Earnings, Income, and Wealth Distributions in China: Facts from the 2011 China Household Finance Survey*

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Abstract

We use 2011 China Household Finance Survey (CHFS) data to describe inequality of earnings, income, and wealth in China. We find high inequality of labor earnings, income, and wealth in China. We also find that the business income comprises a large share of incomes among top groups. Households with young heads tend to be rich in earnings and incomes, and their incomes are largely generated from businesses. We find that the top 1 percent income share in China in 2010 is comparable to that in the United States in 1928. In 1928 the social security system was still absent in the United States. This comparison gives us hints that the high inequality level in current China is probably due to the ineffectiveness of redistribution policies in China.

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Keywords: Earnings distribution; Income distribution; Wealth distribution; Inequality in China

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1 Introduction

Rapid economic growth of China in recent years causes many concerns of inequality. Many studies have documented inequality of earnings, income or wealth separately. For example, Li and Sicular (2014) use data from the National Bureau of Statistics (NBS) and the China Household Income Project (CHIP) to compute income inequality measures between mid-1990s and 2008. Xie and Zhou (2014) summarize Gini coefficients of income in China from multiple data sources. Ding and He (2015) conduct the first empirical study of earnings, income, and consumption inequality in urban China from 1986 to 2009 using Urban Household Survey (UHS) data. For wealth inequality, Zhao and Ding (2010) also adopt CHIP survey data in 2002 to compute urban, rural, and national wealth inequality measures. While Meng (2007) focuses on the wealth inequality in urban China using the Urban Household Income Distribution Surveys for the years 1995, 1999, and 2002. Xie and Jin (2015) also find a high concentration of wealth in China using China Family Panel Studies (CFPS) data in 2012. However, none of these studies has investigated earnings, income, and wealth inequality in China simultaneously by using one dataset. In this paper, we have the first attempt to report comprehensive facts on distributions of earnings, income, and wealth in China using a single household survey dataset- the 2011 China Household Finance Survey (CHFS).[1]

Castaneda et al. (2003) calibrate a theoretical model to explain the earnings and wealth inequality in the United States. They use idiosyncratic labor efficiency shocks and agents' optimal choices to match the earnings and wealth inequality in the United States almost exactly. Researchers could use the similar modeling technology to explain the earnings, income, and wealth inequality in China. One aim of our paper is to provide the calibration targets of this kind of researches.

Using 2011 CHFS data, we find high inequalities of labor earnings, income, and wealth in China. Wealth is the most unequally distributed variable among the three across Chinese households. We find that the top 1 percent households in each distribution accounts for 22.09 percent, 23.76 percent, and 24.25 percent of earnings, income, and wealth in China.

We also find that the business income comprises a large share of income among the rich. For the top 1 percent income-rich households in China, business income account for 59.08 percent of total income, while labor income and capital income account for smaller shares of 21.35 percent and 9.83 percent respectively

[1] For more information about CHFS data, see Appendix A.

(See Table 7 of Section 3.4). This finding is especially interesting when we compare it with the income source of the top income group in the United States. Labor income is the largest part of total income for the top 1 percent households in 2007 in the United States (See Table 5 of Díaz-Giménez et al. (2011)).

Although Xie and Zhou (2014) obtain interesting findings of causes for high income inequality in China through comparing contemporary China with the contemporary United States, we propose a cross-country historical comparison approach. We compare contemporary China with the United States before 1935, when the social security system was first introduced in the United States by the Social Security Act (Wolff, 2009). The top 1 percent income share in 2011 CHFS data is 23.76 percent. From the World Top Incomes Database of Alvaredo et al. (2015), we find that the top 1 percent income share in the United States in 1928 is 23.94 percent.[2] By this cross-country historical comparison, we find that the top 1 percent income share in China in 2010 is comparable to that in the United States in 1928.[3] In 1928 the social security system was still absent in the United States. This comparison gives us hints that the high inequality level in current China is probably due to the ineffectiveness of redistribution policies in China.[4]

Many researchers have studied how the taxation system and the social security system influence income inequality in China. Yang (1999) finds that urban-biased policies and institutions, including welfare systems, are responsible for the long-term rural-urban divide and the increases in income inequality in China. Xu et al. (2013) find a lower average tax rate and hence a lower redistributive function of China's income taxation system. Using 1988–2007 CHIP data, Yang et al. (2013) show a large difference between welfare systems in rural China and urban China. In 2007 the welfare income (including transfers) accounts for 20 percent of total income in urban China, while it accounts for only 2 to 4 percent in rural China. Urban China has a comprehensive social security system. But the social security system only plays very minimum roles in rural China. The differentiated social security systems, including the pension systems, reduces the redistribution ability of the social welfare policies. We could have improved equity in China substantially if there had been a social security system covering

[2] To construct the World Top Incomes Database, the researchers use tax returns data in the United States. Since realized capital gains are included in our income definition, we compare our results to the top 1 percent income share including capital gains. The top 1 percent income share excluding capital gain is 19.6% in the United States in 1928. For cross-coutry studies of long-run top incomes, refer to Atkinson et al. (2011) and Alvaredo et al. (2013).

[3] We compare the top 1 percent income shares, instead of Gini coefficients, between these two countries, since the Gini coefficient of the United States in 1928 is not available.

[4] Note that our income definition is income before taxes and after transfers. See the detailed definition in Appendix B.

the whole country.

Although we propose a possible explanation of high income inequality in China, we cannot prove that the ineffectiveness of redistribution policies can really explain the very high income inequality in China. The primary aim of this paper is to characterize facts of earnings, income, and wealth inequality in China simultaneously by using one dataset.

We then investigate inequality along dimensions of age, employment status, education level, marital status of the heads of Chinese households. In particular, we find that the households with young heads tend to be rich in earnings and income, and their income is largely generated from businesses. On top of the above four dimensions, we incorporate the households characteristics distinctive in China, namely the rural-urban residence, and the regional differences. We find high inequalities between rural and urban areas and high inequalities among regions. However, the distributions within each residence group and each region are also highly skewed.

Our dataset allows us to report the accurate information about the top shares of incomes in China. Piketty and Saez (2003) find a U-shape of the top 1% income share in the United States during the twentieth century. Similar to Piketty and Saez (2003), we find the fat tail of the income distribution in China. While Piketty and Saez (2003) use tabulations of tax returns data to estimate top income shares, we use household survey data to calculate top income shares.[5,6]

The structure of the China Household Finance Survey (CHFS) is similar to that in the Survey of Consumer Finances (SCF) in the United States. We can conduct reasonable comparisons between China and the United States. We find that both countries have high inequalities and sources of income disparities within top-rich groups are different for two countries.[7]

Several other features of the CHFS dataset deserve highlights. First, the CHFS dataset has detailed information about household assets in China. Secondly, the CHFS data oversamples the rich through oversampling communities with high housing prices. Thirdly, the uncensored dataset that we use in this study allows us to have more accurate information about the net worth of top-

[5] Admististrative tax data give better information for the tail of income distribution. Unfortunately, there are no tabulation information of income tax collections.

[6] Piketty and Qian (2009) show the increasing trend of the top 1% income share in China during 1986-2003. There are two main differences between data of Piketty and Qian (2009) and those of our paper. First, Piketty and Qian (2009) use tabulations from China's Urban Household Survey (UHS). We directly use household level data of CHFS. Secondly, Piketty and Qian (2009) only investigate the top income share. We study earnings, income, and wealth inequality.

[7] Using SCF data Bricker et al. (2012) present changes of household income and wealth from 2007 to 2010 in the United States.

rich households and to avoid the top-coding problem in many other surveys.

The 2011 CHFS data are the first wave of the CHFS dataset. We also investigate earnings, income, and wealth inequality in China using 2013 CHFS data. Sample sizes of 2011 and 2013 waves are 8,438 and 28,141 households respectively. Although the 2013 sample is much larger, computational results from these two waves are similar.[8] Thus, we only report results from the 2011 CHFS data. Note that the 2011 wave surveys earnings and income information for the year 2010. We exclude 153 households with negative earnings and the wealthiest household from 2011 CHFS data.[9] Therefore, we have 8,284 households in the remaining sample. The basic unit in our distribution is household, while Piketty and Saez (2003) use tax units to study the income inequality in the United States.

The rest of the paper is organized as follows. In Section 2, we present the basic facts of earnings, income, and wealth distributions. We investigate the poor and the rich of each distribution in Section 3. In Section 4 we show the inequality along different dimensions of households characteristics, such as age, employment status, education, marital status of the heads of households, and rural-urban residence, and geographic regions of households. Finally, we briefly discuss our findings in Section 5.

2 Earnings, Income, and Wealth Inequality

We adopt the approaches of Díaz-Giménez et al. (1997), Budría et al. (2002), and Díaz-Giménez et al. (2011), to define earnings, income, and wealth.[10] Earnings are the rewards to all types of labor including entrepreneurial labor. Income is defined as revenue from all sources before taxes but after transfers. Wealth is defined as the net worth of the household.[11] Because of the differences between the institutions in China and the United States, we slightly modify the above definitions of earnings, income, and wealth in accordance with the context in China.[12]

We find high inequalities of labor earnings, income, and wealth in China. Wealth is the most unequally distributed variable among Chinese households. We observe a rightward skewness of all the distributions. We show that earnings

[8] The CHFS dataset is an unbalanced panel. The 2013 wave includes most of the households in the 2011 wave.

[9] The dropped the wealthiest household has a net worth over 1 billion RMB, but this observation has many missing values of other variables about household information.

[10] Díaz-Giménez et al. (1997) discuss the multidemensional nature of inequality.

[11] Note that earnings and income are flow variables while wealth is a stock variable.

[12] For detailed definitions of earnings, income, and wealth, see Appendix B.

and income are highly correlated, but none of them is significantly correlated with wealth.

2.1 Ranges and Histograms

The distributions of earnings, income, and wealth differ greatly in ranges relative to their own averages, as shown in Table 1. Earnings range from zero times to 109.55 times of the average earnings, income ranges from −0.70 times to 124.89 times of the average income, and wealth ranges from −197.62 times to 294.16 times of the average wealth.[13,14]

[place Table 1 here]

Four panels in Chart 1 are the histograms of all earnings, nonzero earnings, income, and wealth. To compare these variables on the same basis, all values have been normalized by their corresponding means, and the representation of frequencies only includes the observations greater than −2 times and less than 10 times the corresponding average. In the four histograms, the highest frequencies are below the mean values.

[place Chart 1 here]

2.2 Concentration

In Table 2, we report the Gini coefficient, the coefficient of variation, ratios of the shares earned or owned by the top 1 percent to the bottom 40 percent, and ratios of the 99th percentile to the 40th percentile in earnings, income, and wealth distributions.[15]

[13] In our sample of 8,284 households, there are 31 households with wealth above ¥10 million. The four wealthiest households, whose wealth levels are above ¥50 million, have net worth of ¥54.76 million, ¥66.18 million, ¥106.76 million, and ¥202.11 million respectively. In what follows, we use the symbol ¥ to denote the monetary unit of the RMB yuan.

[14] The ratio of private wealth to income in 2011 CHFS is 11.44. Xie and Jin (2015), using 2012 CFPS data, find that this ratio is 9.2, which is close to our number. Piketty and Zucman (2014) report the long-run national wealth-national income ratio in rich countries. In 2010, national wealth-national income ratios for the United States and European countries (weighted) are 4.31 and 5.30 respectively. Note that national wealth includes private wealth and public wealth. Although public wealth accounts for negligible shares of national wealth in the United States and European countries, we believe that it accounts for a significant share of national wealth in China. Even though we did not find the share of public capital in national wealth in China, we find that 8.56 percent of employment is in the state-owned enterprises (SOE) in 2010 (For detailed statistics, see Table 4-1 in the China Statistical Yearbook 2011).

[15] We choose the bottom 40 percent to compare with the top 1 percent in the last two statistics because it is the smallest group that holds positive shares of earnings, income, and wealth.

Gini coefficients of earnings, income, and wealth are 0.710, 0.664, and 0.761 respectively. These statistics imply high inequalities of labor earnings, income, and wealth in China. The coefficients of variation of earnings, income, and wealth are 2.94, 3.20, and 4.54. The Gini coefficient and the coefficient of variation show that wealth is the most unequally distributed variable.

