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China's Emerging Global Middle Class*

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Abstract

This chapter seeks to throw new light on the emergence of the Chinese economic middle class using data from the China Household Income Project from 2002, 2007, and 2013. We find that between 2002 and 2013 China's income distribution was transformed from a pyramid shape, with a majority having rather low income, to a more olive shape, as the middle class emerged. Defining "middle class" as having an income high enough not to be regarded as poor but also low enough not to be regarded as rich if living in a high-income country, we find that the share of China's population that was middle class was extremely small in 2002, larger but still less than 10 percent in 2007, but it expanded rapidly from 2007 to 2013 to become one-fifth of China's population, equivalent to roughly 250 million people. China's middle class remains largely urban and is concentrated in the East; only a small minority of rural households and of rural migrants living in urban areas is middle class. We use simulations to investigate whether the growth of China's middle class reflects across-the-board income growth versus a redistribution of income to the middle, and to project growth in the size of the middle class to 2020. If all household incomes grow uniformly by 6.5 percent per annum to 2020, then China's middle class will almost double in size and in 2020 a majority of urban residents, but only 13 percent of rural residents, will be classified as middle class. We examine the characteristics of China's middle class and find it to be distinctive in terms of its sources of income, location of residence, savings and consumption patterns, education, and Communist Party membership.

I. Introduction

One of the most significant global changes in this millennium is the substantial increase in the number of households and persons in China with lives in economic terms similar to those in the developed world. Most Chinese households no longer worry about how to meet daily living costs and most have savings for a rainy day. Most own a home, and a growing number own a car and can afford to take regular holidays away from home. This change is clearly revealed in studies of worldwide income distribution. Milanovic (2016), for example, reports that the largest relative gains in real per capita income by global income levels between 1988 and 2008 took place at the middle and at the very top of the world's income distribution. To a considerable extent, the gains in the middle are the result of the recent changes in China. In contrast, income growth was much slower in the segments between the middle and the top, reflecting slow income growth of middle-class households in rich countries.

This chapter aims to throw new light on the emergence of the Chinese economic middle class. We define "middle class" based on the level of a household's disposable income. More specifically, we define "middle class" as having an income high enough not to be regarded as poor but also low enough not to be regarded as rich in a high-income country. This approach allows us to consider the Chinese middle class with an external lens, relative to notions of the middle class in the developed world, which we believe is ultimately the long-term objective of China's development process.

As a first task, we study the growth of the Chinese middle class from 2002 to 2007 and then to 2013. We do this for China, and then separately for urban residents, rural-to-urban migrants, and rural residents. As a second task, we simulate how the size of the middle class will

develop by 2020 under the assumption of uniform income growth of 6.5 percent per annum. The results of this second task allow us to evaluate the extent to which China's population will attain the ranks of the developed-world middle class over the medium term. The third task of this chapter is to investigate to what extent the middle class is distinct and differs from other classes. We do this using detailed information from the 2013 survey of the China Household Income Project (CHIP).

The emerging middle class in China has been the subject of writings by Chinese researchers, most of whom lean toward the long tradition of class analysis in the field of sociology. In contrast, there have been few attempts in China to map the middle class based on analysis of household disposable income or consumption data. In our literature research, we have come across only three such studies. Yuan, Wan, and Knor (2012) use the CHIP *rural* data for 1988, 1995, 2002, and 2007, and classify a rural household as belonging to the middle class if its per capita daily expenditures are in the interval of purchasing power parity (PPP) US$ 4 to US $ 20. Using this definition, the authors find that the middle class in rural China grew from 3 percent in 1988 to 53 percent in 2007. Bonnefond, Clément, and Combarnous (2015) use data from the China Health and Nutrition Survey (CHNS) for the years from 1989 to 2009 to study the urban middle class using four different definitions, giving some priority to setting the lower cutoff point at 10,000 RMB per year and the upper cutoff point at the 95th income percentile. A cluster analysis for 2009 using household variables indicates that the urban middle class is composed of a significantly higher proportion of households whose head belongs to the professional and technical worker category, the administrative and executive category, or the

office staff category. Somewhat more than two-fifths of middle-class households contain pensioners.[1]

The third study is most similar to ours. Different from the previous two studies, Chen and Qin (2014) study China as a whole, and use the CHIP data for 1995 and 2002 and data from the China Family Panel Studies (CFPS) for 2010 and 2012. Households with consumption expenditures in the range of PPP US$ 10 to US$ 20 per person per day are classified as upper or global middle class. According to this definition, the Chinese middle class increased from 1 percent in 1995 to 13 percent in 2012. Not surprisingly, the authors find that the proportion of households classified as middle class was highest among urban residents who have an urban household registration (*hukou*), followed by migrants living in urban areas, and finally by rural residents.

