included in the income definition of the Luxembourg Income Study (LIS).

observed in the same year. This means that as the living standard at the median has increased, the living standard at the poverty line has increased as well.

This definition of poverty is used today in many situations: One example is the Eurostat assessment of poverty in the member states of the European Union. The most often used alternative in such situations is to set the poverty line at 60 percent of the equivalent median income.[10] A similar approach is the OECD comparison of poverty across rich countries, which typically places the poverty line at 50 percent of the median income in the country of interest. The same approach is used for the official poverty line in Hong Kong.

[Table 7.2 about here]

[Figure 7.3 about here]

The relative poverty rates that we report for 1988, 1995, 2002, 2007, and 2013 in Table 7.2 and that we illustrate in Figure 7.3 show a clearly increasing trend.[11] In 1988 7 percent of the urban residents lived in a household having an income that was less than 60 percent of the median; in 1995, this proportion increased to 15 percent; in 2002 and 2007 it increased further to 19 percent; and by 2013 it had reached 21 percent. In Section 6, according to this definition, we examine those characteristics that warrant households with low incomes to be classified as poor.

In terms of international comparisons, were the levels of the relative poverty rates in urban China in 2013 considered high or low? One answer is that the 21 percent under the 60 percent median poverty line in urban China is somewhat higher than the 17 percent in the Eurostat report (2016) for the EU 28 during the same year. In the Eurostat report, only Bulgaria, Greece,

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[10] Most studies of poverty in low- and middle-income countries, including China, are based on per capita income. Studies on income inequality and poverty in rich countries typically use equivalence scales. This assumes that the expenditure needs of two persons living in a single household are less than the sum of the needs of two single persons living separately. Equivalence scales also assume that children require fewer resources than adults.

[11] A similar conclusion is drawn by Qi and Wu (2016) in an analysis of child poverty rates from 1989 to 2011 based on the China Health and Nutrition Survey Data (CHNS).

Romania, and Spain have relative poverty rates that are 20 percent or higher. Another point of reference is Hong Kong, for which it is reported that 15 percent of the residents were living under 50 percent of the median income line, the same proportion we report in Table 7.2 for urban China during the same year.[12]

The trend of increased relative poverty is clearest when applying the 40 percent median income poverty line. In this case, relative poverty went up from 1 percent in 1988 to 9 percent in 2013. It is even clearer when we estimate indices that not only count the number of poor but also the level of their poverty. This is shown in Table 7.2 where, along with the poverty rates, we report also the numerical valued of the two FGT indices. These indices consider the size of the normalized poverty gaps of those living in poverty.[13]

We have thus found that urban China is characterized by a clear trend toward increased relative poverty. This occurs when our definition of poverty is similar to that found in high-income countries. What happens, however, if we adopt the alternative approach that is typically used when studying the low- and middle-income countries? For example, in its evaluation of global poverty the World Bank begins with the income or consumption level that is used in the poorest countries and then it updates it with the changes in consumer prices. Thus, the living standard at the poverty line should be the same, even in cases when the general living standard has increased. Such a poverty line is often termed "absolute." It is absolute in that it refers to the

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[12] The purchasing power of the Hong Kong poverty line is much higher, amounting to 3,500 Hong Kong dollars per person and month. Using the 2013 exchange rate, this corresponds to 3,000 yuan per person and month. See Government of Hong Kong (2014).

[13] See Foster, Greer, and Thorbecke (1984). For poor households, the poverty gap is defined as the difference between a household's poverty line and its income. By normalizing this difference with the poverty line of the household, a value in the interval from 0 to 1 is obtained (in cases where the incomes are non-negative). FGT (1) is the average of the poverty gaps; FGT (2) square is each observation's poverty gap before taking the average.

same living standard during each year. The same idea can also be applied to the updating of the official poverty line in the United States.

[Figure 7.4 about here]

[Table 7.3 about here]

At what level should one apply an absolute poverty line in urban China? Unlike the case in rural China, there is no official poverty line to serve as a guide for urban China. However, income thresholds are used when assessing household claims for social assistance\ (*dibao*), and we use this information related to the year 2013. As the *dibao* lines differ by location, we apply the extreme values found when we average the lines in those provinces represented in our samples. The lowest line is 2,880 yuan per person and year; this is found in Yunnan; the highest is 6,960 yuan per person and year and this is found in Beijing. In Figure 7.4 we show the cumulative density functions for 1988, 1995, 2002, 2007, and 2013. Comparisons across years show that poverty, measured against the poverty lines representing the same purchasing power, decreased very rapidly during the three periods. The decrease in poverty relative to the level of Beijing's *dibao* line in place in 2013 was particularly rapid. As many as 81 percent of the persons living in urban China would have fallen below this line in 1988, whereas the proportion had decreased to 49 percent in 1995 and it was down to only 4 percent in 2013. In the latter year only 1 percent had incomes lower than the *dibao* line in Yunnan.

