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by

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Consumption Inequality in Urban China, 1995–2013*

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Abstract

We use CHIP data from 1995, 2002, and 2013 to investigate inequality in urban household consumption expenditures. Overall inequality in urban household consumption expenditures measured by the Gini coefficient decreased slightly from 0.33 in 1995 to 0.32 in 2002, but it increased to 0.36 in 2013.   This followed the same trend as that of urban income, though to a greater extent. However, the percentile ratio of p90/p10 shows that consumption inequality always increased. In addition, basic food consumption inequality was much smaller than overall consumption, with its contribution decreasing from 20 percent in 1995 and 2002 to 14 percent in 2013 and its share decreasing steadily from 34 percent in 1995 to 30 percent in 2002 and further to 24 percent in 2013 as the level of overall consumption moved up in the distribution during each of the three years. Housing consumption inequality was much larger than overall consumption but it was decreasing over time, with its contribution to overall consumption inequality increasing 35 percent in 1995 and 2002 and then to 40 percent in 2013 and its share also sharply increasing from 23 percent in 1995 to 30 percent in 2002 and further to 38 percent in 2013.   In addition, its share reveals an upward slope as the level of overall consumption increased in each of the three years.

I. Introduction

According to Sen (1995), there are many kinds of external inequalities,[1] such as inequalities of opportunity (education and medical care), income, wealth, and so forth. Just like poverty, these external inequalities are multidimensional. For a clear picture, it is necessary to examine every dimension of these inequalities. In this chapter, we study household consumption inequality in urban China by using data from the Urban Household Survey of the China Household Income Project (CHIP) for 1995, 2002, and 2013. Like income inequality, consumption inequality is an ex post outcome of a country's political, social, and economic arrangements. The existence of a highly unequal distribution of income or of consumption inequality leads us to focus on ensuring that a country's political, social, and economic institutions are equitable, which also has implications in terms of equality of opportunity for the next generations (Atkinson 2015: 10).

During the past forty years of China's rapid upgrading from a backward and poor agricultural economy to a global manufacturing hub and the second largest economy, the mode of Chinese household consumption has been shifting at a dazzling speed—first from "wristwatches, bicycles, and sewing machines" in the 1970s to "refrigerators, color televisions, and washing machines" in the 1980s, then to "air conditioners, computers, and video recorders" in the 1990s, "apartments, automobiles, and large bank deposits" in the first decade of the 2000s, and finally to the "deluxe apartments and automobiles, and study and travel abroad." Nevertheless, it can be observed that while the rich are pursuing taste and luxuries, the poor are still contending with subsistence living, for there remain some 70 million people living in

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[1] According to Sen (1995), there are also enormous internal inequalities, such as health, appearance, cognitive abilities, and so forth.

poverty in China. We thus can hypothesize that consumption inequality in China, in particular non-food consumption inequality, has been increasing. As people are becoming richer, the extent of their consumption has both widened and become more diversified.

The chapter is arranged as follows. Section 2 reviews the literature on consumption inequality. Section 3 introduces our data. Section 4 examines the results. Section 5 presents a concluding summary.

II. Literature Review

Consumption inequality has been widely researched throughout the world. Attanasio, Battistin, and Ichimura (2007) find that American consumption inequality increased substantially in the 1980s and 1990s. Aguiar and Bils (2011) show that American consumption inequality closely followed income inequality during the period from 1980 to 2007. Hassett and Mathur (2012) find that American consumption inequality has increased only marginally since the 1980s and that consumption inequality has narrowed during periods of recessions, such as during the 2007–2009 recession. Norris and Pendakur (2015) demonstrate that Canadian household-level consumption inequality, measured by the Gini coefficient, increased from 0.251 to 0.275 from 1997 to 2006 but then declined to 0.264 in 2009.

In the developing world, Idrees and Ahmad (2010) find that Pakistani inequality in terms of consumption expenditures improved slightly between 1992–93 and 2004–5, but the extent of inequality in food consumption remained substantially lower than that of non-food consumption; household expenditures on education were more unequally distributed than overall consumption expenditures; healthcare expenditures in urban areas have become relatively more evenly

distributed relatively in recent years, whereas the level of inequality in terms of rural healthcare expenditures has remained consistent, if not somewhat higher. Shanbhogue (2014) shows that among all the major states of India, rural consumption inequality is less than that in the urban areas, and there has been a very insignificant decline in rural consumption inequality from 2004–5 to 2009–10. Mukhopadhyay (2014) shows that access to microcredit in India exacerbates consumption inequality both at the slum level and at the household level. Basole and Basu (2015) find that the rise in overall expenditure inequalities in India has been due to the increased weight of non-food spending in household budgets, which tends to be more unequal than food spending; consumption inequality is very different across broad non-food items: durables, education, healthcare, and consumer services show the most rapid increases in real expenditures and display the highest levels of inequality.

Consumption inequality has also been studied in China. Qu and Zhao (2008) find that the lower quantiles are associated with large consumption disparities and the price effect is the dominant factor behind the urban-rural consumption disparities. Guo and N'Diaye (2010) show that efforts to further raise household income and the share of employment in the services sector, as well as to develop capital markets, including liberalizing interest rates and creating alternative savings instruments, are likely to have the greatest impact on consumption. Gao and Zeng (2010) show that economic development has a negative impact on consumption inequality, controlling for inequality of after-tax income, with financial development a key factor for this effect. Cai, Chen, and Zhou (2010) find a steadily rising trend in income and consumption inequality from 1992 to 2003 in urban China, but in general all urban residents were still better off economically. Liu and Li (2011) find that consumption inequality among urban households steadily increased from 1988 to 2007. Qiao (2013) finds that China experienced consumption inequality, with full

or partial insurance of consumption against both permanent and transitory income shocks. Ma (2014) finds that after the Chinese economic reforms, inequalities in urban consumption deteriorated, becoming more serious than the income inequalities.

III. The Data

We use the 1995, 2002, and 2013 data from the CHIP surveys to investigate inequalities in urban household consumption expenditures.[2] Findings from these surveys can be found in Griffin and Zhao (1993), Riskin, Zhao, and Li (2001), Li and Sato (2006), Gustafsson, Li, and Sicular (2007), and other chapters of this volume. The surveys were designed by a team of international scholars, including authors and researchers at the Institute of Economics of the Chinese Academy of Social Sciences and the School of Economics and Business of Beijing Normal University. Subsamples were drawn from the larger annual national household income surveys conducted by the National Bureau of Statistics (NBS). The subsamples cover eleven out of thirty-one provinces in 1995, twelve provinces in 2002, and fifteen provinces in 2015. The CHIP questionnaires designed were more detailed than the official income surveys, particularly with respect to measurement of income and labor issues. For the cross-sectional analysis, we constructed a self-estimated market rental price of owner-occupied housing that was not included in the older official surveys. With respect to adjustments in the price levels, we adjusted total consumption expenditures from all the years to 2013 constant prices according to the urban consumer price indices published by the NBS.