Turning to our results, according to our definition we find that in 2002 middle-class persons in China numbered 12 million, a very small minority of the population. Growth in the middle class since 2002 has been rapid. The number of middle-class persons increased to 95 million in 2007 and further to 254 million in 2013. In the latter year, one-third of urban persons, but only a small minority of rural and rural-to-urban migrant persons, was middle class. A simulation exercise investigates the role of income growth versus redistribution in contributing to this expansion of the middle class. For the period from 2007 to 2013 we find that if income growth for all persons had been uniform and equal to the average, then the overall expansion of China's middle class would have been about the same as what in fact occurred; however, the sectoral urban/rural composition of the middle class would have been somewhat different.

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[1] Bonnefond and Clément (2014) use the same definition and data to study body weight among Chinese urban middle-class members. The authors conclude that only one subcategory ("the new middle class"— the highest earners and the best educated) is relatively well protected from obesity.

China's middle-class households differ from those with lesser means in various respects, including their savings patterns, sources of income, ownership of consumer durables, geographic distribution, and education. We also find that in 2013 the middle class was disproportionately represented in China's Communist Party. Looking ahead by means of a simulation that assumes incomes for all households will grow at the uniform rate of 6.5 percent per annum (equal to the planned growth of GDP per capita), we project that by 2020 the Chinese middle class will roughly double in size, and as much as 60 percent of the urban population will belong to the middle class. In contrast, the rural middle class in 2020 will remain relatively small.

In the next section, we discuss how the term "middle class" has been used by policy makers in China and in academic research on China. Different from most of the other literature on China's middle class, our definition of "middle class" takes a global perspective. Here we follow the approach in the literature on the international distribution of income, which we review in Section 3. Section 4 discusses the data and our operational assumptions. Section 5 reports our findings on the emergence of China's global middle class from 2002 to 2013; Section 6 presents an analysis of the growth of China's middle class over time, with projections to 2020. In Section 7 we examine the characteristics of China's middle class. Section 8 sums up our study and draws some conclusions.

II. The Meaning of "Middle Class" in Policy Making and Studies on China

For many years the Communist Party leadership, policy makers, and researchers in China discussed class in the Marxist-Leninist terms of workers, peasants, and intellectuals. The party-state did not acknowledge any social, economic, or political role for the middle class, and the

ultimate goal was to create "a classless society." During the reform era, however, views began to evolve, and at the Sixteenth Congress of the Chinese Communist Party (CCP) in 2002 General Secretary Jiang Zemin announced the goal to "control the growth of the upper stratum of society, expand the middle, and reduce the bottom." Thereafter, the CCP developed a state-sponsored discourse on the middle class. The new objective was to achieve an "olive-shaped" middle-class society, in which the bulk of the population would be economically comfortable (*xiaokang*) and society would be harmonious. Goodman writes that this notion of a middle-class society is an aspiration rather than a carefully thought-out idea, but identification of the middle class as a potential driver of change is clear. "Individuals are being encouraged to pursue new 'social norms of middle class identity often defined around consumer practices.' The new model citizen is someone with high cultural capital and the economic capacity to consume" (Goodman 2014: 27).

The growth of the Chinese middle class can have significant consequences internationally as well as domestically. A growing middle class means a growing market for consumer goods and services. It also has potential implications for the geopolitical situation. The history of the Western countries is sometimes used to demonstrate that the growth of the middle class is related to the introduction and deepening of political democracy. For example, new research using panel data from many developed and developing countries finds evidence in support of the hypothesis that growth in the size of the middle class promotes institutional reform and democratic diffusion (Loayza, Rigolini, and Llorente 2012; Chun et al. 2016).