V. The Changed Role of the Income Components

To better understand how income growth in urban China has come about and what is behind the trend of increased income inequality, in this section we decompose household income per capita

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by the income components. This is done for each of the five years—1988, 1995, 2002, 2007, and 2013. Figure 7.5 shows the relative shares of the eight. Table 7.4 shows the average value in 2013 prices of each component as well as the annual growth rates computed for the sub-periods and for the entire period from 1988 to 2013.

[Figure 7.5 about here]

[Table 7.4 about here]

Not surprisingly, earnings were the single largest component during each year under study. Their relative share increased from 1988 to 2007. The opposite was the case for in-kind income and housing subsidies that by 2002 had basically been phased out. Pensions increased their relative shares of disposable income from 6 percent in 1988 to 18 percent in 2013, and imputed rents from owner-occupied housing increased from 4 percent in 1988 to 16 percent in 2013. The two smaller income sources, enterprise income and property income, also increased their relative shares of the total disposable income. They each began at less than 1 percent in 1988 but they constituted about 5 percent of the disposable income in 2013.

Looking in more detail at developments from 2007 to 2013, we find that earnings grew by not more than 3 percent, which was considerably slower than that during the earlier periods. The comparatively low growth of earnings between 2007 and 2013 indicates that not more than one-third of the growth in the average disposable income between those two years was derived from earnings. The other large contributors to the rapid growth in disposable income were imputed rents from owner-occupied housing, which grew by an astonishing 16 percent per annum, and pensions, which grew by as much as 9 percent per annum.[14] Smaller contributions to the growth

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[14] This result means that measures of household income that do not include imputed rents from owner-occupied housing will show lower rates of household income growth from 2007 to 2013 than those here (and we consider this to be more relevant).

in disposable income came from enterprise income and property income. These two components also grew rapidly but they started from a lower base. Finally, average net transfers were positive during all years, except for 2007 when they were negative.

[Figure 6 about here]

[Table 5 about here]

The various income sources contribute to income inequality and changes in income inequality in several ways. We can decompose the Gini coefficient for household income by income sources as the sum of the various concentration coefficients weighted by their relative shares. The results of such an exercise are shown in Figure 7.6 and Table 7.5 for the five years. Some comments are in order. Starting with earnings, we see that its concentration coefficient was rather low in 1988, lower than the low Gini coefficient in the same year. Thereafter and up until 2007 the concentration coefficient for earnings increased. From this we can see that the increased concentration of earnings to high-income households was one force moving the distribution of household income in urban China toward higher inequality. In 2007 as much as three-fourths of urban China's income inequality could be attributed to earnings. However, due to the decline in its relative share, the corresponding proportion decreased to 58 percent in 2013. The next largest contributors to income inequality in 2013 were pensions and imputed rents from owner-occupied housing, both of which had concentration coefficients similar to the Gini coefficient for household income. In contrast, property income, with a small relative share, had a concentration coefficient of 0.51, which was rather concentrated in the higher part of the income distribution.

The numerical values of the relative shares and concentration coefficients in 2007 and 2013 allow us to understand how the channels of urban income inequality, as measured by the Gini coefficient for disposable income, became more unequal. One channel is the expansion of the

relative share of property income. Other channels are pensions, among which the concentration coefficient increased from 0.26 to 0.33, and enterprise income, which had a concentration coefficient moving from 0.31 to 0.35. A fourth contributor to the urban income inequality was the decreased negative concentration coefficient of net transfers, i.e., mainly taxes. Taken together, the results from decomposing the Gini of disposable income by the income source indicate that during this period it is not appropriate to refer to one single reason for the increased Gini. The information presented in the tables and figures in this section illustrates that the nature of urban income inequality in China was rather different in 1988 than it was in 2013. Much of the income inequality in 1988 was due to in-kind income and housing subsidies; such components were almost non-existent in 2013.

VI. Conclusions

In this chapter, we present new results on how household income, household inequality, and income poverty developed from 2007 to 2013. As very similar data were collected from the CHIP project for 1988, 1995, and 2002, we use these surveys to place this development in perspective. As shown, during a period when many countries in the West experienced stagnating or falling incomes, household income in urban China was growing by an average of 7 percent per annum. On the one hand, Chinese households may have been disappointed because the growth rate slowed down by almost one-half compared to that during the period from 2002 to 2007. On the other hand, from the perspective of the income growth experienced by households in high-income countries, a median income growth of 7 percent was still very impressive.