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[2] The reason we did not use the 2007 data was because they lacked certain variables on urban household consumption.

The CHIP dataset contains urban household consumption expenditures provided by the NBS from its household survey data. The consumption data are collected using a diary method. The surveyed households are supposed to keep records of their daily consumption expenses which are to be recorded by the statistical office. Following the NBS practice, consumption expenditures are subdivided into eight categories: food, clothing, housing, household equipment and services, transportation and communications, education and entertainment, health and medical care, and others Consumption of housing equipment refers to the purchase of durable home appliances, such as refrigerators, televisions, automobiles, and so forth. The gradual consumption of durable good services is not considered here because the prices of the durable goods cannot be identified and the value of their annual consumption cannot be calculated. In the 1995 data, households received a certain amount of income in-kind from their in work units; when possible, the value of this in-kind income was computed and included in the wage income. In urban China, universal nine-year compulsory education and a medical insurance system for those working in the state sector had also been implemented, and by 2013 this was extended to the entire country. This indicates that to a certain extent those working in the state sector enjoyed medical subsidies. By 1995, 57 percent of the surveyed urban households lived in houses rented from the state, for which they paid a very small amount of rent. With the marketization of residential housing, the proportion of urban households living in state-owned housing steadily declined. By 2002, only 18 percent of the surveyed urban households lived in state-owned housing, whereas by 2013 the questionnaire no longer asked whether housing was rented from the state.   Housing consumption by urban households is calculated as the estimated rental value of owner-occupied housing. All comparable consumption figures over the years have been

adjusted to 2013 constant prices according to the relevant provincial urban consumer price indices, as reported by the statistical yearbooks collected and published by the NBS.

One issue regarding the 1995 consumption data is that in 1995 the mean of the total household consumption expenditures is much less than the mean of the sum of the above eight sub-categories. The former was RMB 8301.28 yuan and the latter was RMB 10077.92 yuan, both including the market rental value of owner-occupied housing at 2013 constant prices. Yuan, Xia and Wang (2016) report that the growth rate of household consumption expenditures from 1995 to 2002 was 4.18 percent, whereas the equivalent figure was 1.19 percent if using the sum of the eight categories of household consumption expenditures. Given that in both the 2002 and the 2013 survey overall household consumption expenditures are equal to the sum of the eight categories, for the 1995 survey we use the sum of the eight categories instead of the overall variable.

As a two-person household would not consume more heating than a one-person household, there are economies of scale in household consumption. To this end, we employed the widely used OECD equivalence scale for household consumption expenditures (Jappelli and Pistaferri, 2010). In detail, the first adult of a household is given a weight of 1, each of the other adults in the household is given a weight of 0.7, and each of the children or teenagers (16 years old or younger) is the household is given a weight of 0.5. All consumption variables are adjusted according to this scale.

After this adjustment, per capita household consumption expenditures increased 30 percent in 1995, 28 percent in 2002, and 24 percent in 2013, and the Gini coefficient of per capita household consumption decreased 2.61 percent in 1995, 2.38 percent in 2002, and 3.78 percent in 2013 (see Tables 8.1 and 8.2). This decline is caused by the decrease in household size from

3.13 persons per household in 1995 to 3.02 persons in 2002 and further to 2.97 persons in 2013.

Urban income inequality measured by the Gini, however, decreased from 0.33 in 1995 to 0.31 in

2002, but then increased to 0.35 (see Chapter 7 of this volume). Although consumption

inequality followed the same trend as that of income, the former was more serious. However,

Krueger and Perri (2006) find that consumption inequality is less U.S. income inequality.

[Table 8.1 and Table 8.2 about here]

IV. Results

A. Inequality of Per Capita Urban Household Consumption Expenditures

After being adjusted by the equivalence scale, per capita urban household consumption

expenditures increased by 1 percent per annum from 1995 to 2002 and by 7.64 percent per

annum from 2002 to 2013 (see Table 8.2). This implies that beginning from 2002 the well-being

of Chinese urban residents has been improving in terms of consumption. In contrast, the annual

growth rate of per capita household income was 5.62 percent from 1995 to 2002 and 13.61

percent from 2002 to 2013.[3]   This implies that the growth of household consumption lagged

behind that of household income by as much as about 4-6 percentage points. The proportion of

per capita household consumption to per capita household income, or the Engel curve, also

varied substantially; it was 108 percent in 1995, 78 percent in 2002, and 71 percent in 2013.[4]   It

is strange that urban households consumed more than they earned in 1995. In the mid-1990s

China experienced its most radical reform of the urban sector, characterized by a downsizing of

the state-owned enterprises (SOE) and resulting in a reduction of nearly 30 million SOE workers

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[3] Calculated from the CHIP urban household data by the authors, using exponential growth rate =
[natural log of (household income per capita at the end year divided by that of the base year figure)]/(no.
of years).

[4] The figures are calculated using the CHIP urban household data by the authors.

by 2002 (Guowuyuan xinwen bangongshi 2004). Due to this reduction of SOE workers, there were no longer pressures for a rise in urban wage rates. However, the prices of consumer goods were increasing, due to encouragement from Deng Xiaoping's support of reform during his 1992 "Southern Talks." After meeting their monthly basic daily expenses, typical urban households with workers in the SOE sector would have save nothing left to save. Those households with reductions in the number of SOE workers may have had to endure a fall in their living standards or to use their savings to maintain a certain level of consumption. In all, the hardships caused by the widespread retrenchment of one-half of the SOE labor force during the 1990s might partly explain the low growth rate of urban household consumption. But this hypothesis does not solve the above puzzle. However, the Engel ratios for both 2002 and 2013 explain the rising trend in Chinese household savings.

Table 8.3 and Figure 8.1 report the annual growth rate of per capita household consumption expenditures by decile, from which it can be observed that this rate for the period from 1995 to 2002 exhibited an inverse U-shape, with a height of 1.74 percent at the 6th decile point, whereas for the period from 2002 to 2013 it steadily increased, with the decile point moving from 6.15 percent of the 1st decile to 7.83 percent of the 9th decile. In the first period, it seems the middle 50 percent of urban households enjoyed relatively higher growth rate of consumption; in other words, consumption inequality was decreasing. However, during the second period, the richer households enjoyed a higher consumption growth rate, implying that consumption inequality was increasing.