Whether and how growth of a Chinese middle class will affect China's political system, however, is far from clear. For example, Tang (2011) finds that members of the Chinese middle class (defined by occupation and self-identification) pay greater attention to politics and engage

more than those with lesser means in informal/personal activities in response to conflicts with government policies or officials. Other studies, however, conclude that the behavior of the middle class in China as an aggregate is not significantly different from that of other classes when it comes to political activities that require greater civic engagement or confrontation with the political system.[2] If the CCP is able to successfully capture the interests of the middle class, then growth of the Chinese middle class will not necessarily challenge China's political system in a fundamental way. Indeed, our data reveal that CCP membership disproportionately belongs to China's middle class (see Section 6). Nevertheless, even if growth of the middle class in China leaves the political system intact, a larger proportion of middle-class persons in society could change the political priorities.

Since the beginning of the new millennium, many sociologists have written about the middle class in China. Li Cheng (2010) lists eleven prominent Chinese researchers who have studied the middle class and their representative works. Work published in 2002 by Lu Xueyi, then director of the Institute of Sociology at the Academy of Social Sciences (CASS), is considered a landmark study for two reasons. First, for the first time Lu Xueyi categorizes most of the working class as belonging to the lower or lower-middle strata. Such a categorization is new, both politically and ideologically. Second, Lu Xueyi identifies a middle stratum comprised of cadres, managers, private entrepreneurs, technical clerks, and private small-business owners. Using data from 1978, 1988, and 1991 he estimates the growth among this group of people. Li

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[2] Tang and Unger (2013) write, "The Chinese educated middle class has, as a whole, become a bulwark of the current regime. As a consequence, regime change or democratization should not be expected any time soon. The rise of China's educated middle class blocks the way." Nathan (2016) writes, "What middle-class persons dread is an economic or military crisis or an internal power struggle that triggers a breakdown of order. It is the fear of such a crisis that explains why a middle class that increasingly embraces liberal values still supports an authoritarian regime."

Cheng (2010) also writes that in later work Lu Xueyi reports that the proportion of middle-class persons in the Chinese population increased from 15 percent in 2001 to 23 percent in 2009.

Sociologists prefer to define the middle class based on occupation and employment, and they often base the classification on more than one criterion. Different researchers have proposed many varying definitions of middle class, which of course yields different pictures of the middle class and has led to many debates. An issue in the sociological debates over the middle class is whether the middle class is merely a statistical category or a class in a sociological sense. To be a class in a sociological sense, members of the middle class must develop a coherent identity, class culture, and sociopolitical attitudes and values, and perhaps may take some class-based political actions. Several authors stress the heterogeneity of the Chinese middle class rather than referring to the middle classes as one single middle class (Li Cheng 2010). Less attention, with the possible exception of Mackerras (2005), has been paid to the possible ethnic diversity of the Chinese middle class.

Economists and business researchers tend to focus on the relationship between the middle class and consumption. Growth of the middle class in China is considered the driver behind the changing consumption patterns and the rising demand for consumer goods. Regular visitors to China have seen the stunning changes in the kinds of goods that are now offered to those who have the means. China has turned into the largest market in the world for personal cars, and its market for wine has increased dramatically. Similarly, China has seen a very rapid increase in independent tourism (Chio 2014; Oakes 2016).

Middle-class status is also associated with housing and home ownership. During the planning era, almost all urban households lived in rental apartments provide by their work-units. Rents were very low, and so was the quality. This description no longer holds. Policies initiated

by the government in the 1990s gradually introduced privatization of urban housing, as tenants in urban China were given opportunities to buy their apartments at prices typically lower than those in the emerging market. Today, the rate of home ownership in China is very high (Sato, Sicular, and Yue 2013). Moreover, with a boom in the construction industry and the development of residential real-estate markets, many more households now live in housing that is similar in terms of space and quality to that of the middle class in rich countries. Some members of the upper segment live in gated communities, visibly separated from people with lesser means (for example, see Li Zhang [2010]).

In the literature on the middle class in the developed countries, studies have defined "middle class" based on household disposable income, usually in relation to other households within the same country. The various chapters in Gornick and Jäntti (2013) contain a wide variety of definitions along these lines.[3] For example, a middle-class household can be defined as having an income in the interval from 75 percent to 125 percent of the median. The only example in this tradition that we are aware of for China is Anderson et al. (2016), which uses data from six urban provinces and an econometric approach to define the poor, lower-middle class, upper-middle class, and the rich. One feature of such an approach is that its definition of the middle class is local, without reference to any universal standards or criteria. Such is not the case for the literature we will discuss in the next section, and to which our study belongs.