Another finding is that during the period from 2007 to 2013 earnings at the median grew by 3 percent per annum, which is considerably slower than that during the previous periods. This

means that most of the growth in the median income came from a combination of other income sources, among which the most important were imputed rents from owner-occupied housing and pensions. Smaller contributions came from enterprise income and property income.

We have also shown that from 2007 to 2013 real household income grew for all positions on the income distribution. The trend of fewer persons in urban China having incomes below the poverty line, expressed as the constant purchasing power, continued between 2007 and 2013. In 2013, not more than 4 percent of urban residents had incomes lower than the *dibao* line for Beijing and as few as 1 percent had incomes lower than the average of the *dibao* line for Yunnan. However, the growth in urban household income has been uneven across the distribution. The Gini coefficient jumped by 10 percentage units from 1988 to 1995. Thereafter, the development of the Gini was irregular and did not show a clear trend. For 2013 we report a Gini of 0.35, which is higher than that in many high-income countries, but somewhat lower than that in the United States.

China's income distribution since 1988 has been characterized by growth at the lower part lagging behind that at the higher part. This means that more urban residents have incomes that are lower than a fixed percentage of the median income; 3 percent of the population had incomes lower than 50 percent of the median in 1988, 8 percent had incomes lower than 50 percent of the median in 1995, 12 percent had income lowers than 50 percent of the median in 2002, and 15 percent had incomes lower than 50 percent of the median in 2013.