Díaz-Giménez et al. (2011), using 2007 SCF data, find that Gini coefficients of earnings, income, and wealth are 0.64, 0.58, and 0.82 respectively in the United States. Coefficients of variation of earnings, income, and wealth are 3.60, 4.32, and 6.02 respectively. Looking at the Gini coefficient, we find that China has higher inequality in earnings and income, and lower inequality in wealth than the United States. However, in terms of the coefficient of variation, China has lower inequality in all three variables than the United States.

We can investigate inequalities through the ratio of the share held by the top 1 percent households to that of the bottom 40 percent households. The earnings of the top 1 percent households is 10.71 times that of the bottom 40 percent households. The income of the top 1 percent households is 4.47 times that of the bottom 40 percent households. The top 1 percent households of the wealth distribution hold wealth 9.45 times that of the bottom 40 percent households.

In Table 2, we also look at ratios of the 99th percentile to the 40th percentile in earnings, income, and wealth distributions. Earnings are more concentrated than income. In the earnings distribution, a household at the 99th percentile earns 44.06 times that of a household at the 40th percentile. This ratio reduces to 25.07 in the income distribution. Transfer payments and social security income, which are parts of income, account for this reduction. A household at the 99th percentile of the wealth distribution holds wealth 53.13 times that of the one at the 40th percentile.

[place Table 2 here]

We draw the Lorenz curves for earnings, income, and wealth in Chart 2. Lorenz curves also show high inequalities of labor earnings, income, and wealth in China.

[place Chart 2 here]

2.3 Skewness

We report several skewness measures of earnings, income, and wealth in Table 3. Table 3 shows that means locate at percentiles much higher than medians. The ratios of the corresponding mean to median are all greater than 1. And

the direct skewness measures are positive and large. All these facts confirm the rightward skewness of these distributions.[16] Wealth is the most skewed variable among the three, and income is the least skewed.

[place Table 3 here]

2.4 Correlation

We show the correlation coefficients between earnings, income, and wealth in Table 4. Computations show that earnings, income, and wealth are positively correlated. The correlation between earnings and income is as high as 0.921. This is largely because labor earnings account for 67.26 percent of household income.

The correlation between earnings and wealth is 0.322. The correlation between income and wealth is 0.339. Both figures are relatively low. This is due to the low earnings and income reported by several households with extremely high wealth. If we drop the two households with wealth greater than ¥100 million, the correlation between earnings and wealth raises to 0.527, and the correlation between income and wealth increases to 0.550.[17]

[place Table 4 here]

In Table 5, we present the correlations between earnings, income, and wealth and the various sources of income. The correlation between business income and total income is 0.850. However, total income is moderately correlated with labor income (0.421) and with capital income (0.367).

The low correlation between wealth and sources of income is due to low income of several households with extremely high wealth. The correlations between total wealth and labor income, capital income, and business income are 0.142, 0.111, and 0.302 respectively. After we drop the households with wealth greater than ¥100 million, these figures raise sharply to 0.237, 0.181, and 0.490 respectively.

[place Table 5 here]

[16] In a symmetric distribution, the mean should locate at the 50th percentile, and the ratio of the mean to the median should therefore be 1.

[17] The low correlation between earnings and wealth is not mainly due to retirees. After we exclude $1,258$ households with retired heads, the correlation between earnings and wealth rises slightly to 0.410.

3 The Poor and the Rich

Following Díaz-Giménez et al. (1997), Budría et al. (2002), and Díaz-Giménez et al. (2011), we distinguish between rich and poor in terms of earnings, income, and wealth. In particular, we refer to the poorest as the bottom 1 percent, the poor as the bottom 20 percent, the rich as the top 20 percent, and the richest as the top 1 percent of each distribution.

For each of the four groups: the poor, the poorest, the rich, and the richest, we calculate the means of earnings, income, and wealth in that group relative to the means of the whole sample. We report these facts in Chart 3. The four panels in Chart 3 illustrate that the poor in one variable are not necessarily poor in others. But the rich in one variable tend to be rich in others.

[place Chart 3 here]

We find that the business income comprises large shares of income among the earnings-richest, the income-richest, and the wealth-richest. Among the top 1 percent households in partitions of earnings, income, and wealth, business income accounts for 59.75 percent, 59.08 percent, and 72.92 percent respectively.

We report the detailed statistics of earnings, income, and wealth partitions in Tables 6, 7, and 8. These tables also contain the information about joint distributions of earnings, income, and wealth.

[place Table 6 here]
[place Table 7 here]
[place Table 8 here]

3.1 The Earnings-Poor

A significant share of households has zero or negative earnings. In the 2011 CHFS sample adjusted for weights, around 15.23 percent of households have zero earnings. Households with retired heads account for 44.42 percent of zero-earnings households. Our definition of earnings includes all wages and salaries plus a fraction of business income (for entrepreneurial labor). We calibrate from Li (2012) the fraction of labor earnings out of income from farm sources as 84 percent and that of labor earnings out of income from business sources as 59 percent.[18]

[18] Zhang and Xu (2009) assume a Cobb-Douglas production function and estimate time-varying aggregate labor income shares for China. Adopting various estimation strategies, they find that the means of estimates between 1979 and 2005 range from 0.36 to 0.39. These estimates are too low compared with adjusted labor income shares in other developing countries as reported in Gollin (2002).

The earnings-poor are likely to be income-poor but wealth-rich. The lowest quintile of earnings distribution is has a small share of earnings holdings at 0.05 percent only, and has 8.12 percent of total income.[19] However, the households of the bottom earnings quintile have an average wealth level close to the sample average, and collectively own 19.37 percent of the total wealth. The high wealth level of the bottom earnings quintile is due to several wealthy households who belong to this group. A household who owned the average wealth of the households in the bottom earnings quintile would be ranked at 79th percentile of the wealth distribution (See Tables 6 and 8).

3.2 The Earnings-Rich

The earning-rich tend to be also rich in income and wealth. The top 1 percent earnings-richest households have average earnings, income, and wealth about 21.53 times, 21.34 times, and 11.23 times that of the sample averages respectively. Households in the highest earnings quintile have 3.58 times the sample average earnings, 3.20 times the sample average income, and 2.25 times the sample average wealth.

Households in the highest earnings quintile display clear age patterns. The $31-45$ age cohort accounts for 43.39 percent of households in the quintile. The over 65 age cohort only accounts for 1.80 percent of households in the quintile.

Households in the highest earnings quintile tend to be highly educated. Despite of a low sample share of 7.76 percent only, households with bachelor degree or above account for 24.90 percent of the top quintile and dominantly 64.78 percent of the top 1 percent group.

3.3 The Income-Poor

The income-poor tend to be poor in earnings, but not likely to be poor in wealth. The households in the bottom income quintile hold 0.91 percent of total income. These households earn only 0.72 percent of total earnings, but they own 9.17 percent of total wealth. A household who owned the average wealth of the households in the bottom $1-5$ percent group of the income distribution would be in the fourth quintile of the wealth distribution. And a household who likewise owned the average wealth of the households in the bottom income quintile would be in the fourth quintile of the wealth distribution (See Tables 7 and 8).[20]

[19] Transfers account for 73.93 percent of total income for households in the bottom earnings quintile (See Table 6).

[20] One may think that the observation that the income-poor is not necessarily poor in wealth is due to several super-wealthy households in the sample. To see impacts of these households,

3.4 The Income-Rich

The average income of the households in the top 1 percent of the income distribution is 23.69 times the sample average. And these households hold 23.76 percent of the total income in the sample. The average income of the households in the top quintile is 3.43 times the sample average. The households in the top quintile collectively hold 68.58 percent of the total income.

The income-rich tend to be rich in both earnings and wealth. The households in the top 1 percent of the income distribution have average earnings 19.80 times that of the sample average, and own wealth 12.02 times that of the sample average. The households in the top quintile of the income distribution on average have earnings 3.39 times that of the sample average, and own wealth 2.68 times that of the sample average.

Observing the high income inequality in China, we investigate income sources among the rich. Business income comprises the largest share (59.08 percent) of total income for the top 1 percent households. Labor income accounts for 21.35 percent of total income in this top group. Thus, it is entrepreneurship not employment that causes these households to become rich.

The income source of the top-income group is quite different in the United States. From Table 5 of Díaz-Giménez et al. (2011), who use 2007 SCF data, we find that labor income is the largest part of total income for the top 1 percent households in the United States. In the United States, labor income accounts for 39 percent of income for the top 1 percent households, while business income accounts for 28.3 percent.

3.5 The Wealth-Poor

In the 2011 CHFS sample, 1.78 percent of households have negative wealth, and 0.09 percent of households have zero wealth. Although the fraction of zero and negative wealth is small, wealth is more unequally distributed than earnings and income. The minimum wealth level in this sample is negative ¥135.76 million, which reflects a huge debt. The bottom 40 percent households in the wealth distribution collectively own only 2.57 percent of the total wealth.[21]

Earnings and income are not necessarily low for households with poor wealth positions. The bottom 1 percent households in the wealth distribution on average earn about 4.40 times as much as the median earnings of the whole sample, and

we recalculate the wealth of each quintile by excluding the two households whose wealth exceed ¥100 million. The average wealth of the lowest quintile becomes ¥233.36 thousand. This figure is still above the median wealth level, ¥197.15 thousand.

[21] Housesholds in the bottom quintile collectively have a negative share of wealth.

4.20 times as much as the median income of the whole sample. In the first quintile of wealth distribution, a household who had an average earnings in this group would be in the third quintile of earnings distribution. And a household who had an average income in this group would be in the third quintile of income distribution.

3.6 The Wealth-Rich

The households in the top 1 percent of wealth distribution have wealth 23.44 times the sample average, and collectively own 24.25 percent of the total wealth. The households in the top quintile of the wealth distribution own 79.25 percent of the total wealth.

The wealthy households tend to be both earnings-rich and income-rich. The households in the top quintile of wealth distribution on average earn 2.54 times the sample average earnings, and collectively hold 50.95 percent of the total earnings in the sample. The households in the top quintile of wealth distribution have an average income 2.65 times the sample average, and hold 53.14 percent of the total income in the sample.

Business income accounts for the largest share of the income of the wealthy households. For the group of the top 1 percent wealthiest households, 72.92 percent of the income is from business. This share is still as large as 34.22 percent for the households in the top quintile of wealth distribution.

Xie and Jin (2015) use 2012 CFPS data and the 2012 Hurun China Rich List to investigate the wealth-rich group in China.[22] They employ two versions of data, adjusted data and unadjusted data, to study the wealth-rich group. The unadjusted data are from 2012 CFPS data. For the unadjusted version of data, the households in the top 1 percent of wealth distribution own 16.1 percent of the total wealth. The adjusted data are produced by combining 2012 CFPS data and the 2012 Hurun China Rich List.[23] For the adjusted version of data, the households in the top 1 percent of wealth distribution own 35.3 percent of the total wealth. We find that top 1 percent wealthy group own 24.25 percent of the total wealth. This number is higher than that of unadjusted data in Xie and Jin (2015), but is lower than that of adjusted data in Xie and Jin (2015).

[22] While the China Family Panel Studies (CFPS) and the China Household Finance Survey (CHFS) are mainly for academic uses, the Hurun China Rich List is mainly for business aims.

[23] Precisely, to generate the adjusted data, Xie and Jin (2015) use the 2012 Hurun China Rich List to estimate the Pareto distribution for the wealth of the top 0.1 percent richest households in the Chinese population. Then they expand the CFPS data with the sampling weight to represent the remaining 99.9 percent population. Combining these two parts, they generate adjusted household wealth data.

4 Other Dimensions of Inequality

In this section, we investigate the earnings, income, and wealth inequality along the dimensions of age, employment status, education, marital status, rural-urban residence, and regions.

Xie and Zhou (2014) examine the contribution of five factors, regions, the rural-urban divide, education, race/ethnicity, and the family structure, for income inequality in China. They find that a substantial part of China's high income inequality is due to regional disparities and the rural-urban gap. Specifically, they use the 2010 China Family Panel Studies (CFPS) to do variance decomposition analyses and find that about 12% of the overall income inequality in China can be attributed to differences across provinces. They also find that the rural-urban divide accounts for more than 10% of the total inequality in China.[24,25] Instead of doing variance decomposition analyses, we use a more intuitive way to show the within-group and between-group inequality. We calculate within-group Gini coefficients and ratios of each group average to the aggregate level. We also investigate income sources of each group.