III. The Meaning of the Global Middle Class

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[3] The book contains chapters by seventeen authors, and in it one can find twenty-one different definitions of "middle class."

For several decades researchers at the World Bank have defined poverty based on a global poverty line measured in terms of purchasing power parity (PPP). Since October 2015 this global poverty line has been set at US$ 1.9 PPP per person per day, based on the latest round of PPP estimates from the International Comparison Program in 2011.[4] The choice of the cutoff for this global poverty line is based on an approximation of the poverty lines used in the poorer countries in the developing world.

Several studies now also propose global cutoffs for middle and upper levels of the income distribution. However, there is no consensus on where exactly to set these cutoffs, that is, how much income a household should have to be considered a member of the middle class, let alone the upper class.[5]

One approach is to define the "middle class" as starting at the income level where poverty ends. By this definition, people living in households with income just above the world poverty line are classified as middle class. Among the more influential papers using this approach is Banerjee and Duflo (2008: 26), which defines the middle class as living at between US$ 2 and US$ 10 per day based on the 1993 PPP. Using microdata from thirteen low- and middle-income countries, these authors investigate a number of aspects of the middle class and conclude that "Nothing seems more middle class than the fact of having a stable, well paid job. …The middle class … spend more on health and education of their children as well as on their own health." A similar, but not identical, approach is taken by Ravallion (2010), who defines the developing world's middle class as those who are not poor according to the world poverty line,

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[4] https://siteresources.worldbank.org/ICPINT/Resources/270056-1183395201801/Summary-of-Results-and-Findings-of-the-2011-International-Comparison-Program.pdf. Accessed March 24, 2017. See also Ferreira et al. (2016).

[5] In the relatively large literature on top-income earners, they are typically defined as those who belong to the upper one-tenth or upper one-hundredth of the income distribution. See, for example, Atkinson, Piketty, and Saez (2011).

but would be considered poor if they lived in a high-income country. The latter is operationalized using the U.S. poverty line, which was set at about US$ 13 a day in 2005.

A view espoused by other researchers, and shared by this study, is that a global poverty line based on poverty lines in the world's poorest countries is too low to be the starting point of the global middle class. Milanovic and Yitzhaki (2002), for example, define the middle class as people having an income between the mean of Brazil and Italy. Bhalla (2007) postulates that "middle class is where the poor end in the rich world" and puts the cutoff at US$ 10 PPP per person per day. Following this, Kharas (2010), in a much-cited study, defines the global middle class as those with daily expenditures in the interval from US$ 10 to US$ 100 PPP per person. His lower cutoff is set equal to the average poverty line in Portugal and Italy, which is similar to the poverty line in the United States. His upper cutoff is selected as twice the median income of Luxembourg, the richest country in the European Union.

Unlike Bhalla (2007), Kharas (2010) uses data from 145 countries covering 99 percent of the world's population to estimate the size and regional composition of the world's middle class and, like Bhalla, he projects future change. Kharas concludes that in 2009 1.8 billion persons belonged to the world's middle class. A majority (54 percent) lived in Europe or North America, 28 percent lived in Asia Pacific, 7 percent lived in Central and South America, and 6 percent lived in the Middle East and North Africa, whereas only 2 percent lived in Sub-Saharan Africa. The results from his simulations indicate that the size of this middle class could increase to 3.2 billion by 2020 and 4.9 billion by 2030. Almost all this projected growth will come from Asia; the size of the middle class in North America is projected to remain roughly constant as the inflow to the middle class from households with lesser means will be offset by the outflow of middle-class households to the rich class.

[Table 3.1 about here]

As explained more fully in the next section, for our analysis we define four classes: "poor," "lower class," "middle class," and "upper class." "Poor" refers to standards of living that are poor by developing-country standards as measured by the global poverty line. "Lower class" refers to a standard of living above this global poverty line but is still considered poor by the standards of developed countries. "Middle class" refers to a standard of living that is considered not poor but also not rich in the developed countries. Table 3.1 summarizes our classification system and relates it to the terminology found in the literature, which we see as differing between studies that use developing versus developed countries as the frame of reference.