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Figure 7.1. *Growth curves for urban China*
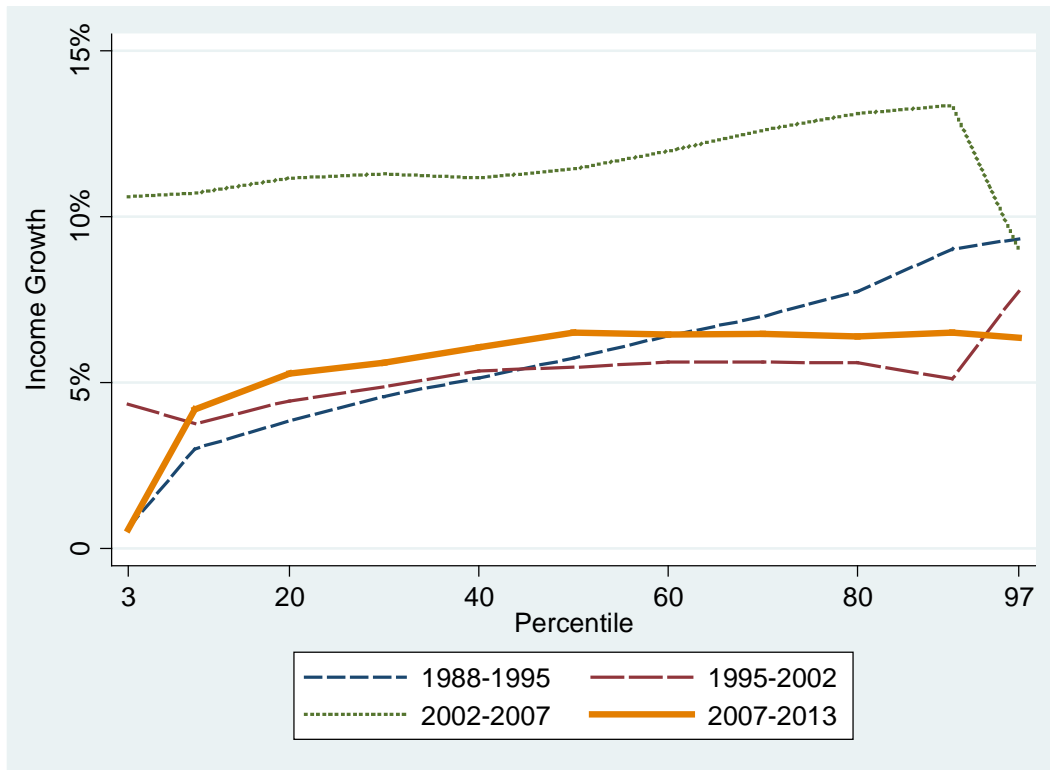
Note: Income is calculated in constant prices using the urban Consumer Price Index.
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Figure 7.2. *Gini coefficients for urban China, 1988, 1995, 2002, 2007, and 2013*
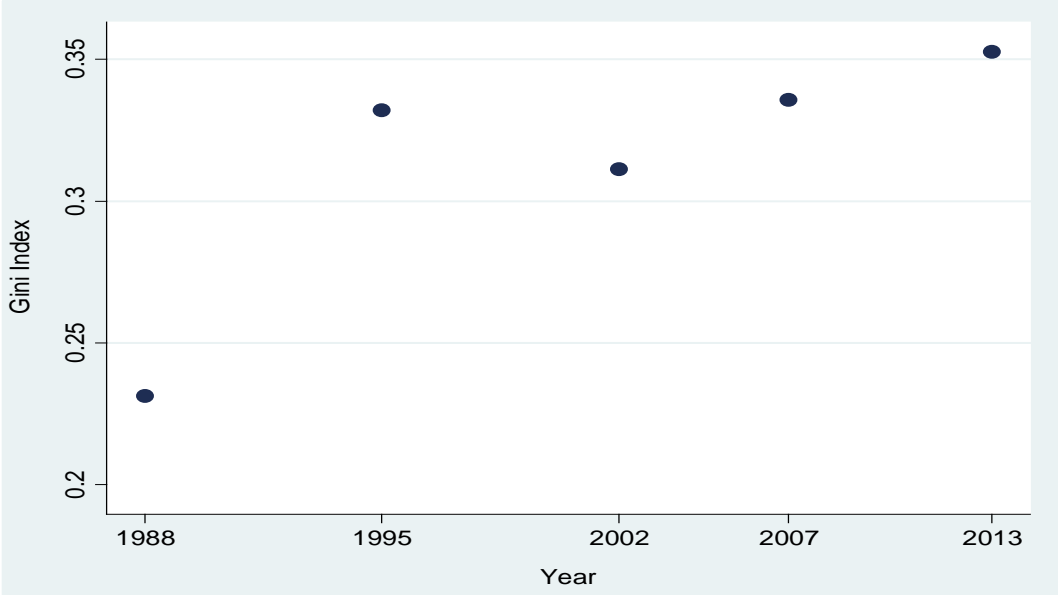
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Figure 7.3. *Relative poverty rates for urban China, 1988, 1995, 2002, 2007, and 2015*