[place Table 9 here]

4.1 Age

We divide households in the entire sample into 10 cohorts with a span of five years in each cohort. Households with heads aged $46-50$ account for the largest share of the 2011 CHFS sample (13.58 percent), while households with heads aged 25 and under account for the least share (3.97 percent).[26]

Panel A of Chart 4 shows overall declining trend of average earnings, income, and wealth levels over age groups.[27] We find that households with heads aged 25 and below have the highest earnings, income, and wealth among all cohorts.[28]

[24] After conducting three adjustments Sicular et al. (2007) find that in 2002 the rural-urban gap contributes about one quarter of income inequality in China.

[25] Xie and Jin (2015) use the Theil Index to decompose the within-group and between-group wealth inequality in China. They find that rural-urban differences account for more than 10.2% of the wealth inequality. And differences across provinces can explain 23.4% of the wealth inequality.

[26] See Table 9 for the share of each cohort in the 2011 CHFS.

[27] Average earnings, income, and wealth in the United State exhibit life-cycle patterns with continuously increasing trends until the retirement age (See Panel A of Figure 2 in Díaz-Giménez et al. (2011)). However, the generally declining trend in the 2011 CHFS is not necessarily inconsistent with the life-cycle theory, since it could be explained by the "cohort effect." China's transition from a planned economy to a market economy only started in the late 1970s. There were limited jobs in formal sectors for the currently old generation.

[28] These households could have members of multiple generations, or young people who are rural migrant workers. The wealthy young households may also reflect intergenerational trans-

The $26-30$ is the second richest age group in terms of earnings, and the $31-35$ is the second richest age group in terms of income. The second wealthiest age group is in their middle age, $46-50$.

We plot Gini coefficients of earnings, income, and wealth of each cohort in panel B of Chart 4. Gini coefficients of earnings and income are moving closely with each other until age 45. After age 55, the inequality of earnings rises sharply, but income inequality remains moderately high. High Gini coefficients are found among the young age groups, mainly due to the concentration of the top wealthy households. The wealth inequality starts to increase again after the retirement age.

Panel C of Chart 4 shows income sources of each age cohort. Business income is the largest income share in the 25 and under age group (46.69 percent). This cohort happens to be the richest age group in the rank of cohort-average earnings, income, and wealth. These facts imply that the high-income households are very likely headed by young entrepreneurs.

[place Chart 4 here]

4.2 Employment Status

We divide employment status of household heads into six groups, namely workers, farmers, self-employed, unemployed, retired, and nonworkers.[29] Workers account for 31.37 percent of the 2011 CHFS sample, farmers 28.21 percent, self-employed 14.34 percent, unemployed 3.63 percent, retired 13.06 percent, and nonworkers 9.39 percent.[30]

Workers have earnings, income and wealth 77.91 percent, 48.00 percent, and 12.64 percent higher than the sample average respectively. Farmers are the poorest group in both income and wealth. Their average earnings, income, and wealth levels are only 38.59 percent, 34.28 percent, and 31.55 percent of the corresponding sample averages.[31] For the retired group, although they have low earnings, their incomes are close to the sample average, and their wealth are the second highest, almost comparable to the self-employed group. For the self-employed, their average income is 1.62 times the sample average and their average wealth are the highest in the sample at 1.76 times the sample average.

fers in the form of bequests or gifts.

[29] Since a significant share of the population in China is currently agriculture-based, we consider farmers as an employment type, and find that they are poor compared with other groups.

[30] The group of nonworkers includes households of nonresponses in the employment status question.

[31] Agriculture income is included in business income.

As shown in panel B of Chart 5, the Gini coefficients of earnings, income, and wealth are vastly different across the groups of employment status. Earnings are the most equally distributed among households headed by workers, but is most unequally distributed among the retired. Compared to earnings, income is generally more equal in all groups except in workers and the self-employed. But there are still large variations in income among the self-employed and nonworkers. The Gini coefficients of wealth within these two groups are also higher than the sample average.

[place Chart 5 here]

4.3 Education

We divide the education level of Chinese household heads into four groups: primary school and below, secondary and high school, diploma and college, and bachelor degree and above. The households of the four groups account for 34.09 percent, 45.93 percent, 11.38 percent, and 7.76 percent of the total sample respectively.

Panel A of Chart 6 compares the normalized earnings, income, and wealth levels of the four education groups. We find a strong association between education levels and economic performance. The households with bachelor degree or above enjoy earnings, income, and wealth 4.10 times, 3.71 times, and 3.07 times the sample averages. For households with diploma or college degree, these three figures drop significantly to 1.73 times, 1.81 times, and 1.70 times the sample averages. In contrast, the households with secondary or high school education have earnings 74.03 percent of the sample average, income 78.57 percent of the sample average, and wealth 87.51 percent of the sample average. Households with lowest education level are the poorest in all three variables. Their earnings, income, and wealth are only 40.59 percent, 41.04 percent, and 46.09 percent of the sample averages respectively.

Panel B of Chart 6 shows the concentrations of earnings, income, and wealth within each educational group. We find within-educational-group Gini coefficients are similar but slightly lower than those of the entire sample.

Panel C of Chart 6 shows a decomposition of income sources for all education groups. Business income takes a significant and similar share around 30 percent of the total income across all households regardless of education levels. The share of labor income is the highest in the most educated group, while the share of transfers is decreasing in the educational attainment.

[place Chart 6 here]

4.4 Marital Status

We have a binary classification of household marital status: married household and single household. Married households account for 86.26 percent of the 2011 CHFS sample, and single households 13.74 percent.[32]

Married households enjoy more wealth, but lower earnings and income than single households. The Gini coefficients of earnings, income, and wealth of married households are very close to but slightly lower than those of the whole sample. For single households, all three Gini coefficients are higher than those of the whole sample. Married households generate income primarily from labor (51.83 percent), while single households rely more on businesses (41.40 percent).

[place Chart 7 here]

4.5 Rural-Urban Residence

We can distinguish rural and urban households by using the "rural" dummy in the 2011 CHFS.[33] Rural households comprise 45.39 percent of the sample, while urban households comprise 54.61 percent of the sample.[34]

The financial situation of the urban households is considerably better than that of the rural households. The earnings, income, and wealth levels of urban households are 2.13 times, 2.46 times, and 3.46 times those of rural households.

Although inequalities are high within both rural and urban households, the disparities are relatively lower in the rural area. The Gini coefficients of wealth in rural and urban households are 0.671 and 0.743 respectively. The Gini coefficients of earnings in rural and urban households are 0.656 and 0.708 respectively.[35]

[place Chart 8 here]

[32] The proportion of single households in China is notably lower than that in the United States (41.2 percent in 2007, Díaz-Giménez et al. (2011)).

[33] For the definition of "rural", the 2011 CHFS follows the State Department rule. The CHFS distinguishes rural and urban households by the place of residence rather than the household registration system (i.e. *Hukou*).

[34] Rural households on average have more family members than urban households.

[35] Compared with rural households, urban households have a larger reduction of inequality from earnings to income. This fact suggests that there might be a better redistribution mechanism in the urban area.

4.6 Regions

We divide the sample into three regions: East China, Central China, and West China.[36] East China is the largest group and has 53.35 percent of households in the 2011 CHFS. Central and West China account for 25.33 percent and 21.32 percent of the sample respectively. Most provinces in East China are coastal provinces (See footnote 24). According to the Table 2–14 in China statistical yearbook 2011, the GDP share of East China, Central China, and West China among the twenty-five surveyed provinces in the 2011 CHFS are 58.29 percent, 21.48 percent, and 20.24 percent respectively.

The large differences among regions contribute to the overall inequalities in China. The income ratio of East China to Central China is 2.51, and the income ratio of East China to West China is 2.77. The wealth ratio of East China to Central China is 4.15, and the wealth ratio of East China to West China is 4.85.

The inequalities within each region are also high. The Gini coefficients of wealth in East China, Central China, and West China are 0.747, 0.549, 0.622 respectively. The wealth inequality in East China is higher than that in West China, which in turn is higher than that in Central China. We observe similar patterns for earnings and income.

[place Chart 9 here]

5 Conclusion

We use 2011 CHFS data to examine the inequality situations in China. Our computations show very unequal distributions of earnings, income, and wealth among the Chinese households. Furthermore, we find a large share of business income among the earnings-rich, income-rich, and wealth-rich. These findings help us to understand the inequality patterns in China.

We also find that the poor in one variable are not necessarily poor in others, but the rich in one variable tend to be rich in others. High earnings, income, and wealth values are more likely to be found among young households. Along the dimension of employment status, workers are wealth-poor, retirees are wealth-rich, and farmers are the poorest while self-employed are the richest in all three

[36] The East Region includes the following provinces and province-level municipalities: Beijing, Guangdong, Hebei, Jiangsu, Liaoning, Shandong, Shanghai, Tianjin, and Zhejiang. The provinces in the Middle Region are Anhui, Henan, Hubei, Hunan, Jiangxi, and Shanxi. The provinces, province-level municipality and province-level autonomous region in the West Region include Chongqing, Gansu, Guangxi, Guizhou, Heilongjiang, Jilin, Qinghai, Shaanxi, Sichuan, and Yunnan.

variables. We also observe a strong association between inequality and education levels, rural-urban residence, and regions among the Chinese households.

Further research could be moving towards the dynamics of earnings, income, and wealth distributions along China's economic development. We can also explore the social mobility in China when later waves of CHFS data are available.

A cross-country comparison of wealth compositions might also be interesting. For example, Wolff (2006) documents the household wealth composition in the United States using the 2001 SCF. Housing assets, business equity, and financial and other assets account for 38%, 17.2%, and 44.8% respectively. However, in 2011 CHFS data housing assets, business equity, and financial and other assets account for 66.73%, 15.34%, and 17.93% respectively in China.[37] More researches are needed to understand the difference of wealth compositions between China and the United States.

[37] We find that the ratio of housing assets to gross assets is 66.73%. This result is comparable to that of Xie and Jin (2015). They report that the ratio of gross housing assets to household net worth is 73.9%. Using Table 4 of Xie and Jin (2015), we can calculate the ratio of housing assets to gross assets, which is 69.5%.

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Appendix A: The Data Source

The China Household Finance Survey (CHFS) is conducted by the Survey and Research Center for China Household Finance in the Southwestern University of Finance and Economics (SWUFE). This survey provides detailed information about household assets in China, including housing, business assets, financial assets, and other household assets. In addition, the survey has information on income, expenditure, and social and commercial insurances.

The sampling design of CHFS consists of two major components: an overall sampling scheme and an on-site sampling scheme based on mapping. The overall sample scheme employs a stratified three-stage probability proportion to size (PPS) random sample design. The primary sampling units (PSU) include $2,585$ counties (including county level cities and districts) from all provinces (including province-level municipalities and province-level autonomous region) in China except Tibet, Xinjiang, Inner Mongolia, Hong Kong, Macau, and Taiwan. The second stage of sampling involves selecting residential communities from the counties selected in the earlier stage, as well as households from each residential community. In practice, the 2011 CHFS selected 80 counties from the PSU, then four residential communities from each county, and then $20-50$ households from each residential community depending on level of urbanization and economic development. Communities with high housing prices are oversampled.

The first wave of the survey was conducted in the summer of 2011, collected earnings and income information in 2010. The sample size is $8,438$ households and $29,500$ individuals from 25 provinces. Geographic coverage is almost the entire mainland China, except Inner Mongolia, Xinjiang, Tibet, Hainan, Ningxia, and Fujian. The final ratio of urban to rural communities is $187:139$. The overall refusal rate, 11.6%, is considered low among households surveys worldwide.

For more information about the CHFS dataset, see Gan et al. (2014) and the website http://www.chfsdata.org/

Appendix B: Definitions of Variables

We follow Díaz-Giménez et al. (1997), Budría et al. (2002), and Díaz-Giménez et al. (2011) to define earnings, income, and wealth. The original lists have been modified to fit the distinctive characteristics in China (e.g. the social security account).