IV. Data and Operational Assumptions

We use data from the rural, rural-to-urban migrant and urban samples in the CHIP surveys for the income years 2002, 2007, and 2013.[6] The samples were drawn from the larger household survey samples of the National Bureau of Statistics (NBS) that are used to produce Chinese official statistics on household income and consumption. Our 2002 sample contains 63,911 individuals, of whom 20,624 are from the urban sample, 37,969 are from the rural sample, and 5,318 are from the migrant sample. The 2007 sample contains 89,804 individuals, of whom 29,553 are from the urban sample, 51,847 are from the rural sample, and 8,404 are from the migrant sample. The 2013 sample has 57,821 individuals, of whom 18,668 are from the urban sample, 37,090 are from the rural sample, and 2,063 are from the migrant sample. The provincial

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[6] For an introduction to the household income surveys in China including the CHIP, see Gustafsson, Li, and Sato (2014).

coverage of the CHIP samples to some extent changes across the years of the survey, as do the sampling probabilities. To control for this, in much of the analysis we apply the two-level (region x urban/rural/migrant) population-based sampling weights developed by the CHIP team.[7]

Following much previous work by the CHIP project, we use a definition of household income that is based on NBS disposable or net household income data, adjusted to include imputed rents from owner-occupied housing and implicit subsidies on subsidized urban rental housing. This definition of household income is in line with international practices. The NBS definition of income changed in 2013. For 2007 we carried out our calculations using the original and the new income definitions, and we found very minor difference in our results. Therefore, for simplicity, here we report our estimates based on the pre-2013 income definition for 2002 and 2007 and based on the 2013 income definition for 2013.

Income is the sum of various income components including wage earnings, net business income, property income, imputed rental income on owner-occupied housing, and transfers net of income taxes. We divide household income by the number of household members, adjusted according to an equivalence scale to obtain income per capita in terms of equivalent persons. For this purpose, we employ the equivalence scale used by Eurostat, with the first adult equivalent to 1.0, additional adults equivalent to 0.5, and persons less than 14 years of age equivalent to 0.3. Using the urban consumer price index for the urban and the migrant samples and the rural consumer price index for the rural sample, we express income in constant prices

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[7] We use CHIP sampling weights that assume a middle estimate of the size of the rural-to-urban migrant population.

over time. In the calculations reported here, we do not adjust for spatial price differences within China.[8]

[Table 3.2 about here]

In our analysis, we use four classes, which we define by applying three cutoffs to the data (Table 3.2). The lowest cutoff, set at PPP US$ 2 per person per day, defines the poor and it relatively closely follows the recent practice of the World Bank when defining global poverty. To convert to RMB, we use the PPP conversion factor of 3.76 for 2013, which is provided by the OECD based on estimates from the International Comparison Program in 2011.[9] From this, we obtain the cutoff in RMB per day, which is 7.52 for 2013.

The second cutoff separates the lower class from the middle class. Here we use as the cutoff the level of income per capita that separates the poor from the non-poor in the EU in 2013. Following the practice of the EU, we put the poverty line at 60 percent of the median income. Information on the median income for sixteen member countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom) is reported by Eurostat 2013 at 18,219 €per person per year.[10] We then apply the PPP conversion factor, which was 0.83 in 2013. This yields a cutoff for 2013 of PPP US$ 36, or RMB 135.36 per person per day (Table 3.2).

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[8] We carried out the calculations with adjustments for the spatial price differences, which somewhat changed the relative shares of the urban/rural/migrant populations in the middle class, but otherwise did not substantially change our overall findings.

[9] http://siteresources.worldbank.org/ICPINT/Resources/270056-1183395201801/Summary-of-Results-and-Findings-of-the-2011-International-Comparison-Program.pdf. Accessed March 24, 2017.

[10] We use the median for fifteen EU countries because it is covers those countries that have been longer-term, stable members of the EU and because this is the only multiple-country median that Eurostat reports for the years prior to 2005, thus allowing us to conduct some sensitivity analyses using data from earlier years. The median for the EU-15 is close to that for the EU-18, as well as for Germany, EU's largest member-state. In 2013 the median income of the EU-15 was 5 percent higher than the median income of the EU-18 and 7 percent lower than the median income in Germany.