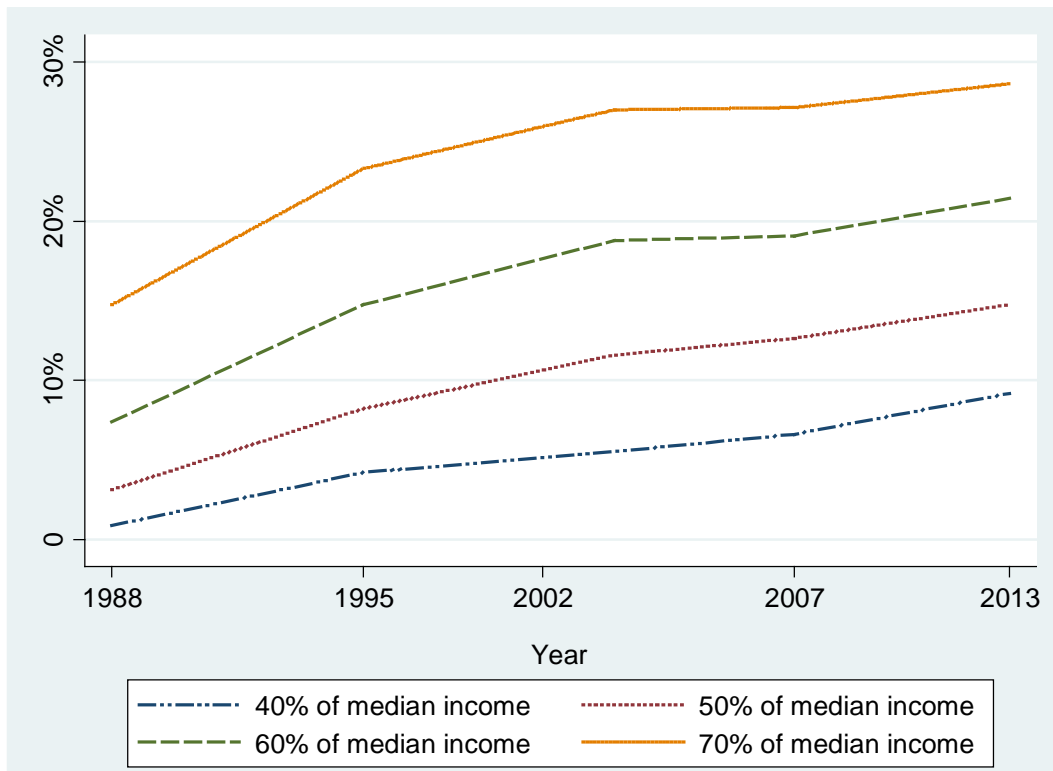
Note: The poverty lines are defined as a constant percentage of the contemporary median per capita income.
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Figure 7.4. *Cumulative density functions for urban China, 1988, 1995, 2002, 2007, and 2013*
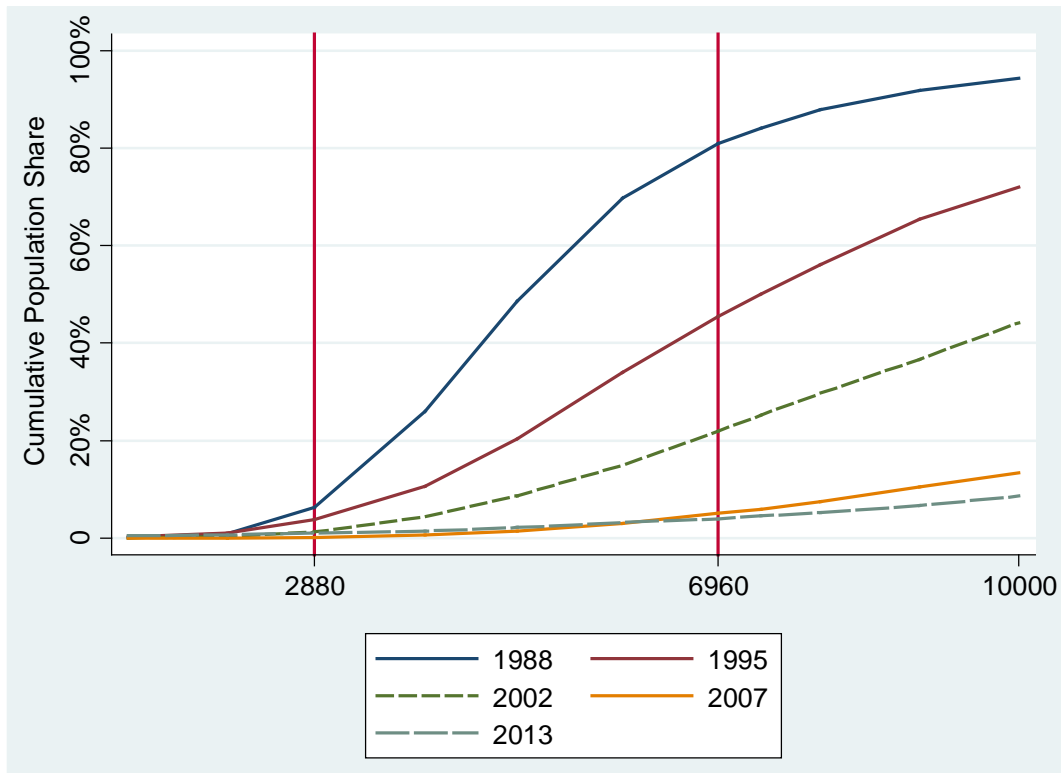
Note: 2,880 yuan per person and year corresponds to the *dibao* line in Yunnan in 2013; 6,960 yuan per person and year corresponds to the *dibao* line in Beijing in 2013.