Earnings. We define labor earnings as wages and salaries of all kinds plus a fraction of business income (for entrepreneurial labor). Business income includes income from farm and business sources. According to Li (2012), the value for the fraction is imputed as 84% for income from farm sources and 59% for income from business sources.

Income. Income is defined as all kinds of revenue before taxes, including both government and private transfers. We classify the sources of income into the following five categories. *Labor income*: wages and salaries. *Capital income*: interest income, dividends, gains or losses from the sale of stocks, bonds, mutual funds, derivatives, gold, real estate, and other financial assets; rent (of housing, land, and vehicle), trust income, and royalties from any other investment or business. *Business income*: income from businesses and farm sources. *Transfers*: private transfers; unemployment and worker compensation, monetary and in-kind subsidy for agricultural production, and other forms of welfare and assistance. *Other income*: income from Social Security and other pensions, annuities, compensation for disabilities, and retirement programs; and income from all other sources including compensation for requisition of land/housing, settlements, prizes, scholarships and grants, inheritances, gifts, insurance claim, and so on. Note that income does not include imputed income from the services of some assets such as owner-occupied housing.

Wealth. Wealth is defined as the net worth of households, which includes the value of financial and real assets of all kinds net of various kinds of debts: Residences and other real estate; farms and all other businesses; checking accounts, and other banking accounts; mutual funds, bonds and stocks, cash and call money at the stock brokerage, derivatives, gold, all annuities, trusts, and managed investment accounts; major consumer durables, collections, and luxuries; vehicles; the cash value of term and life insurance policies and other policies; money owed by friends, relatives, businesses, and others; pension plans accumulated in social security and other accounts; and other assets.[38]

[38] See Appendix C for estimation of the cash value of life insurance policies.

Appendix C: Estimation of the Cash Value of Life Insurance Policies

C.1 Estimation of Net Level Premium Reserves

We estimate the cash value of life insurance policies using the concept of net level premium reserve (NLPR), which is the balance between expected present value of amounts to be paid into and out of the insurer under the policy. There are two approaches to compute net level premium reserve, the retrospective reserve and prospective reserve. The retrospective reserve represents the net premiums collected by the insurer at age α in period t for a particular block of policies, plus interest earnings at an assumed rate r, less the amounts paid out as death claims:

$$V_{\alpha,t}=\sum_{s=t_0}^{t}(C_s-B_s)(1+r)^{t-s},$$

where C_s and B_s denote the premium payments and death benefits respectively. The prospective reserve is the difference between the present value of future benefits and the present value of future net premiums. The Recursive formulae for prospective reserve requires forecasting of mortality rates for each age in each future year. The forecasting method is presented briefly in Appendix C.2. Given mortality rates q, prospective reserves can be computed as follows:

$$\begin{aligned}
\text{Terminal age } \Omega \quad &: \quad V_{\Omega}= -C_{\Omega}+\frac{\text{Death Benefits}}{1+r}, \\
\text{Every other age } \alpha \quad &: \quad V_{\alpha,t}= -C_{\alpha}+EB_{\alpha,t} \\
&= \quad -C_{\alpha}+q_{\alpha,t}\frac{\text{Death Benefits}}{1+r}+(1-q_{\alpha,t})\frac{V_{\alpha+1,t+1}}{1+r}.
\end{aligned}$$

Both retrospective and prospective approaches will produce the same level of reserves at the end of any given year under the same actuarial assumptions. To better utilize the 2011 CHFS information and to account for the life contingency, we adopt the prospective approach for estimation of net level premium reserve.

The choice of discount rate is not essential in our estimating results, because the average size of estimated net premium reserve is negligible in household wealth. The impact of various discount rates on household wealth and distributions are summarized in Table C.1.

C.2 Projection of Mortality Rates

We employ Lee-Carter (1992) model to estimate and forecast all-cause mortality for Chinese population from year 2010 onwards. Due to insufficient availability

Table C.1 Discount Rates and Household Wealth

Discount rate	Mean of Household Life Insurance Wealth (2010 RMB)	Mean of Total Household Wealth (2010 RMB)	Share of Life Insurance Wealth in Total Household Wealth	Gini Coefficient of Wealth*
0%	7,533.56	692,657.30	1.09%	0.76057
1%	3,806.60	688,930.30	0.55%	0.76058
2%	**1,937.59**	**687,061.30**	**0.28%**	**0.76063**
3%	1,009.87	686,133.60	0.15%	0.76066
4%	545.10	685,668.80	0.08%	0.76068
5%	303.73	685,427.40	0.04%	0.76070

Note: rounding to 5 decimal points to see the impacts of discount rate on Gini coefficient of wealth.

of historical life tables for Chinese population, we use Hong Kong Yearly Life Table 1971–2013 as an alternative source of estimation. We match the life table of China in 2010 by life table of Hong Kong in 1980 due to the likeness of life expectancy for both male and female.

According to Fries Hypothesis (Fries, 1980), the maximum potential life expectancy is normally distributed throughout the population, with a mean of 85 and a standard deviation of 7 years. We therefore assume a flat mortality rates thereafter when the implied life expectancy upon birth reaches 85 years for male and female separately.

Appendix D. Land Value Imputation

Strictly speaking, land in China is not defined as a private asset which is freely tradable. Farmers possess land-use rights but not land ownership. Rural land is used as an important factor of production for farmers, who usually receive compensation during land acquisition by the government. The rural land (leasing) markets have been developing rapidly since the adoption of the Rural Land Contracting Law in 2003 (Naughton, 2007). We use following procedures to impute the shadow price of local land in the 2011 CHFS survey:

1. Discard self-reported land value above 20 million RMB.
2. Define land type as farming land, residential land, state-owned land, and others.
3. Standardize land unit as mu (a Chinese unit of area, 1 mu=0.0667 hectares=666.67 square meters).
4. Compute unit price of each piece of land.
5. For each type of land, impute the top 5% and bottom 5% unit land prices in the rural area by their local median values; and impute the top 5% and bottom 5% unit land price in the urban area by the national median value.
6. Compute the imputed land asset value by multiplying imputed unit land prices by land area.

Appendix E: Tables and Charts

E.1 Tables

Table 1 Mean, Median, and Normalized Ranges

Variable	Mean	Median	Normalized Minimum*	Normalized Maximum*
Earnings	40,394	16,904	0.00	109.55
Income	60,053	28,312	-0.70	124.89
Wealth	687,061	197,150	-197.62	294.16

* Data are normalized by sample averages.

Table 2 Concentration

Variable	Gini Index	Coefficient of Variation	Top 1% to Bottom 40% Ratio	99th to 40th Percentile Ratio
Earnings	0.710	2.94	10.71	44.06
Income	0.664	3.20	4.47	25.07
Wealth	0.761	4.54	9.45	53.13

Table 3 Skewness

Variable	Location of Mean (Percentile)	Ratio of Mean to Median	Skewness**
Earnings	74	2.39	15.68
Income	77	2.12	17.74
Wealth	80	3.48	33.83

**The skewness of a random variable is the third standardized moment.

Table 4 Correlation

Variable	Correlation Coefficient
Earnings and Income	0.921
Earnings and Wealth	0.322
Income and Wealth	0.339

Table 5

Correlation between Earnings, Income, and Wealth and Various Sources of Income

	Correlation				
Variable	Labor Income	Capital Income	Business Income	Transfers	Other Income
Earnings	0.626	0.168	0.789	-0.008	0.007
Income	0.421	0.367	0.850	0.110	0.240
Wealth	0.142	0.111	0.302	0.111	0.015

Table 6

Households Ranked by Earnings

Characteristics of Sample Households in Each Earnings Group

	Bottom			Quintiles					Top			Total
	1%	1-5%	5-10%	1st	2nd	3rd	4th	5th	90-95%	95-99%	99-100%	Sample
Ranges (1,000 RMB)												
Minimum Earnings	0.00	0.00	0.00	0.00	0.92	9.00	25.20	49.37	80.20	137.54	396.53	0.00
Maximum Earnings	0.00	0.00	0.00	0.92	9.00	25.20	49.30	4,425.00	137.51	391.40	4,425.00	4,425.00
Averages (1,000 RMB)												
Average Earnings	0.00	0.00	0.00	0.10	4.07	17.02	36.06	144.66	105.01	214.90	869.77	40.39
Average Income	-0.42	0.58	10.56	24.75	11.50	25.75	46.51	192.04	127.48	263.93	1,281.74	60.05
Average Wealth	54.47	309.66	408.89	640.00	397.17	357.80	470.70	1,543.59	1,198.34	2,348.63	7,715.78	687.06
Share of Total Sample (%)												
Earnings	0.00	0.00	0.00	0.05	2.01	8.42	17.88	71.63	13.27	21.16	22.09	100.00
Income	-0.01	0.04	0.88	8.12	3.83	8.57	15.51	63.97	10.83	17.48	21.89	100.00
Wealth	0.08	1.80	2.98	19.37	11.55	10.41	13.72	44.94	8.90	13.59	11.52	100.00
Income Sources (%)												
Labor	0.00	0.00	0.00	0.09	8.55	45.55	62.80	56.03	72.56	70.10	32.61	49.82
Capital	103.45	18.23	12.87	19.22	12.64	6.71	4.22	6.45	7.20	6.86	6.80	7.40
Business	0.00	0.00	0.00	0.38	33.30	27.75	20.85	31.98	15.53	18.73	59.75	27.38
Transfers	-3.45	80.43	86.04	73.39	39.71	13.39	10.05	3.36	3.61	2.35	0.82	12.34
Other	0.00	1.33	1.09	6.91	5.79	6.61	2.08	2.17	1.10	1.97	0.02	3.06
Age of Head (% of Households)												
Average Age (years)	48.8	52.9	57.1	59.0	53.1	46.9	45.3	41.6	40.6	37.6	38.0	49.2
30 and Under	11.63	9.99	5.60	4.84	3.83	8.78	11.36	18.34	19.40	28.73	25.29	9.43
31-45	34.43	28.15	17.18	15.74	26.63	37.49	40.15	43.39	48.49	47.65	57.33	32.68
46-65	36.03	34.38	43.69	41.91	50.81	48.45	44.89	36.48	30.70	23.34	17.38	44.51
Over 65	17.91	27.49	33.52	37.51	18.74	5.27	3.60	1.80	1.41	0.28	0.00	13.38
Employment Status (% of Households)												
Workers	11.69	9.03	5.15	5.25	11.40	32.39	43.73	64.03	73.09	77.55	62.43	31.37
Farmers	9.38	10.21	6.01	12.61	62.86	34.80	22.63	8.18	3.65	1.21	0.69	28.21
Self-employed	11.71	21.61	9.94	9.15	10.45	16.25	17.75	18.11	14.25	14.96	27.80	14.34
Unemployed	32.09	11.40	13.23	9.37	1.40	4.02	2.40	0.98	1.12	0.16	0.00	3.63
Retired	7.55	8.77	36.63	41.09	7.79	4.34	7.64	4.45	4.04	1.07	4.14	13.06
Nonworkers	27.58	38.97	29.05	22.53	6.10	8.19	5.86	4.26	3.84	5.05	4.93	9.39
Education* (% of Households)												
Primary School & Below	42.18	48.24	40.44	39.82	52.64	37.87	26.88	13.29	8.50	4.29	0.00	34.09
Secondary & High School	44.26	41.71	48.99	42.51	42.28	52.44	53.42	38.96	42.05	16.75	10.82	45.93
Diploma & College	10.57	5.42	6.17	11.08	2.80	6.94	13.77	22.30	26.82	22.88	23.48	11.38
Bachelor Degree & Above	1.65	3.82	2.07	5.10	1.17	2.18	5.44	24.90	22.00	54.98	64.78	7.76
Marital Status of Head (% of Households)												
Married	62.41	73.31	69.60	75.54	88.19	88.68	90.08	88.79	90.19	86.63	78.42	86.26
Single	37.59	26.69	30.40	24.46	11.81	11.32	9.92	11.21	9.81	13.37	21.58	13.74
Residence (% of Households)												
Rural	30.91	36.64	22.58	28.70	71.32	59.06	43.72	24.15	15.81	12.00	17.12	45.39
Urban	69.09	63.36	77.42	71.30	28.68	40.94	56.28	75.85	84.19	88.00	82.88	54.61
Region (% of Households)												
East	55.32	63.84	55.94	61.18	40.46	41.75	49.77	73.59	78.38	89.85	94.99	53.35
Central	13.65	19.19	22.93	19.53	31.65	31.69	28.33	15.46	12.68	4.50	5.01	25.33
West	31.03	16.97	21.13	19.29	27.88	26.56	21.91	10.95	8.94	5.66	0.00	21.32
Average Household Size (No. of People)	2.86	2.78	2.65	2.63	3.45	3.79	3.91	3.62	3.49	3.19	2.95	3.48

* 71 or 0.84% households did not report the education level of the head. They are thus excluded from computations of education partition.