Overall inequality of per capita urban household consumption expenditures measured by the Gini coefficient slightly decreased from 0.33 in 1995 to 0.32 in 2002, but increased to 0.36 in 2013 (see Table 8.2). The change in urban household consumption expenditure inequality

follows the same trend as urban household income, whose Gini coefficient first decreased from 0.33 in 1995 to 0.31 in 2002 but increased to 0.35 in 2013 (see Chapter 7 in this volume). These results imply that urban household consumption inequality is increasing a bit more rapidly than urban household income inequality.

[Table 8.3 about here]

[Figure 8.1 about here]

In addition to the Gini coefficient, we also describe the inequality of urban household consumption and its eight categories by percentile ratios of 90th/10th, 90th/50th, 50th/10th. and 75th/25th. The percentile ratios are companions to the Gini coefficient in terms of measuring inequality, but these ratios are a more direct and original measure of income or consumption inequality. However, the value of some consumption categories at certain percentiles might not match the overall consumption; for example, at a certain percentile point, some of the households might not have medical expenses. To avoid this, we use the mean of household consumption per capita, for example, in the range of the 87.5th percentile point to the 92.5th percentile point (>= the former, < the latter) to represent per capita household consumption at the 90th percentile point, the mean of the range of p7.5th to p12.5th to represent p10th, and so forth. Then we calculate the mean of the values of each subcategory of per capita consumption strictly falling within the given range of overall per capita household consumption. For example, we use the mean of the per capita values of medical care and health expenditures falling in the range of the 87.5th to the 92.5th percentile point of the overall per capita household consumption to represent per capita medical care and health expenditures at the 90th percentile point.

All the range ratios presented in Table 8.4 show that consumption inequality is increasing, which is slightly different from the concentration ratio and the Gini coefficient as shown above.[5] The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" increases from 3.74 in 1995 to 3.97 in 2002 and further to 4.29 in 2013, whereas middle range ratio "(p72.5-77.5)/(p22.5-27.5)" only increases from 1.91 in 1995 to 2.08 in 2013. In addition, consumption inequality is slightly larger in the upper half of the consumption distribution than in the lower half.

[Table 8.4 about here]

B. Decomposition of Consumption Inequality by its Components

We employ the Shapley decomposition method to decompose the inequality of urban household consumption expenditures into the eight categories of consumption items (Araar and Duclos 2009). The Shapley decomposition reports: (1) the absolute contribution of each source k to the Gini index (Table 8.5a), (2) the relative contribution of each source k to the Gini index (Table 8.5b), and (3) the share in total income of each income source k (Table 8.5c). The contribution of food to overall consumption inequality remains almost unchanged at 20 percent in 1995 and 2002, but it decreases to 15 percent by 2013. The contribution of housing also remains the same at 35 percent in the earlier two years, but increases to 40 percent by 2013. The contribution of clothing remains about the same at about 6.5 percent. The contribution of home equipment and services is almost 30 percent in 1995, but it falls to 7 percent in 2002 and further to 6 percent in 2013. The contributions of transportation and communications, education and entertainment, and medical care and health all exhibit an upward trend, in particular, the contributions of

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[5] This discrepancy might be explained by the fact that by employing the Gini coefficient, if giving an extra yuan to a person a quarter of the way up from the bottom would produce an effect three times the weight of an extra yuan given to a person a quarter of the way down from the top (Atkinson 2015: 17).

transportation and communications sharply increase from less than 2 percent in 1995 to 9 percent in 2002 and further to 13 percent in 2013.

[Tables 8.5a, 8.5b, 8.5c about here]

C. Per Capita Inequality of the Major Components in Urban Household Consumption

Compared with the overall consumption inequality, the inequality of per capita food consumption per capita is much lower, as shown in Table 8.6a. It would be ideal to distinguish tobacco and alcohol expenditures from other food consumption. However, because in the 1995 data the sum of food and tobacco and alcohol is not equal to the overall figure of these three categories, we use the overall figure instead of the separate figures. The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" increases from 2.04 in 1995 to 2.54 in 2002 but then decreases to 2.39 in 2013, whereas all the other range ratios remain about 1.50 across the period. These results strongly indicate that inequality in basic food consumption is much smaller than overall consumption, almost equal between the upper half and the lower half of the whole distribution, and shows a decreasing trend.

[Tables 8.6a, 8.6b, 8.6c, 8.6d, 8.6d, 8.6f, and 8.6g about here]

In contrast to food consumption, clothing consumption inequality is much larger and has been increasing sharply over time (Table 8.6b). The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" increased from 2.67 in 1995 to 3.20 in 2002 and further to 4.12 in 2013. The middle 50 percent of the distribution and the lower half exhibit almost the same inequality, at about 2.00, and it is increasing slightly. More interestingly, inequality is larger in the lower half of the distribution than it is in the upper half.

In general, housing consumption inequality (Table 8.6c) is decreasing. The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" decreased from 5.98 in 1995 to 4.39 in 2002 but it increased to 4.99 in 2013; the range ratio of the middle 50 percent reveals the same trend, at about the value of 2.00. Inequality is much larger in the upper half of the distribution than it is in the lower half, and it decreases in the former but increases in the latter.

Urban household consumption of household equipment and services is much more unequal than the overall consumption, but this inequality has been falling sharply (Table 8.6d). The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" decreased from 8.43 in 1995 to 7.26 in 2002 and further to 4.97 in 2013; the range ratio of the middle 50 percent revealed the same trend at about the value of 3.00. In 1995 inequality was larger in the upper half of the distribution than in the lower half, but in the latter two years this phenomenon was reversed.

Inequality of transportation and communications consumption is much larger than overall consumption, and this inequality was decreasing during the first period but increasing during the second period (Table 8.6e). The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" decreased from 7.36 in 1995 to 5.06 in 2002 but increased to 7.07 in 2013; the range ratio of the middle 50 percent revealed the same trend, at about the value of 2.50. In 1995 and 2002, the inequality was larger in the lower half of the distribution than in the upper half, but in 2013 this phenomenon was reversed. In addition, this inequality was increasing in the upper half of the distribution but decreasing in the lower half.

Inequality of education and culture and entertainment consumption is much larger than the overall consumption, and this inequality is sharply increasing over time (Table 8.6f). The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" increased from 5.36 in 1995 to 7.62 in 2002 and further to 8.10 in 2013; the range ratio of the middle 50 percent revealed roughly the same trend at a value

of about 2.80. The inequality was larger in the lower half of the distribution than in the upper half, and both halves exhibited a rising trend.