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Figure 7.5. *Income components as relative shares of total income, 1988, 1995, 2002, 2007, and 2013 (%)*
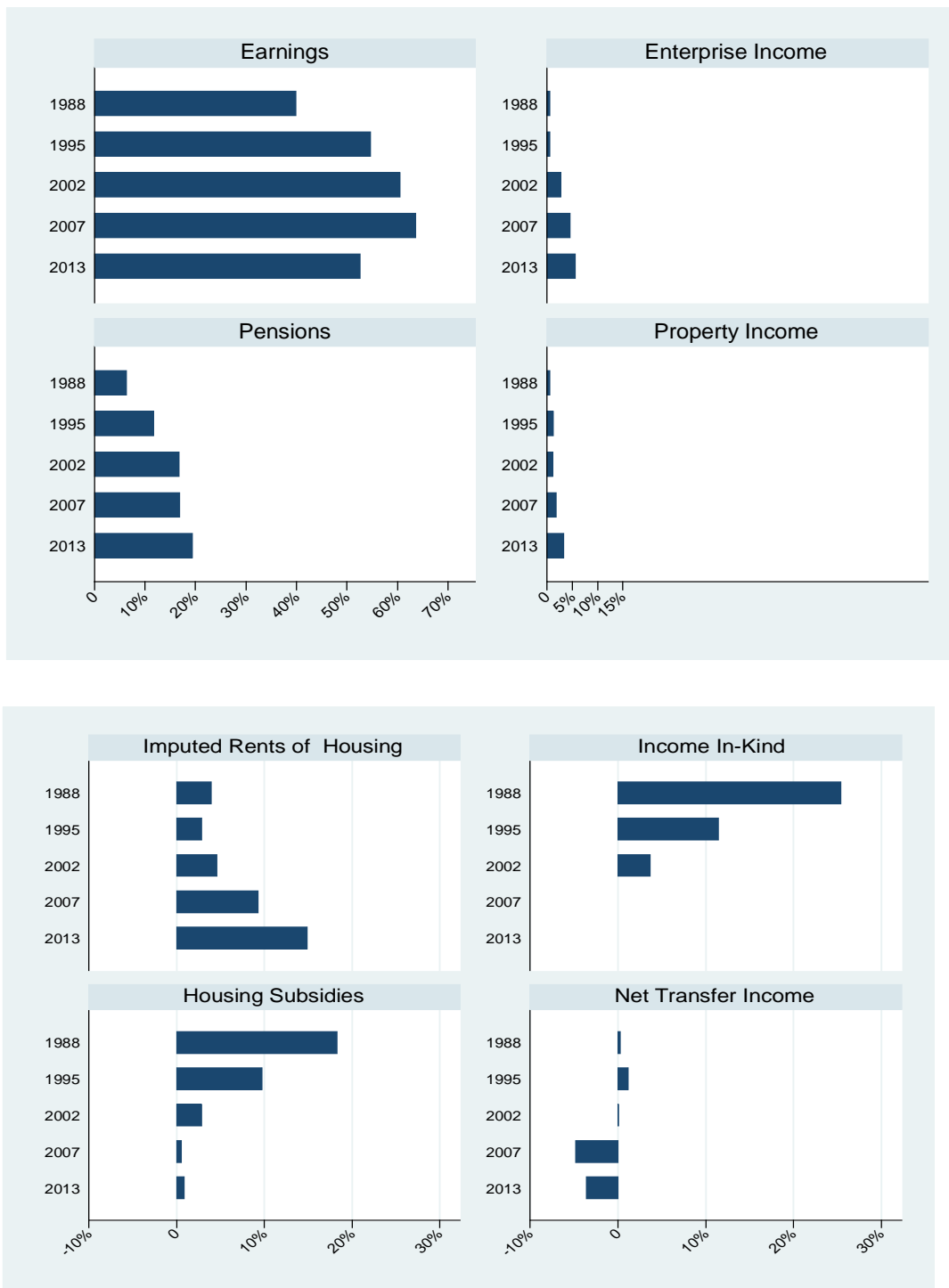
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Figure 7.6. *Concentration coefficients for various income components, 1988, 1995, 2002, 2007, and 2013*
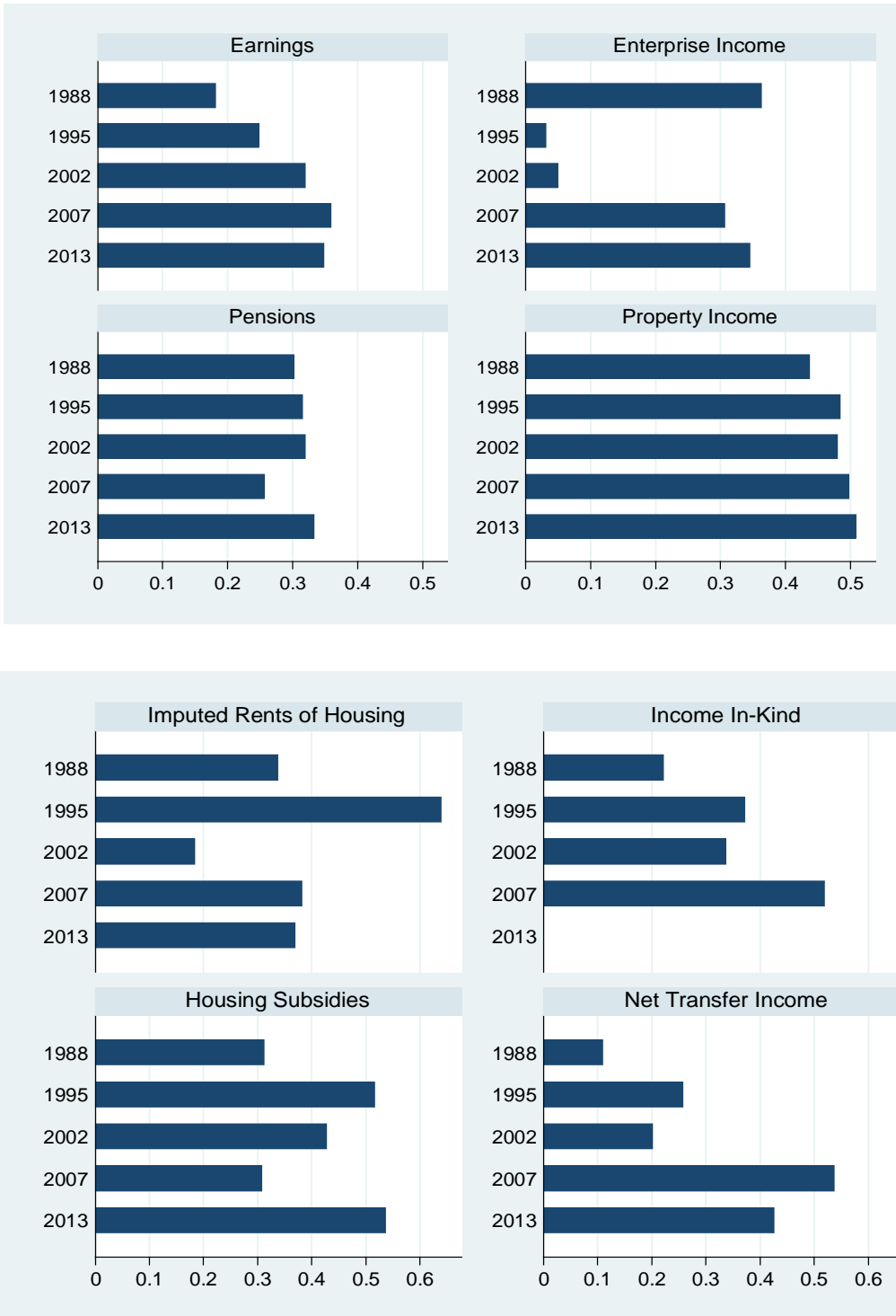
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