Table 7

Households Ranked by Income

Characteristics of Sample Households in Each Income Group

	Bottom			Quintiles					Top			Total
	1%	1-5%	5-10%	1st	2nd	3rd	4th	5th	90-95%	95-99%	99-100%	Sample
Ranges (1,000 RMB)												
Minimum Income	-42.28	0.00	1.00	-42.28	6.99	20.45	37.44	67.11	111.84	182.60	512.65	-42.28
Maximum Income	0.00	1.00	2.57	6.97	20.45	37.43	67.10	7,500.00	182.26	508.00	7,500.00	7,500.00
Averages (1,000 RMB)												
Average Earnings	0.64	0.12	0.80	1.43	8.55	19.59	35.26	137.07	96.90	215.16	799.94	40.39
Average Income	-0.82	0.36	1.82	2.66	13.24	28.38	49.91	205.92	140.42	283.20	1,422.82	60.05
Average Wealth	71.65	300.96	188.33	300.96	259.29	421.09	600.85	1,838.52	1,488.54	2,627.44	8,258.30	687.06
Share of Total Sample (%)												
Earnings	0.02	0.01	0.10	0.72	4.23	9.68	17.50	67.87	11.99	21.30	19.86	100.00
Income	-0.01	0.02	0.15	0.91	4.41	9.44	16.66	68.58	11.69	18.86	23.76	100.00
Wealth	0.10	1.75	1.37	9.17	7.55	12.24	17.53	53.52	10.83	15.29	12.05	100.00
Income Sources (%)												
Labor	-100.74	22.68	7.03	15.87	36.86	54.77	59.39	48.10	60.76	65.90	21.35	49.82
Capital	205.04	6.39	8.52	3.11	3.55	4.01	4.12	8.97	10.10	9.12	9.83	7.40
Business	37.61	7.43	44.34	44.08	34.45	18.75	15.80	30.70	12.87	16.73	59.08	27.38
Transfers	-41.90	63.15	39.49	36.19	24.31	21.96	20.30	7.99	14.16	5.43	1.30	12.34
Other	0.00	0.35	0.62	0.74	0.83	0.51	0.39	4.23	2.11	2.81	8.44	3.06
Age of Head (% of Households)												
Average Age (years)	48.9	51.7	57.5	54.1	50.8	48.3	48.2	44.4	45.1	39.1	40.6	49.2
30 and Under	9.22	12.16	2.16	5.88	5.50	8.55	9.51	17.72	17.76	23.40	21.14	9.43
31-45	37.16	27.11	23.04	26.82	29.45	36.61	33.62	36.91	35.83	50.18	53.02	32.68
46-65	35.77	34.33	43.31	41.26	52.37	43.48	47.54	37.88	36.56	24.99	21.02	44.51
Over 65	17.85	26.40	31.49	26.04	12.68	11.36	9.33	7.49	9.85	1.43	4.81	13.38
Employment Status (% of Households)												
Workers	11.34	10.87	8.24	8.44	21.12	32.75	39.44	55.06	58.85	69.81	41.29	31.37
Farmers	9.35	20.87	49.36	47.46	44.09	25.58	18.27	5.68	2.30	1.13	1.29	28.21
Self-employed	12.14	20.78	8.01	11.66	10.65	15.56	15.46	18.38	16.56	19.17	39.60	14.34
Unemployed	31.99	10.53	3.08	6.25	4.32	3.80	2.47	1.34	0.95	0.21	0.93	3.63
Retired	8.16	7.76	5.66	5.42	9.52	16.07	19.13	15.14	15.61	3.99	9.05	13.06
Nonworkers	27.02	29.18	25.65	20.77	10.30	6.26	5.22	4.40	5.73	5.70	7.84	9.39
Education* (% of Households)												
Primary School & Below	41.74	52.18	63.45	57.48	44.14	32.12	25.71	11.04	12.87	4.55	0.84	34.09
Secondary & High School	45.22	38.04	32.36	36.66	49.47	54.10	50.70	38.70	34.16	22.01	23.36	45.93
Diploma & College	9.78	6.10	1.71	3.27	4.22	9.32	15.46	24.61	24.82	24.70	23.34	11.38
Bachelor Degree & Above	1.93	3.24	1.69	1.50	0.77	3.96	7.60	24.97	27.22	47.53	51.52	7.76
Marital Status of Head (% of Households)												
Married	63.63	77.70	74.06	79.19	86.39	85.61	91.37	88.73	87.69	84.37	82.66	86.26
Single	36.37	22.30	25.94	20.81	13.61	14.39	8.63	11.27	12.31	15.63	17.34	13.74
Residence (% of Households)												
Rural	30.81	41.61	68.64	61.99	62.21	46.32	35.78	20.66	13.74	12.16	15.52	45.39
Urban	69.19	58.39	31.36	38.01	37.79	53.68	64.22	79.34	86.26	87.84	84.48	54.61
Region (% of Households)												
East	55.45	60.02	49.81	48.68	37.29	48.58	54.12	78.08	84.20	87.33	91.48	53.35
Central	14.61	19.85	28.06	25.23	33.78	29.26	26.75	11.65	7.99	6.19	5.86	25.33
West	29.94	20.13	22.12	26.09	28.94	22.16	19.14	10.26	7.81	6.48	2.66	21.32
Average Household Size (No. of People)	2.90	2.92	2.79	3.11	3.50	3.65	3.70	3.44	3.31	3.21	3.10	3.48

* 71 or 0.84% households did not report the education level of the head. They are thus excluded from computations of education partition.

Table 8

Households Ranked by Wealth

Characteristics of Sample Households in Each Wealth Group

	Bottom			Quintiles					Top			Total
	1%	1-5%	5-10%	1st	2nd	3rd	4th	5th	90-95%	95-99%	99-100%	Sample
Ranges (1,000 RMB)												
Minimum Wealth	-135,775.01	-21.10	5.25	-135,775.01	55.28	145.97	279.20	659.60	1,539.16	3,008.62	7,755.00	-135,775.01
Maximum Wealth	-21.34	5.20	20.50	55.15	145.90	278.94	659.55	202,105.41	3,006.00	7,638.80	202,105.41	202,105.41
Averages (1,000 RMB)												
Average Earnings	74.42	12.57	11.51	13.82	19.81	26.67	36.76	102.66	85.31	126.07	562.5	40.39
Average Income	118.95	24.30	22.93	24.41	27.58	35.91	51.29	159.19	117.92	207.25	923.0	60.05
Average Wealth	-646.22	0.55	12.77	-88.31	98.80	202.42	422.20	2,716.05	2,091.74	4,301.17	16,107.6	687.06
Share of Total Sample (%)												
Earnings	1.84	1.24	1.43	7.85	9.81	13.16	18.23	50.95	10.53	12.44	14.40	100.00
Income	1.98	1.61	1.92	8.65	9.18	11.92	17.10	53.14	9.79	13.76	15.89	100.00
Wealth	-0.94	0.00	0.09	-0.31	2.88	5.87	12.31	79.25	15.18	24.96	24.25	100.00
Income Sources (%)												
Labor	19.0	46.01	43.16	42.81	58.54	60.38	59.17	44.08	61.19	50.99	17.92	49.82
Capital	3.34	13.61	6.64	6.44	7.15	2.41	4.21	9.75	7.48	18.62	6.66	7.40
Business	72.65	6.93	8.46	27.07	16.95	18.31	18.18	34.22	18.63	16.48	72.92	27.38
Transfers	4.98	30.09	19.77	17.61	14.68	13.95	16.47	9.38	11.71	8.12	2.06	12.34
Other	0.02	3.36	21.97	6.07	2.68	4.94	1.97	2.57	0.98	5.78	0.46	3.06
Age of Head (% of Households)												
Average Age (years)	46.0	53.2	52.5	52.9	49.7	48.5	47.4	47.4	46.1	46.4	48.3	49.2
30 and Under	15.17	10.41	15.83	10.15	7.96	8.29	9.91	10.84	15.98	7.32	10.83	9.43
31-45	27.27	24.32	20.50	23.83	32.13	34.33	36.42	36.69	34.44	43.60	36.40	32.68
46-65	54.69	41.41	33.77	42.82	45.33	46.69	45.02	42.69	40.63	42.06	37.75	44.51
Over 65	2.88	23.86	29.90	23.21	14.57	10.69	8.66	9.77	8.95	7.02	15.02	13.38
Employment Status (% of Households)												
Workers	28.05	17.98	22.19	19.90	25.86	31.38	38.43	41.22	49.70	40.16	35.45	31.37
Farmers	21.01	23.79	34.64	37.33	43.89	34.82	19.53	5.57	4.49	3.49	1.47	28.21
Self-employed	19.57	4.79	7.31	8.47	9.12	12.43	19.10	22.55	14.79	26.66	34.90	14.34
Unemployed	6.04	12.36	3.94	4.95	3.30	3.70	3.59	2.62	2.22	1.25	0.96	3.63
Retired	10.12	11.22	11.57	10.97	8.21	9.80	14.08	22.20	22.20	20.60	22.11	13.06
Nonworkers	15.22	29.87	20.35	18.37	9.61	7.87	5.27	5.84	6.59	7.84	5.10	9.39
Education* (% of Households)												
Primary School & Below	35.65	47.72	49.95	51.29	43.55	37.43	24.28	14.00	11.52	13.14	14.09	34.09
Secondary & High School	44.87	41.47	38.01	38.93	46.02	49.53	52.81	42.34	41.44	29.78	22.04	45.93
Diploma & College	9.08	4.25	8.79	5.03	6.64	8.42	15.45	21.32	21.36	24.00	25.40	11.38
Bachelor Degree & Above	10.40	4.79	2.17	3.62	2.24	4.28	7.13	21.48	24.89	32.62	35.68	7.76
Marital Status of Head (% of Households)												
Married	83.61	66.34	74.86	74.87	87.96	89.11	91.05	88.30	87.14	89.33	76.92	86.26
Single	16.39	33.66	25.14	25.13	12.04	10.89	8.95	11.70	12.86	10.67	23.08	13.74
Residence (% of Households)												
Rural	46.62	44.53	56.49	58.56	62.65	51.54	38.02	16.26	14.18	13.77	5.11	45.39
Urban	53.38	55.47	43.51	41.44	37.35	48.46	61.98	83.74	85.82	86.23	94.89	54.61
Region (% of Households)												
East	44.91	48.65	47.17	45.28	40.29	38.12	55.61	87.33	93.12	95.12	99.31	53.35
Central	21.70	13.62	24.00	22.72	32.05	37.34	27.61	7.02	3.47	2.83	0.69	25.33
West	33.38	37.72	28.84	32.01	27.66	24.54	16.78	5.64	3.41	2.05	0.00	21.32
Average Household Size (No. of People)	3.49	2.61	2.75	2.96	3.64	3.78	3.61	3.42	3.46	3.41	3.15	3.48

* 71 or 0.84% households did not report the education level of the head. They are thus excluded from computations of education partition.