Definition of the middle class also requires a cutoff between the middle class and the upper class. For this, we follow some other studies in the literature and use 200 percent of the median household income per capita as observed in the fifteen EU countries, which in 2013 corresponds to PPP US$ 120, or RMB 451.2 per person per day. We carried out our analysis using alternative cutoffs, such as 150 percent and 175 percent of the EU median income. The results were not sensitive to the choice of this upper cutoff because the proportion of Chinese households with incomes above these levels is very small.

Although our procedure for setting the cutoffs for the middle class relative to the median income in the EU is conceptually clear, some details of the calculation may influence our estimates of the size of the middle class in China. First, Eurostat data on median incomes is expressed in terms of an equivalence scale that assumes a value of 1.0 for the first adult individual in the household, 0.5 for other adults, and 0.3 for each person 14 years old and younger. Such a procedure is typically not applied in low- and middle-income countries, such as China, and it is not applied by the World Bank in setting the global poverty line. The justification for not using the equivalence scale for low- and middle-income countries is that the scope for economies of scale in low- and middle-income countries is limited because, for example, food consumption makes up a much larger proportion of consumption than it does in rich countries.

In view of the fact that our cutoffs for the middle class are based on estimates of the median income that use an equivalence scale, we apply the same equivalence scale to the Chinese income data when estimating the share of China's population that is middle class versus upper class. Because the global poverty line is based on estimates of income per person, not per

equivalent person according to an equivalence scale, we simply use income per capita when estimating the share of China's population that is poor versus lower class.

Second, comparisons over time require a decision as to whether to keep the cutoffs constant or to let them change over time, that is, whether to use fixed or moving goal posts. We have chosen to fix the cutoff goal posts at 2013 levels. In other words, we define middle class with reference to the recent (2013) standard of being neither poor nor rich in the EU, and our analysis investigates change in China's middle class over time according to this recent standard. Of course, this is not the only possible approach. An alternative is to allow the goal posts to change and to base the cutoffs for 2002 and 2007 on the situation in the EU countries in 2002 and 2007, respectively. The results for this alternative approach, as shown in the Appendix, are for the most part similar to those using fixed goal posts because income growth in the fifteen EU countries from 2002 to 2013 was relatively modest.

V. Growth of the Chinese Middle Class from 2002 to 2013

Before turning to the results, we comment on how changes in the size of the middle class are related to trends in income and income inequality, topics addressed in other chapters of this volume. When the middle class is defined relative to absolute cutoffs, as is the case here, then the middle class will expand when income growth for segments of the population below the middle class is sufficient for them to cross into the middle class from below the cutoff, and to do so more rapidly than any outflows from the middle class. Such an expansion of the middle class may or may not reduce inequality. If most of the population is middle class, then the movement of lower-income individuals into the middle class will likely reduce inequality. If most of the

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population is poor or low-income, however, and if the middle class is located near the top end of the income distribution, then movement of some lower-income individuals into the middle class could lead to rising inequality. These hypothetical situations suggest that the relationship between changes in the size of the middle class and inequality is complex.

As we will see below, China in 2002 began with an overwhelming majority of households in the poor and lower classes, very few in the middle class, and extremely few in the upper class. Thereafter, the country experienced rapid economic growth that was not equally shared. During the period from 2002 to 2007 average income growth was rapid and the middle class expanded, but the middle class remained a relatively small proportion of the population. At this time, growth of China's middle class was accompanied by rising inequality. From 2007 to 2013 incomes continued to grow and China's middle class continued to expand, however, during these years inequality began to decline, as reported in other chapters in this volume.

The relationship between inequality and growth of the middle class in China has been rather different from that in the developed world. In the 1990s many countries in the developed world had large middle classes, but in recent decades they have experienced unequal income growth that mainly benefited those in the upper segments of the income distribution. Income growth for those in the middle and lower segments has been slow. Consequently, many developed countries have experienced a shrinking of the middle class accompanied by rising inequality.

[Figure 3.1 about here]

Figure 3.1 shows how China's income distribution has changed over time in relation to our cutoffs between the poor, lower, middle, and upper classes. For ease of comparison across time, income in all years is expressed in constant 2013 prices. In 2002 the income distribution is

concentrated at the left side of the graph and resembles a "pyramid" shape. Most of the income distribution is to the left of the cutoff for the middle class, and much of it is below the poverty line. Moving to 2007 and 2013, the income distribution shifts to the right. Over time, the relative size of the poor class declines and the lower and middle classes grow.