**Table 7.1.** *Income and income inequality 1988, 1995, 2002, 2007, and 2013, according to various inequality indices*

	Mean income	Mean income (in 2013 prices)	Median income (in current prices)	Median income (in 2013 prices)	Annual growth at the median in comparison to the previous year studied (percent)	Gini	MLD	Theil index	Proportion having an income above 200 percent of the contemporary median income. (percent)
1988	1828	6197	1639	5556		0.2313	0.0964	0.0881	5.65
1995	5698	8490	4618	6881	4.6	0.3320	0.1891	0.2407	11.10
2002	8618	11634	7435	10037	4.6	0.3113	0.1624	0.1653	9.68
2007	18186	21823	15405	18486	13.5	0.3350	0.1875	0.1875	14.33
2013	31524	31524	25710	25710	7.6	0.3522	0.2131	0.2184	12.77

Notes: The annual growth at the median for the period from 1988 to 2013 was 6.1 percent.
We have used the NBS Consumer Price Index for urban China to convert the income into 2013 prices.
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Table 7.2. *Relative poverty rates for urban China, 1988, 1995, 2002, 2007, and 2013*

	FGT(0), Poverty rate	FGT(1)	FGT(2)
Poverty line is 40% of the median income			
1988	0.86	0.20	0.11
1995	4.20	0.98	0.40
2002	5.52	1.18	0.40
2007	6.60	1.48	0.50
2013	9.17	3.31	2.45
Poverty line is 50% of the median income			
1988	3.11	0.54	0.20
1995	8.21	2.00	0.78
2002	11.58	2.63	0.93
2007	12.63	3.06	1.13
2013	14.76	5.05	3.08
Poverty line is 60% of the median income			
1988	7.37	1.29	0.42
1995	14.75	3.54	1.38
2002	18.78	4.70	1.76
2007	19.07	5.16	2.04
2013	21.42	7.20	4.01
Poverty line is 70% of the median income			
1988	14.74	2.66	0.81
1995	23.29	5.72	2.23
2002	26.99	7.28	2.88
2007	27.13	7.70	3.20
2013	28.63	9.76	5.20

Note: The poverty lines are set at a fixed percentage of the median income as it is observed in the sample of the year under investigation.
Source: Authors estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Table 7.3. *Poverty indices for urban China computed for different absolute poverty lines, 1988, 1995, 2002, 2007, and 2013*