Table 9

Other Dimensions of Inequality of Households

Characteristics of Sample Households in Each Earnings Group

Characteristic	Average Level (1,000 RMB)			Concentration (Gini Index)			Sources of Income (%)					% of Sample	Average Household Size (No. of People)
	Earnings	Income	Wealth	Earnings	Income	Wealth	Labor	Capital	Business	Transfer	Other		
Age													
25 and under	98.81	136.75	926.48	0.698	0.712	0.801	44.37	4.21	46.69	3.74	1.00	3.97	2.55
26-30	68.67	89.12	628.48	0.588	0.600	0.670	71.55	14.44	8.69	4.19	1.13	5.46	3.30
31-35	67.55	91.02	685.16	0.656	0.670	0.803	51.31	6.26	37.85	2.98	1.60	7.57	3.65
36-40	62.20	83.79	810.50	0.699	0.707	0.744	52.83	5.32	34.89	3.07	3.89	12.82	3.68
41-45	45.30	59.68	657.38	0.642	0.646	0.702	62.05	5.85	20.77	4.05	7.28	12.29	3.70
46-50	41.13	57.47	869.02	0.608	0.608	0.764	51.85	7.97	30.48	6.97	2.74	13.58	3.78
51-55	33.11	49.99	625.88	0.631	0.585	0.722	53.63	9.15	17.99	14.93	4.31	11.64	3.74
56-60	19.52	34.39	462.40	0.610	0.518	0.675	44.03	7.00	16.71	30.84	1.42	11.57	3.72
61-65	20.33	41.91	713.74	0.784	0.669	0.798	24.77	4.82	36.92	32.09	1.40	7.72	3.47
Over 65	5.96	29.55	597.50	0.823	0.641	0.822	13.81	12.48	8.13	63.03	2.56	13.38	2.60
Employment Status													
Workers	71.86	88.88	773.92	0.565	0.579	0.675	74.73	7.43	9.75	4.91	3.17	31.37	3.39
Farmers	15.59	20.58	216.78	0.583	0.539	0.606	40.59	2.02	43.60	12.79	1.01	28.21	3.94
Self-Employed	59.64	97.08	1,209.57	0.717	0.725	0.798	23.53	6.90	63.64	3.27	2.66	14.34	3.72
Unemployed	12.89	25.23	386.09	0.712	0.589	0.703	43.74	12.29	11.40	23.73	8.84	3.63	3.40
Retired	14.73	57.33	1,146.07	0.849	0.502	0.741	18.50	10.87	11.73	56.75	2.15	13.06	2.83
Nonworkers	26.72	43.02	489.67	0.843	0.806	0.818	41.21	9.13	33.35	9.26	7.05	9.39	2.95
Education*													
Primary School & Below	16.39	24.65	316.66	0.643	0.577	0.718	47.38	6.16	25.63	19.08	1.75	34.09	3.55
Secondary & High School	29.90	47.18	601.23	0.617	0.575	0.742	44.72	7.09	28.49	14.89	4.82	45.93	3.67
Diploma & College	69.87	108.40	1,169.74	0.636	0.585	0.666	49.34	9.70	25.27	12.76	2.93	11.38	3.04
Bachelor Degree & Above	165.73	222.58	2,111.70	0.625	0.615	0.664	57.53	6.81	28.68	5.33	1.65	7.76	2.77
Marital Status													
Married	39.96	58.86	692.82	0.688	0.641	0.750	51.83	7.47	24.82	12.49	3.39	86.26	3.68
Single	43.10	67.53	650.93	0.826	0.780	0.816	38.82	7.01	41.40	11.51	1.26	13.74	2.24
Residence													
Rural	24.99	33.46	292.84	0.656	0.624	0.671	49.29	3.01	35.55	10.20	1.96	45.39	3.82
Urban	53.20	82.15	1,014.66	0.708	0.644	0.743	50.00	8.89	24.61	13.06	3.44	54.61	3.20
Region													
East	56.09	84.41	1,076.09	0.730	0.678	0.747	49.60	8.75	27.62	11.34	2.68	53.35	3.26
Central	23.80	33.63	259.32	0.585	0.540	0.549	52.11	2.93	27.02	13.98	3.97	25.33	3.86
West	20.85	30.49	221.69	0.603	0.551	0.622	48.36	3.90	26.15	17.08	4.51	21.32	3.57

* 71 or 0.84% households did not report the education level of the head. They are thus excluded from computations of education partition.

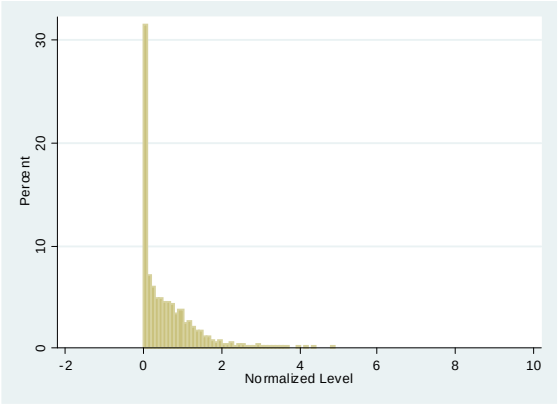
E.2 Charts

Chart 1

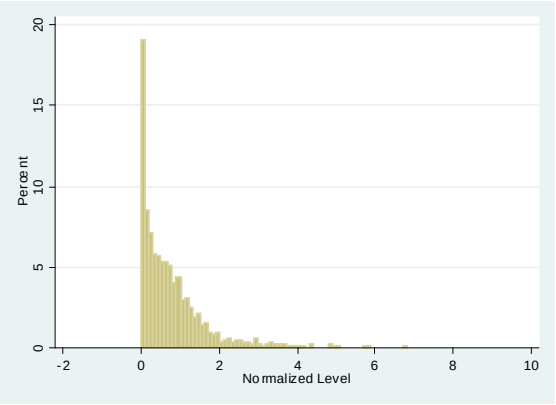
Distributions of Earnings, Income, and Wealth

With Levels Normalized by the Mean*

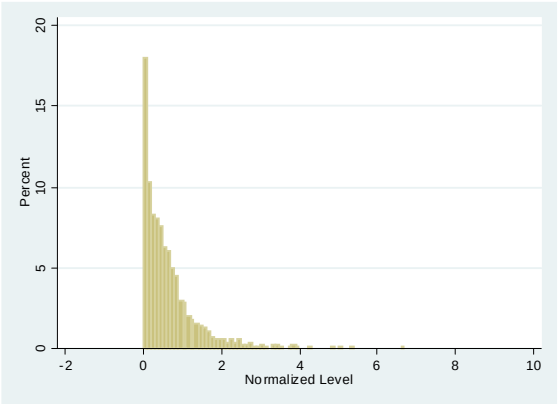
Panel A All Earnings



Panel B Nonzero Earnings



Panel C Income



Panel D Wealth

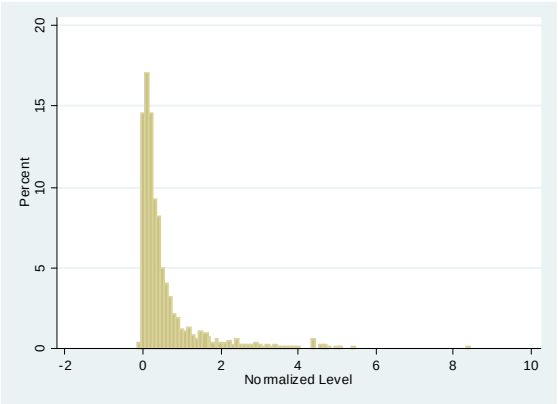


Chart 2

The Lorenz Curves for Distributions of Earnings, Income, and Wealth

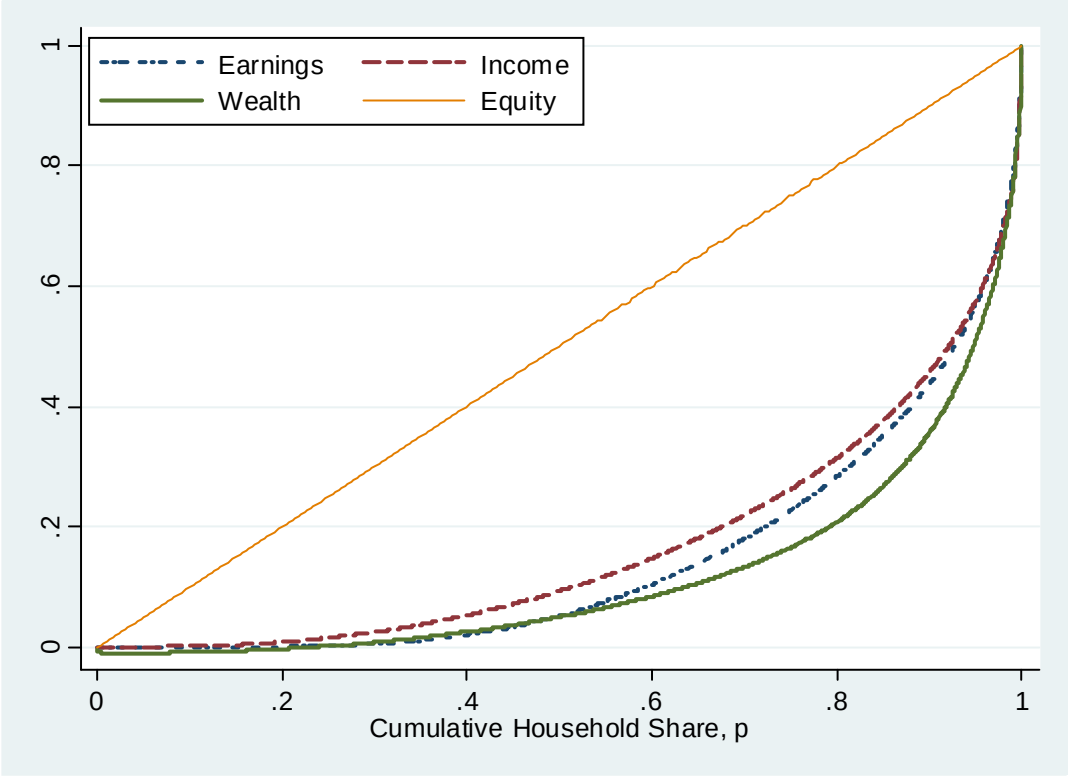
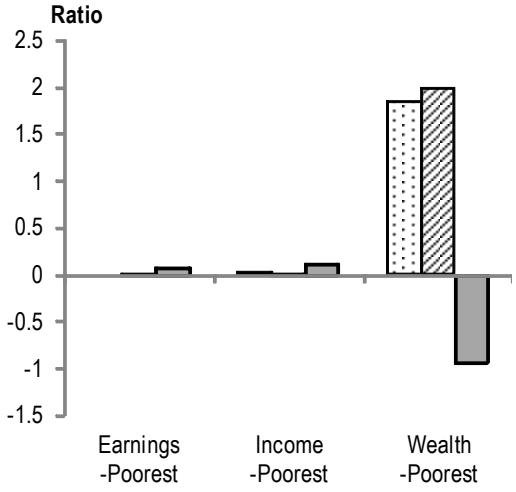