Inequality of medical care and health consumption is about the same as the overall consumption in terms of the range ratios (Table 8.6g). The range ratio "(p87.5-p92.5)/(p7.5-p12.5)" increased from 3.99 in 1995 to 5.74 in 2002 and decreased to 4.51 in 2013. The range ratio of the middle 50 percent increased in the first period but remained unchanged in the second period at a value of about 2.00. The inequality was also about 2.00 in both the upper and the lower half of the distribution, but it increased in the upper half but decreased in the lower half during the second period.

D. A Distributional Analysis of Shares of Consumption Items in Overall Consumption

Now we will tackle the shares of each consumption item in overall consumption (Table 8.5c) and their changes in the entire distribution (Figure 8.2). As Chinese urban households were becoming richer, the share of food expenditures decreased steadily from 34 percent in 1995 to 30 percent in 2002 and further to 24 percent in 2013. In addition, the food share steadily decreased as overall consumption expenditures increased in each of the three years. In 1995 the share fell from 50 percent at the 10th percentile to 28 percent at the 90th percentile (Figure 8.2). It fell from 40 percent to 26 percent in 2002 and from 36 percent to 21 percent on the same range.

[Figure 8.2 about here]

The share of clothing in overall consumption decreased from 8.21 percent in 1995 to 7.56 percent in 2002 and further to 7.23 percent in 2013. In 1995, the clothing share decreased almost steadily as the overall consumption level increased from 11 percent at the 10th percentile to 9.8 percent at the median and then sharply to 7.5 percent at the 90th percentile (Figure 8.3). In 2002,

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the share first remained almost unchanged at about 8 percent from the 80th percentile downward, but then decreased to 6.6 percent at the 90th percentile. In 2013 the share first slowly increases from 6.8 percent at the 10th percentile to 8.4 percent at the 70th percentile, but then sharply decreases to 7 percent at the 90th percentile.

[Figure 8.3 about here]

In contrast with the decline food share over time, the share of housing consumption increased sharply from 23 percent in 1995 to 30 percent in 2002 and further to 38 percent in 2013. In 1995 the housing share increased steadily from 14 percent at the 10th percentile to 23 percent at the 90th percentile (Figure 8.4). In 2002, the curve of the share exhibited an inversed U-shape, first decreasing from 28.6 percent at the 10th percentile to 26.5 percent at the median, but then increasing to 31.8 percent at the 90th percentile. In 2013 the share slowly increased from 34.4 percent at the 10th percentile to 39.7 percent at the 90th percentile.

[Figure 8.4 about here]

The share of household equipment and services in the overall consumption decreased sharply from 22.22 percent in 1995 to 5.09 percent in 2002 but increased slightly to 5.29 percent in 2013. In 1995, the share steadily increased from 12.9 percent at the 10th percentile to 29.0 percent at the 90th percentile (Figure 8.5). However, in both 2002 and 2013 the share is almost distinguishable from that in 2002 and 2013, and not much different from the mean over the entire distribution. This might be because in 1995 the prices of domestic electric and electronic appliances (televisions, video cassettes, washing machines, refrigerators, etc.) were relatively high compared to wages, and their expenditures accounted for a large share of household consumption. The richer households could afford to buy more of such equipment. In the new century, these household appliances became much less expensive relative to wages and hence

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such expenditures did not make much of a difference among households with different incomes.

[Figure 8.5 about here]

The share of transportation and communication in overall consumption increased sharply from 1.36 percent in 1995 to 7.76 percent in 2002 and further to 9.54 percent in 2013. Interestingly, the curves in the first two years are slightly sloping upward, but the 2013 curve almost coincides with the 2002 curve from the 80th percentile downward. This implies that there was not much difference in terms of consumption of transportation and communications of families at different expenditure levels in the same year. From the 80th percentile onwards, the share went up sharply as the overall consumption moved to the top in 2013. This group of households might also be those who owned family cars.

[Figure 8.6 about here]

The share of education and entertainment in overall consumption expenditures first sharply increased from 3.5 percent in 1995 to 11.7 percent in 2002, but then decreased 8.7 percent in 2013. In general, in all three years the curves are upright and sloping, with the curves in the latter two years much steeper than that in the first year. This indicates that the share of education and entertainment increased with the overall consumption level.

[Figure 8.7 about here]

The share of medical care and health in overall consumption increased from 2.4 percent in 1995 to 5.5 percent in 2002 but then decreased to 5.3 percent in 2013. The curves in all three years fluctuate up and down around the mean. This means that the share would not be much different at the different consumption levels.

[Figure 8.8 about here]

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V. Summary

We use the 1995, 2002 and 2013 CHIP data to investigate inequality in urban household consumption expenditures. After adjustments by the equivalence scale, per capita urban household consumption expenditures increased by 1 percent per annum from 1995 to 2002 and 7.64 percent per annum from 2002 to 2013. This implies that beginning from 2002 the well-being of Chinese urban residents has been improving in terms of consumption. The overall inequality of urban household consumption expenditures measured by Gini coefficient slightly decreased from 0.33 in 1995 to 0.32 in 2002, but it increased to 0.36 in 2013, following the same trend, but more severely, as that of urban income. However, the percentile ratio of p90/p10 shows that consumption inequality increased over the entire period. In addition, consumption inequality was slightly larger in the upper half of the consumption distribution than in the lower half.

Inequality of basic food consumption is much smaller than overall consumption, almost equal between the upper half and the lower half of the entire distribution, and it is revealing a decreasing trend. Unlike food, clothing consumption inequality is much larger and it is increasing more sharply over the time. Inequality of housing consumption is decreasing, and it is much larger in the upper half of the distribution than it is in the lower half, and it is decreasing in the former but increasing in the latter.

The contribution of food to overall consumption inequality remains almost unchanged at 20 percent in 1995 and 2002, but it decreases to 15 percent by 2013. The contribution of housing also remains the same at 35 percent in the earlier two years, but it increases to 40 percent by 2013. The contribution of clothing remains at about 6.5 percent.

As Chinese urban households are becoming richer, the share of food expenditures decreased steadily from one-third in 1995 to one-quarter in 2013. In addition, the food share steadily decreased as the overall consumption level moved up the distribution in each of the three years. The share of clothing in overall consumption remained at about 7 percent over time, but it exhibits a downward slope as overall consumption increased in each of the three years. In contrast with the falling food share over time, the share of housing consumption sharply increased from 23 percent in 1995 to 30 percent in 2002 and further to 38 percent in 2013. Furthermore, it showed an upward sloping trend as overall consumption increased in each of the three years. The share of household equipment and services in overall consumption decreased sharply from 22 percent in 1995 to 5 percent in the latter two years.