	FGT(0), Poverty rate	FGT(1)	FGT(2)
Poverty line is set at 2,880 yuan, which corresponds to the *dibao* line in Yunnan in 2013.			
1988	6.20	1.07	0.34
1995	4.39	1.02	0.41
2002	1.43	0.28	0.09
2007	0.08	0.02	0.004
2013	1.00	0.57	0.48
	FGT(0), Poverty rate	FGT(1)	FGT(2)
Poverty line is set at 6,960 yuan, which corresponds to the *dibao* line in Beijing in 2013.			
1988	81.00	27.52	11.66
1995	48.52	14.39	6.06
2002	24.25	6.42	2.50
2007	5.51	1.19	0.40
2013	3.90	1.54	0.94

Note: Incomes for 1988, 1995, 2002, and 2007 are all adjusted with the urban Consumer Price Index for 2013 prices. Poverty lines are per person, per year.
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Table 7.4. *Household income components 1988, 1995, 2002, 2007, and 2013 and their growth for urban residents (mean value)*

	Earnings	Imputed rents of owner-occupied housing equity	Pensions	Enterprise income	Property income	Income in-kind	Housing subsidies	Net transfer income	Total
1988	2773	243	407	39	31	586	1133	985	6197
1995	5208	969	994	45	108	241	828	97	8490
2002	7897	422	1950	360	132	533	330	10	11634
2007	15604	1958	3694	1102	370	2	110	-1016	21824
2013	18718	4736	6090	1942	917	0	289	-1168	31524
Annualized growth rates (%)									
1988-1995	9.4	21.9	13.6	2.1	19.6	-11.9	-4.4	-28.2	4.6
1995-2002	6.1	-11.2	10.1	34.6	2.9	12.0	-12.3	-27.2	4.6
2002-2007	12.0	29.2	11.2	20.5	18.8	-61.7	-16.8	na	11.1
2007-2013	3.1	15.9	8.7	9.9	16.3	-100.0	17.5	-2.3	6.3
1988-2013	7.8	12.5	11.3	16.9	15.0	-100.0	-5.7	na	6.6

Notes: Incomes are in 2013 constant prices using the urban Consumer Price Index as published by the NBS. The mean values for 2007 and 2013 are calculated using the sample weights, but this is not the case for the mean values for 1988, 1995, and 2002. When calculating the annualized growth rates between 2002 and 2007 and between 1988 and 2013, the mean values for 2007 and 2013 used in the calculations are not weighted. Growth of net transfer income between 2002 and 2007 and between1998 and 2013 cannot be calculated because one is positive and the other is negative. The Consumer Price Index from 1988 to 2013 is 3.57; the Consumer Price Index from 1995 to 2013 is 1.54; the Consumer Price Index from 2002 to 2013 is 1.40; and the Consumer Price Index from 2007 to 2013 is 1.20.
Source: Authors' estimates from the 1988, 1995, 2002, 2007, and 2013 CHIP data.

Table 7.5. *Household income per capita and its decomposition for urban residents*

	Earnings	Imputed rents of owner-occupied housing equity	Pensions	Enterprise income	Property income	Income in-kind	Housing subsidies	Net transfer income	Total
1988									
%	44.75	3.92	6.32	0.63	0.50	25.36	18.29	0.24	100
Concentration Coefficient	0.1815	0.3372	0.3016	0.3628	0.4368	0.2216	0.3114	0.1090	0.2313
Contribution	35.12	5.71	8.24	0.99	0.94	24.30	24.62	0.11	100
1995									
%	61.35	2.84	11.71	0.53	1.27	11.41	9.75	1.14	100
Concentration Coefficient	0.2478	0.3718	0.3154	0.0314	0.4842	0.6391	0.5163	0.2567	0.3320
Contribution	45.79	3.18	11.12	0.05	1.85	21.96	15.16	0.88	100
2002									
%	67.88	4.58	16.76	3.09	1.13	3.63	2.84	0.09	100
Concentration Coefficient	0.3192	0.3364	0.3195	0.0495	0.4798	0.1835	0.4267	0.2012	0.3113
Contribution	69.60	4.95	17.20	0.49	1.74	2.14	3.89	0.06	100
2007									
%	71.32	9.26	16.83	5.06	1.74	0.00	0.55	-4.79	100
Concentration Coefficient	0.3592	0.3812	0.2560	0.3065	0.4975	0.5186	0.3079	0.5368	0.3350
Contribution	76.47	10.54	12.86	4.63	2.58	0.00	0.51	-7.68	100
2013									
%	59.03	14.84	19.34	6.22	3.28	0	0.85	-3.57	100
Concentration Coefficient	0.3482	0.3691	0.3327	0.3453	0.5083	0	.5364	0.4252	0.3522
Contribution	58.36	15.55	18.27	6.10	4.73	0.00	1.29	-4.31	100

Note: The decomposition of the Gini cannot be weighted, so the income shares reported in this table are not weighted and not the same as those reported in Table 7.3.