Chart 3

Average Earnings, Income, and Wealth of the Poor and the Rich

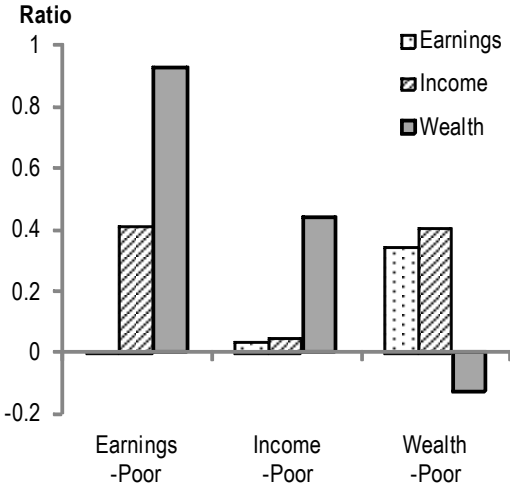
Panel A The Poorest

Bottom 1% of Each Partition



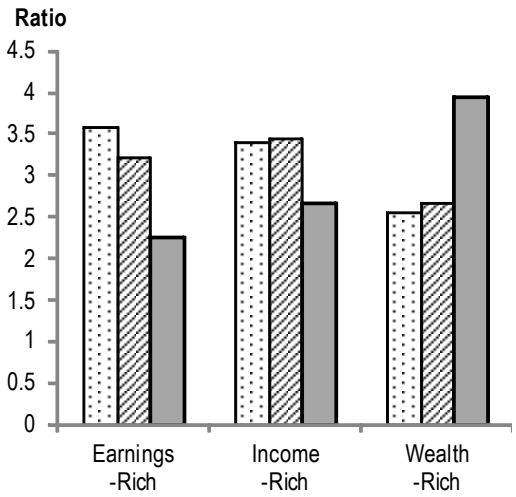
Panel B The Poor

Bottom 20% of Each Partition



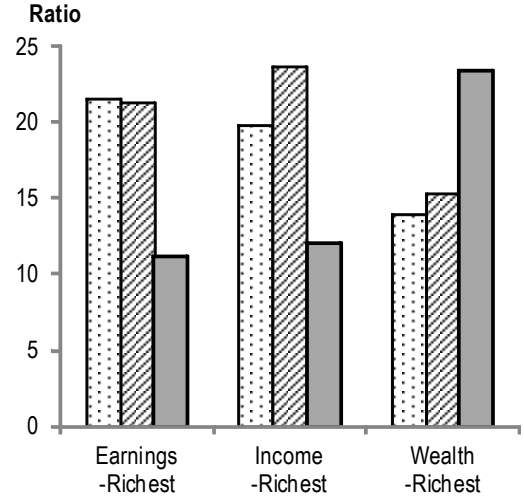
Panel C The Rich

Top 20% of Each Partition



Panel D The Richest

Top 1% of Each Partition

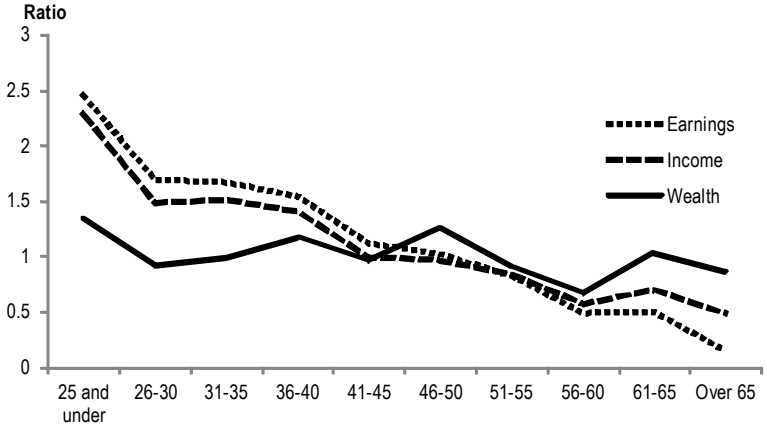


* Data are normalized by sample averages.

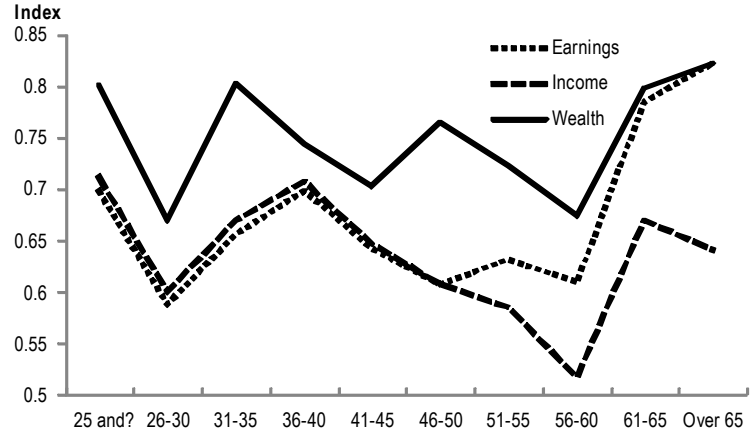
Chart 4

Households Partitioned by Age

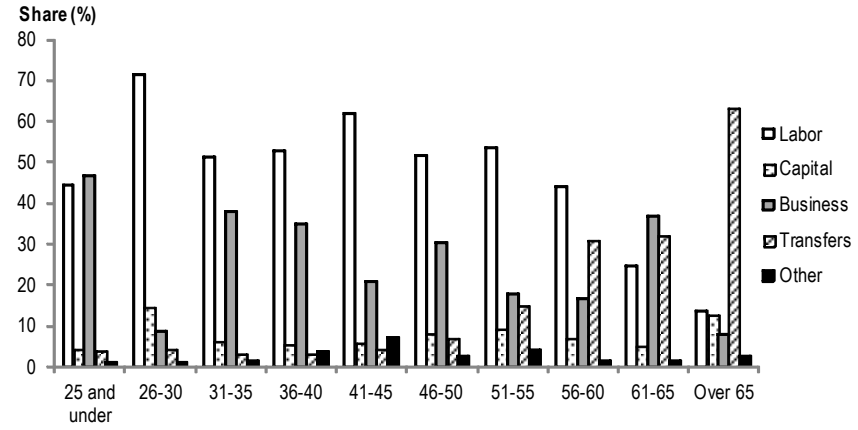
Panel A Averages



Panel B Gini Indexes



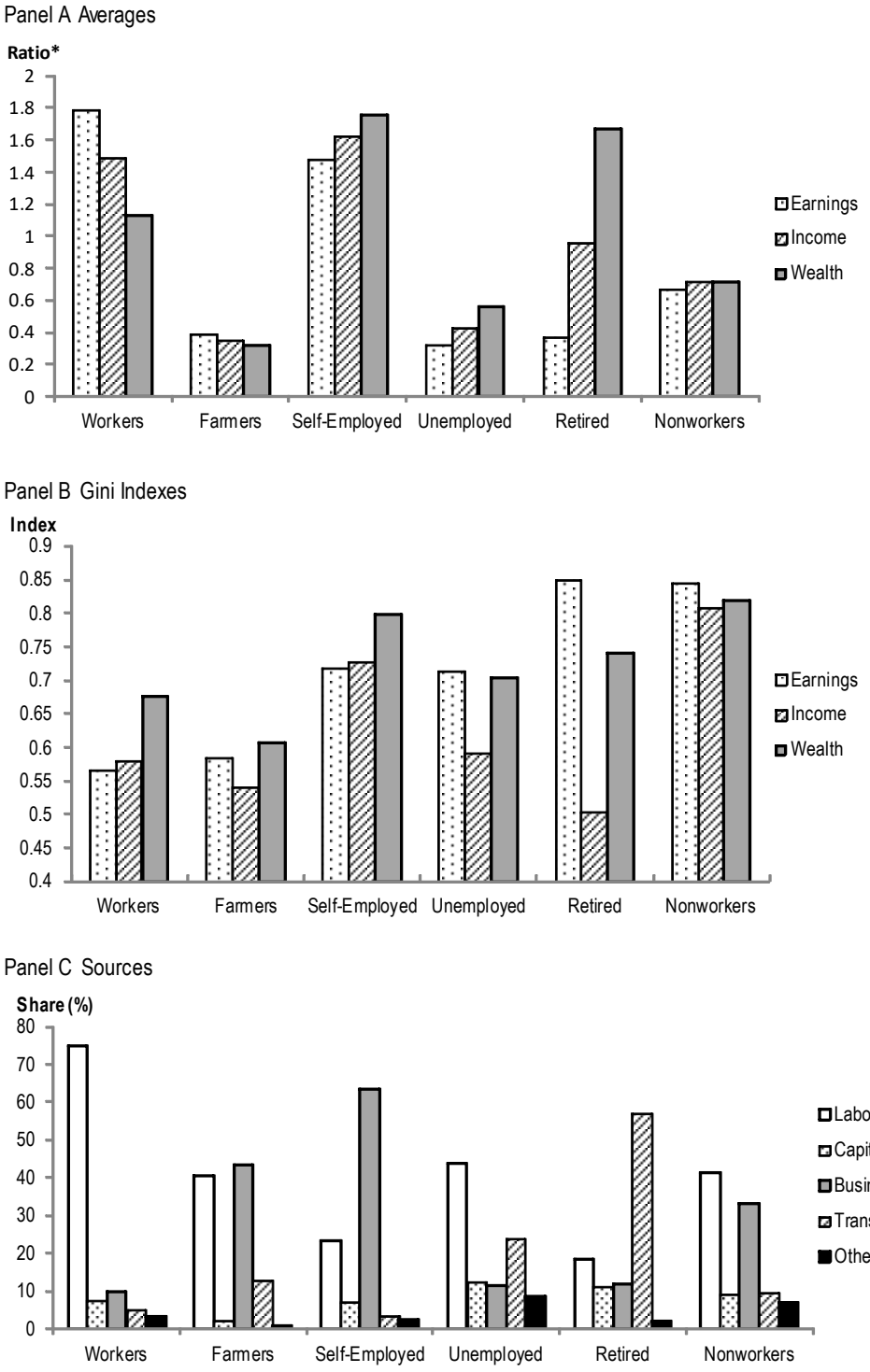
Panel C Sources



* Data are normalized by sample averages.

Chart 5

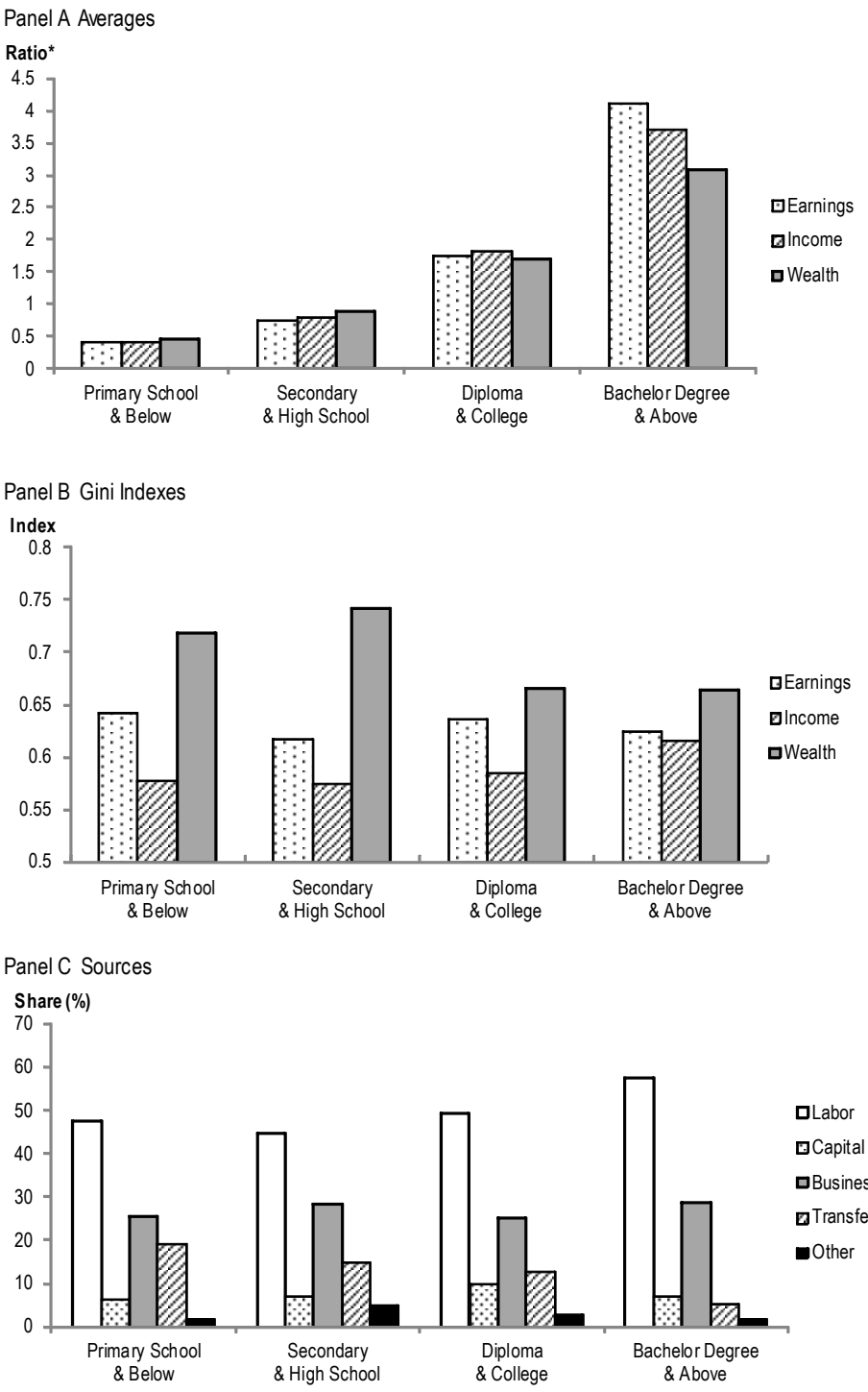
Households Partitioned by Employment Status



* Data are normalized by sample averages.