With respect to the policy implications, improvements in public services, such as compulsory education, health care, and transportation (underground trains and high-speed trains) largely reduced consumption inequalities. In addition, well-functioning marketing services, such as telecom services (telephones, Wi-Fi, mobile phones, Internet car services, and online shopping) also reduced inequalities.

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Table 8.1. *Summary statistics of per capita household consumption (before using the household equivalence scale)*

	No. of obs. (households)	Gini	Mean	Standard Deviation	Minimum	Maximum
1995	6,930	0.34247	10077.92	10052.60	977.19	391378.40
2002	6,835	0.32542	10955.96	7517.52	1048.18	103621.90
2013	6,742	0.37137	26230.2	21101.66	1630.50	346366.1

Note: At 2013 constant prices.

Table 8.2. *Summary statistics of per capita household consumption (household size adjusted by the equivalence scale)*

	No. of obs. (households)	Gini	Mean	Standard Deviation	Minimum	Maximum
1995	6,930	0.33375	13091.66	13252.01	1397.406	539832.3
2002	6,835	0.31785	14062.95	9387.341	1431.363	141302.6
2013	6,742	0.35782	32604.10	24803.95	2223.409	346366.1

Note: At 2013 constant prices.

Table 8.3. *Urban per capita household consumption by decile, 1995–2013*

Decile point value	1995	2002	2013	1995–2002: average annual growth	2002–2013: average annual growth
10	5492.50	5873.47	11555.04	0.96%	6.15%
20	6916.15	7519.90	15377.06	1.20%	6.50%
30	8106.38	8923.78	19101.96	1.37%	6.92%
40	9333.35	10290.56	22379.38	1.39%	7.06%
50	10562.73	11766.49	26272.09	1.54%	7.30%
60	11941.76	13488.65	30603.57	1.74%	7.45%
70	13839.12	15583.09	36020.66	1.70%	7.62%
80	16714.06	18740.18	44366.12	1.63%	7.83%
90	22560.22	24461.55	60539.48	1.16%	8.24%

Note: The per capita household consumption expenditure is adjusted by the equivalence scale and at 2013 constant prices.

Table 8.4. *The range ratios of overall household consumption expenditures*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	3.74	2.06	1.82	1.91	0.3363	0.3364
2002	3.97	2.05	1.93	1.95	0.3262	0.3262
2013	4.29	2.15	2.00	2.08	0.3578	0.3580

Table 8.5a. *The absolute contribution of each source k to the Gini index*

	1995	2002	2013
Food, cigarettes, and alcohol	0.0623	0.0626	0.0536
Clothing	0.0194	0.0212	0.0242
Housing	0.1134	0.1101	0.1430
Household equipment and services	0.0987	0.0225	0.0209
Transportation and communications	0.0055	0.0297	0.0470
Education, culture, and entertainment	0.0122	0.0491	0.0369
Health and medical care	0.0087	0.0206	0.0211
Others	0.0161	0.0104	0.0112
Total (Gini Index)	0.3364	0.3262	0.3580

Table 8.5b. *The relative contributions of each source k to the Gini index*

	1995	2002	2013
Food, cigarettes, and alcohol	18.51%	19.19%	14.97%
Clothing	5.78%	6.49%	6.77%
Housing	33.71%	33.75%	39.95%
Household equipment and services	29.35%	6.90%	5.85%
Transportation and communications	1.65%	9.10%	13.14%
Education, culture, and entertainment	3.62%	15.05%	10.32%
Health and medical care	2.60%	6.32%	5.89%
Others	4.78%	3.20%	3.12%
Total	100%	100.00%	100.00%

Table 8.5c. *The share in total consumption of each consumption source k*

	1995	2002	2013
Food, cigarettes, and alcohol	34.26%	29.52%	23.85%
Clothing	8.21%	7.56%	7.23%
Housing	22.78%	30.29%	37.89%
Household equipment and services	22.22%	5.09%	5.29%
Transportation and communications	1.36%	7.76%	9.54%
Education, culture, and entertainment	3.46%	11.68%	8.71%
Health and medical care	2.37%	5.50%	5.25%
Others	5.35%	2.60%	2.24%
Total	100%	100.00%	100%

Table 8.6a. *The range ratios of food, cigarettes, and alcohol consumption*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	2.04	1.41	1.44	1.43	0.2504	0.2505
2002	2.54	1.58	1.61	1.57	0.2735	0.2735
2013	2.39	1.60	1.49	1.55	0.3001	0.3003

Note: The values used to calculate the range ratios of the above category fall in the given range of per capita overall household consumption.

Table 8.6b. *The range ratios of clothing consumption*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	2.67	1.55	1.73	1.73	0.4165	0.4087
2002	3.20	1.58	2.02	1.85	0.4451	0.4392
2013	4.12	1.99	2.07	2.23	0.4958	0.4886

Note: The values used to calculate the range ratios for the above category fall in the given range of overall per capita household consumption.

Table 8.6c. *The range ratios of housing consumption*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	5.98	2.88	2.07	2.17	0.6208	0.6202
2002	4.39	2.49	1.76	1.91	0.4435	0.4433
2013	4.99	2.24	2.22	2.14	0.4646	0.4640

Note: The values used to calculate the range ratios in the above category fall in the given range of overall per capita household consumption.

Table 8.6d. *The range ratios of household equipment and services consumption*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	8.43	3.18	2.66	3.10	0.5435	0.5427
2002	7.26	2.32	3.13	2.96	0.6413	0.6350
2013	4.97	1.99	2.50	2.45	0.5777	0.5742

Note: The values used to calculate the range ratios in the above category fall in the given range of per capita overall household consumption.

Table 8.6e. *The range ratios of transportation and communications consumption*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	7.36	1.91	3.85	2.60	0.6773	0.6096
2002	5.06	2.18	2.32	2.41	0.5183	0.5124
2013	7.07	3.28	2.16	2.67	0.6364	0.6354

Note: The values used to calculate the range ratios in the above category fall in the given range of per capita overall household consumption.

Table 8.6f. *The range ratios of education, culture, and entertainment consumption*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	5.36	2.15	2.49	2.88	0.6874	0.5736
2002	7.62	2.65	2.88	2.76	0.6005	0.5888
2013	8.10	2.37	3.42	2.93	0.6387	0.6239

Note: The values used to calculate the range ratios in the above category fall in the given range of per capita overall household consumption.