Chart 6

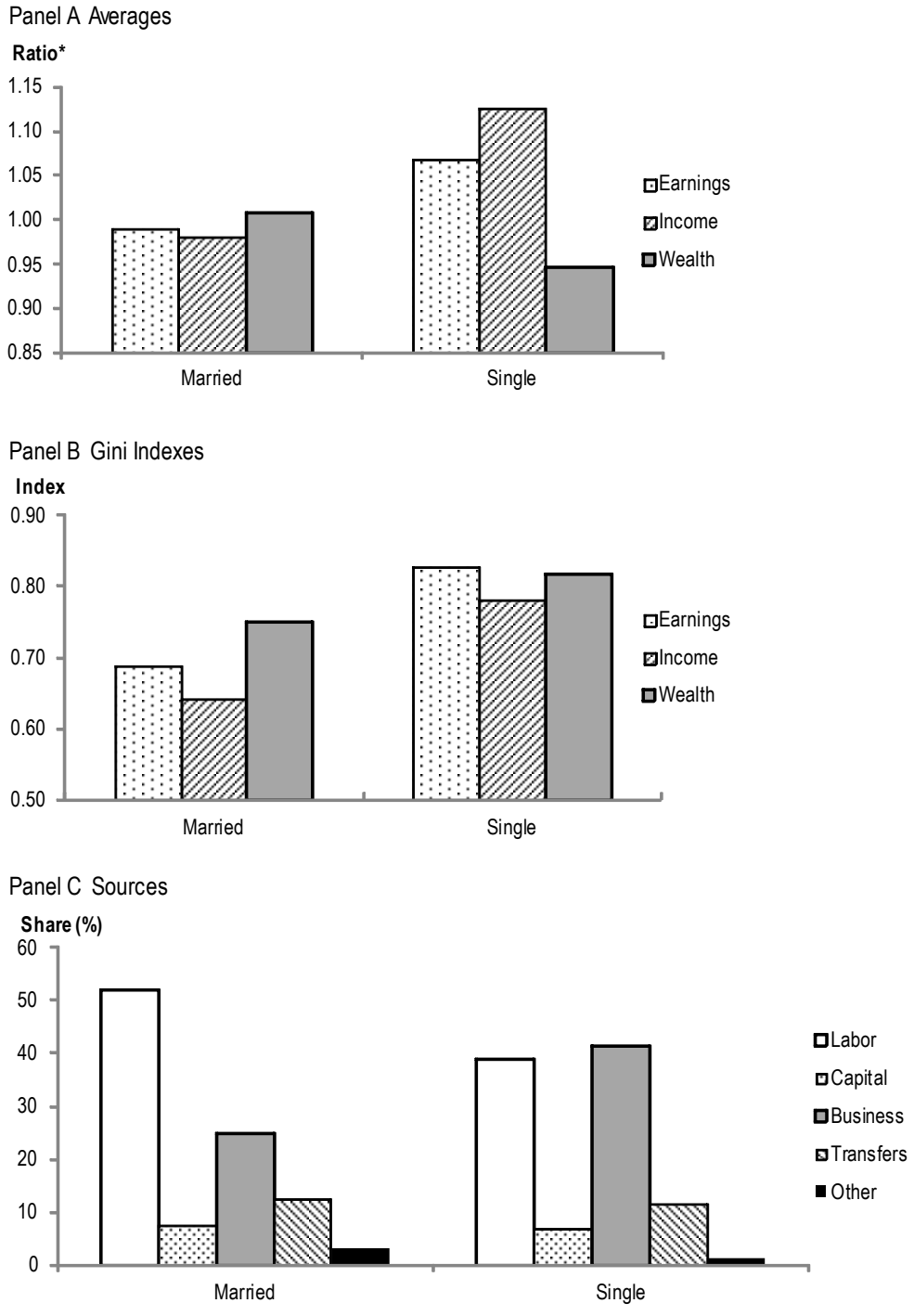
Households Partitioned by Education



* Data are normalized by sample averages.

Chart 7

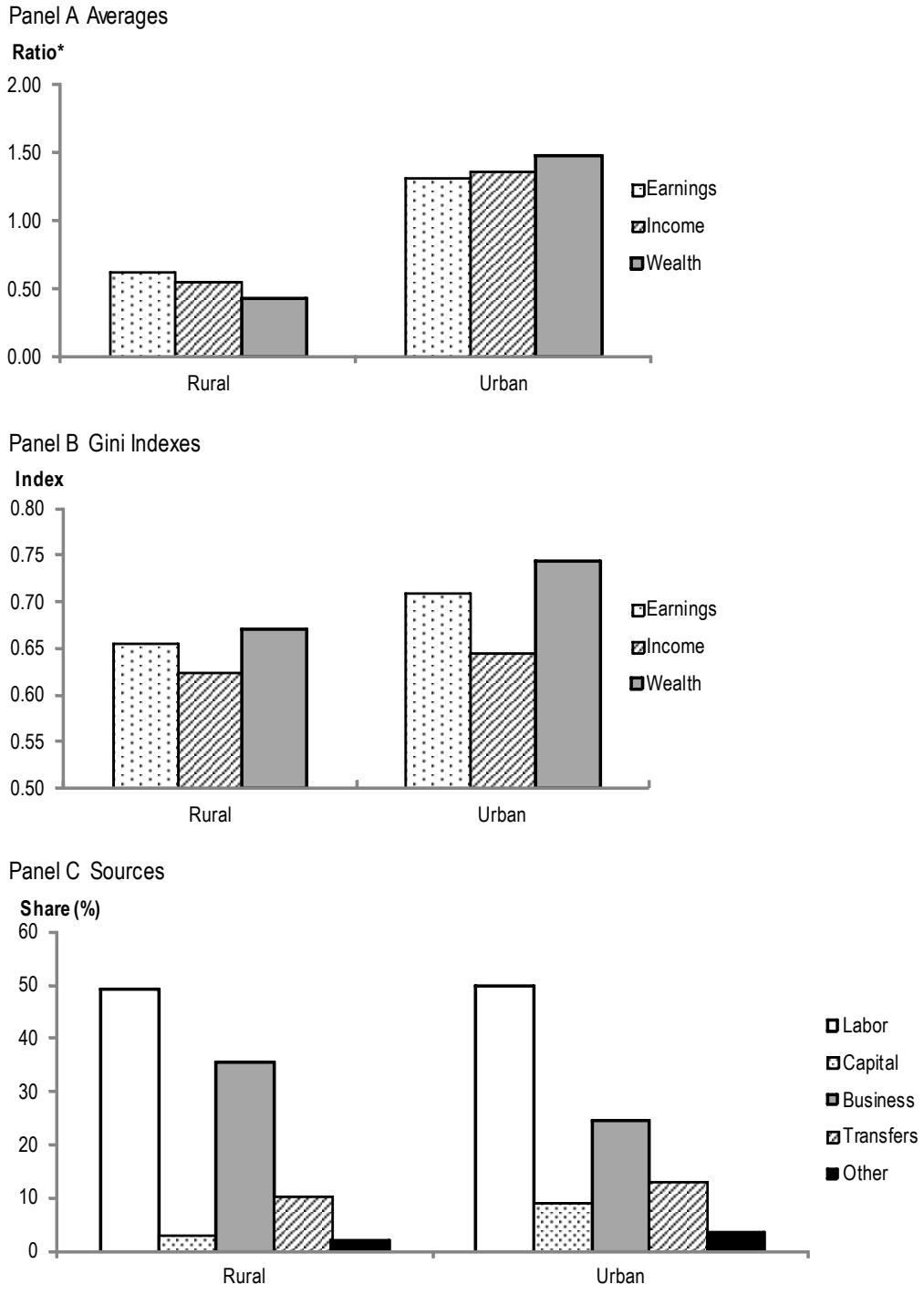
Households Partitioned by Marital Status



* Data are normalized by sample averages.

Chart 8

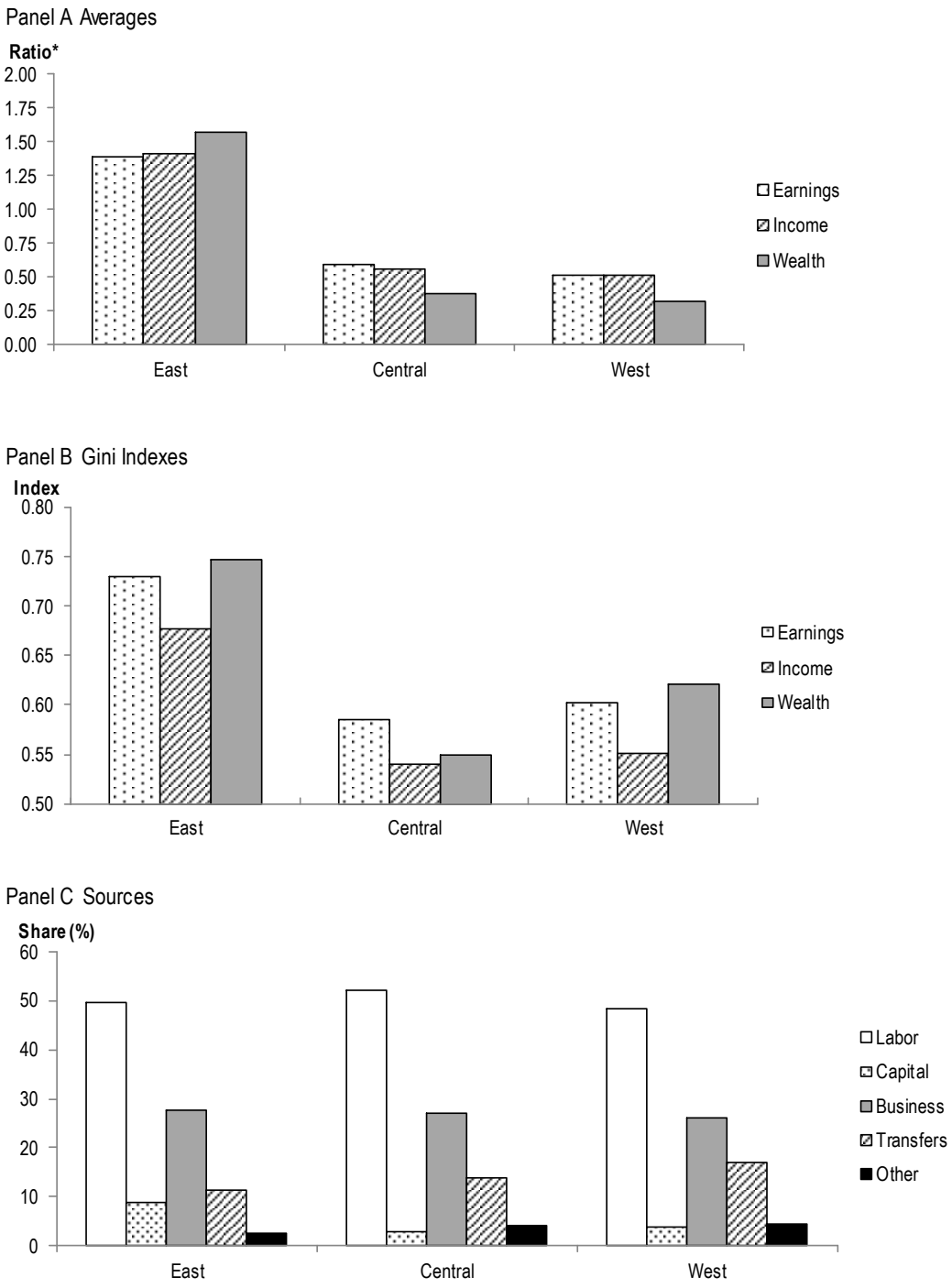
Households Partitioned by Rural-urban Residence



* Data are normalized by sample averages.

Chart 9

Households Partitioned by Region



* Data are normalized by sample averages.