Table 8.6g. *The range ratios of medical care and health consumption*

	(p87.5-p92.5)/ (p7.5-p12.5)	(p87.5-p92.5)/ (p47.5-p52.5)	(p47.5-52.5)/ (p7.5-p12.5)	(p72.5-77.5)/ (p22.5-27.5)	Concentration ratio	Gini
1995	3.99	2.11	1.89	1.93	0.7068	0.6739
2002	5.74	2.19	2.62	2.26	0.6519	0.6353
2013	4.51	2.41	1.87	2.26	0.7217	0.7050

Note: The values used to calculate the range ratios in the above category fall in the given range of per capita overall household consumption.

Figure 8.1. *Annual growth rate of HD consumption per capita*
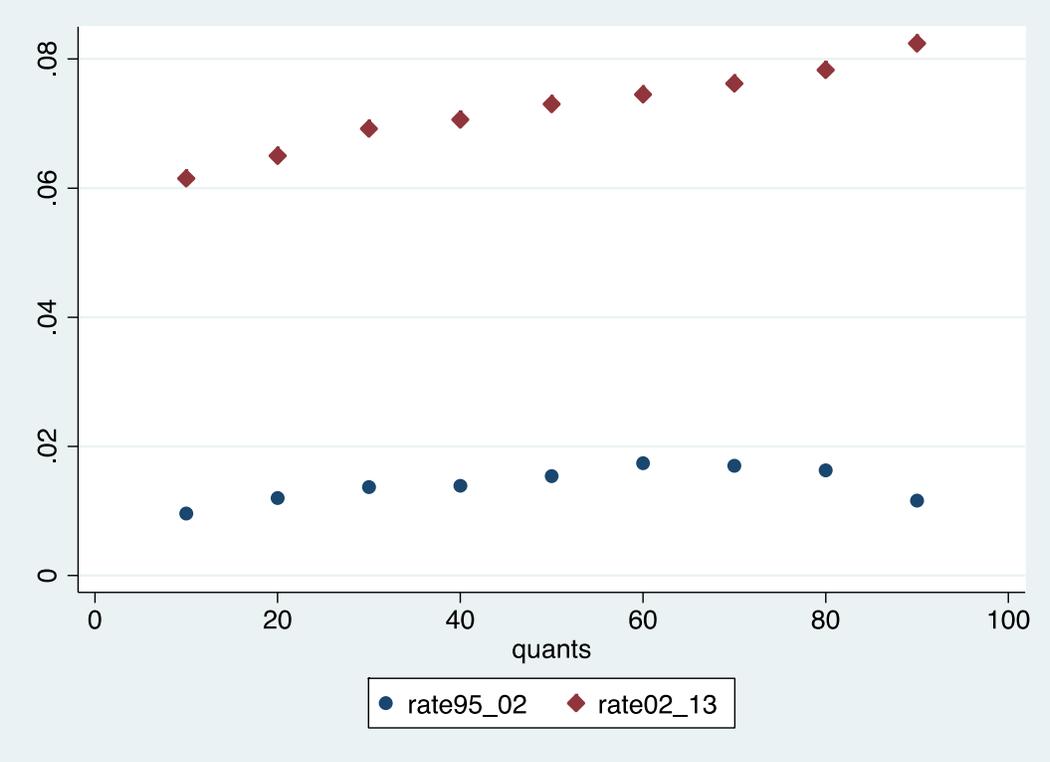
Figure 8.2. *Share of food in overall consumption*
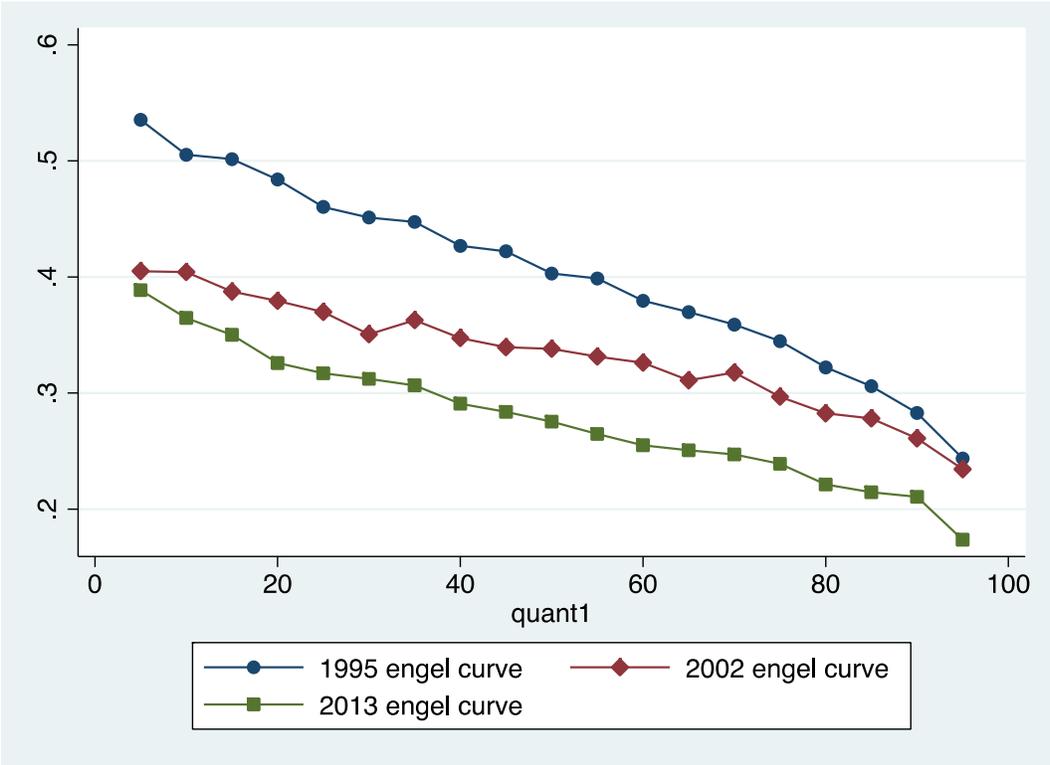
Figure 8.3. *Share of clothing in overall consumption*
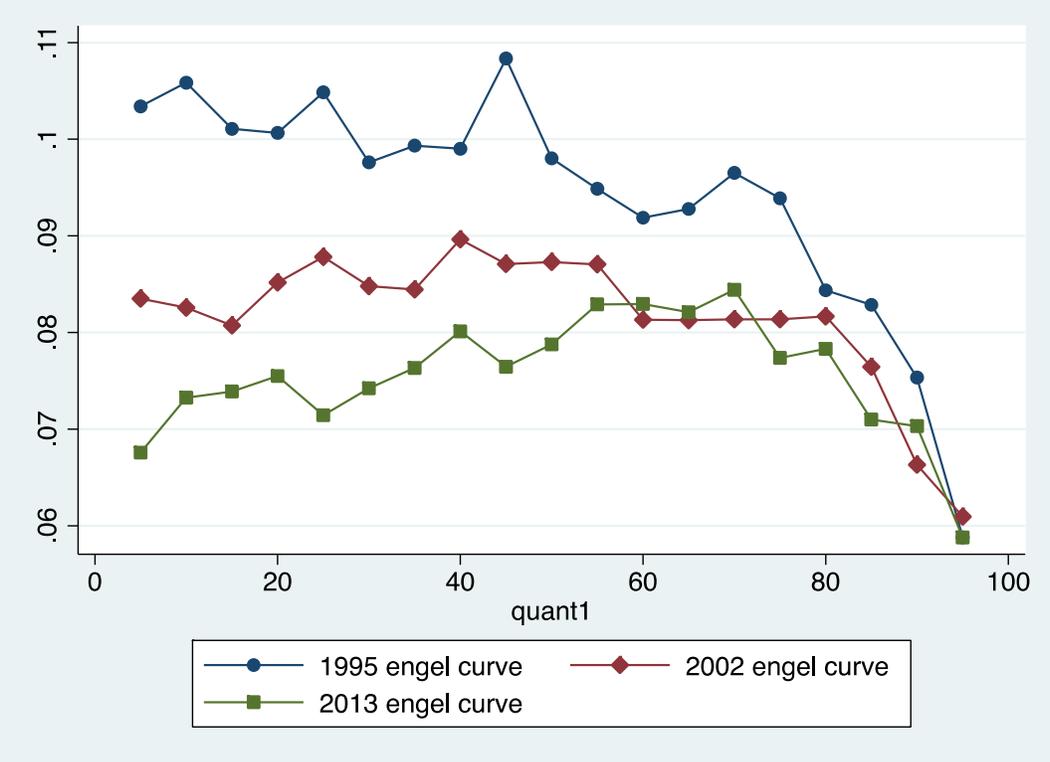
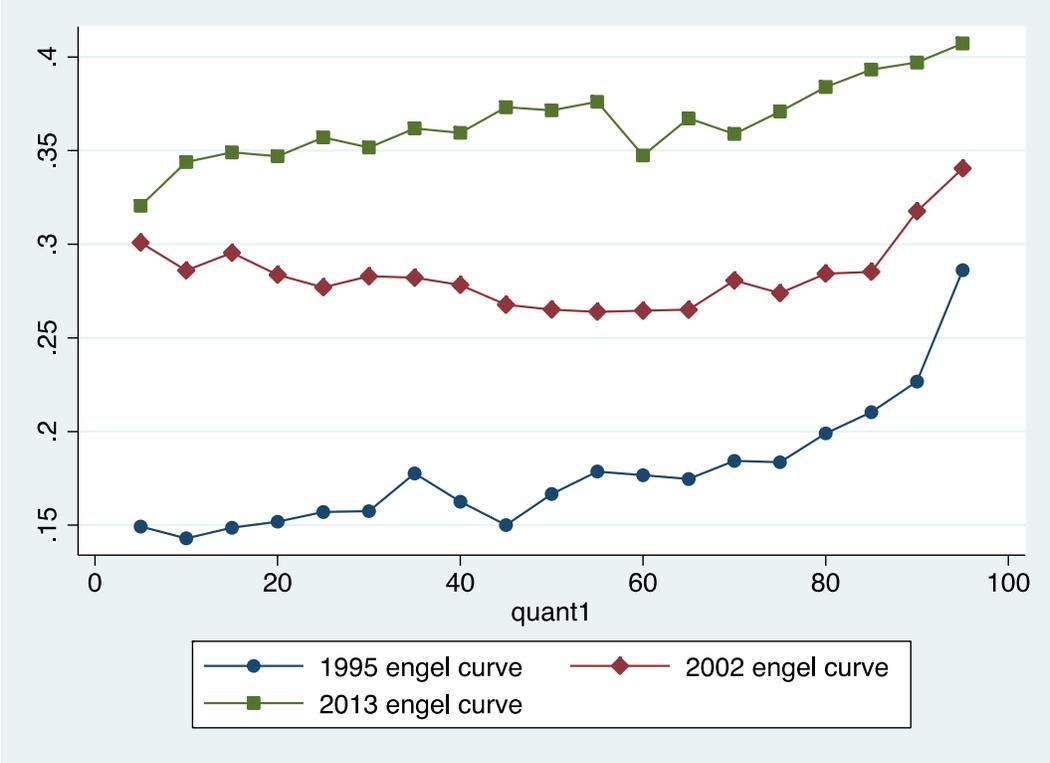**Figure 8.4.** *Share of housing in overall consumption*

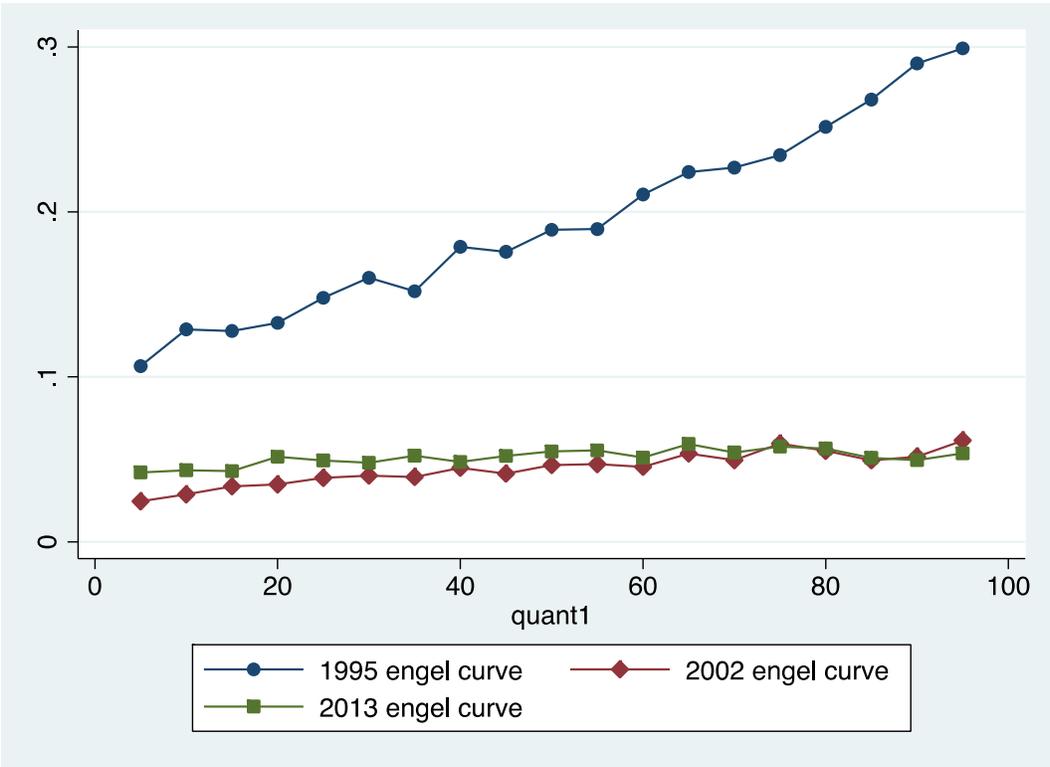**Figure 8.5.** *Share of house equipment and services in overall consumption*

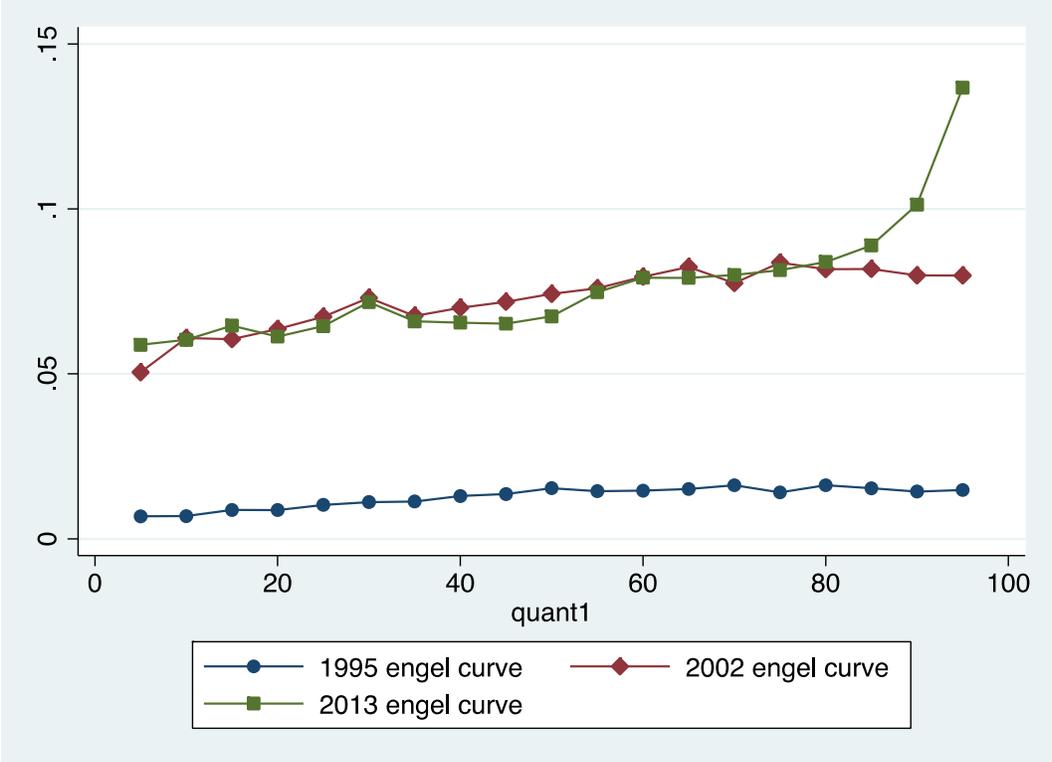**Figure 8.6.** *Share of transport and communication in overall consumption*

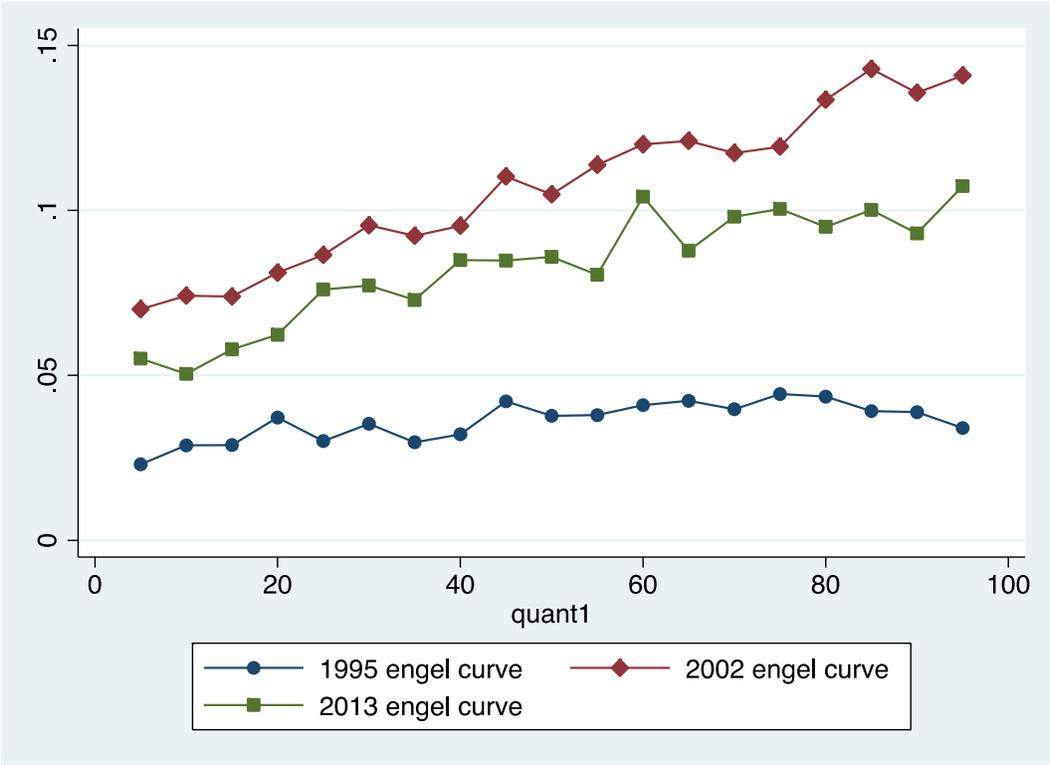**Figure 8.7.** *Share of education and entertainment in overall consumption*

Figure 8.8. *Share of medical care and health in overall consumption*