These findings are in line with the objectives of China's policy makers, as discussed in Section 2: Transformation from a society with an income distribution shaped like a pyramid to one shaped like an olive, with few at the bottom, many in the middle, and few at the top. China's income distribution has indeed evolved toward an "olive" shape, although the pyramid's peak remains distinct and is in the lower class, well below the cutoff for the middle class.

[Figure 3.2 about here]

[Table 3.3 about here]

Growth of the middle class is visualised in a slightly different way in Figure 3.2, which plots the cumulative distribution of income. The cumulative distribution of income shows the proportion of the population with incomes below the level of income at each point on the horizontal axis. For example, at the lower cutoff for the middle class (135.36), the curve on the graph shows the proportion of the population that belongs to the poor and lower classes. Figure 3.2 has four panels, one for China as a whole, and one each for urban residents, rural residents, and migrants. Each panel shows the cumulative distribution of income for 2002, 2007, and 2013, with incomes for all years in constant 2013 prices.

One can see that from 2002 to 2007 and again to 2013, the cumulative income distribution shifts downward and to the right. Such shifts indicate that over time the proportion of China's poor- and low-income population declined, whereas that with middle and higher incomes expanded. The shift is most noticeable for the urban sector. For the rural sector, the

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curves shifted more modestly and remain largely to the left of the cutoff for entering the middle class.

Table 3.3 provides the corresponding estimates of the share of the population in each class by year based on our definitions. The Chinese middle class grew from only 1 percent in 2002 to 7 percent in 2007 and further to 19 percent in 2013. In terms of numbers of people, the middle class contained fewer than 12 million Chinese residents in 2002. The size of the middle class increased to 64 million residents in 2007 and expanded rapidly to no fewer than 254 million residents in 2013. While in percentage terms China's middle class in 2013 remained a relatively small share of the population, in absolute terms and relative to the size of the world's middle class, it was large.[11]

Concurrently with this growth of the middle class, China's poverty rate decreased from 27 percent in 2002 to 11 percent in 2007 and further to 4 percent in 2013. The lower class expanded from 2002 to 2007, when it exceeded 80 percent of China's population, and then declined to 77 percent. Despite the growing importance of China's middle class, in all years it was substantially smaller than the lower class, which constituted a large majority of China's population. As of 2013, then, an overwhelming majority of China's population did not yet belong to the global middle class.

The upper class was virtually non-existent in 2002, and in 2013 it remained small at only 0.5 percent of China's population. The share of China's population belonging to the global upper-income class thus remains exceedingly small; however, in absolute terms the number is still sizable (6.8 million). In view of the small proportion of the population above the highest cutoff, in the following sections we focus our attention on the poor, lower, and middle classes.

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[11] Kharas (2010) estimates a global middle class of 1.8 billion in 2009.

As one would expect, growth of China's middle class is seen most clearly in the urban areas. Among urban residents, the share of the population in the middle class increased from 2 percent in 2002 to 34 percent in 2013.[12] The share of migrants who were middle class expanded from 1 percent in 2002 to 19 percent in 2013. In rural China, the share of the middle class in 2013 was still low at only 4 percent. Rural China, however, has been characterized by a rapid reduction of poverty, from 40 percent to 7 percent, and by the expansion of the lower class from 60 percent to 89 percent of the population between 2002 and 2013.

[Table 3.4 about here]

How do our estimates of the size and development of the middle class relate to what others have reported? Table 3.4 summarizes several previous estimates. As Yuan, Wan, and Khor (2012) used the lowest cutoffs, it comes as no surprise that they report higher proportions of middle-class persons in rural China than we or Chen and Qin (2014) report. Our estimates of the size of the middle class in China as a whole are similar to those reported by Chen and Qin (2014) and Kharas (2010). Kharas (2010) finds that less than 12 percent of the Chinese population was middle class in 2009, which is the same as our estimate of 12 percent in 2013. Chen and Qin (2014) report a middle-class share of 13 percent in 2012. The preferred estimate of Bonnefond, Clément, and Combarnous (2015) for 2009 is substantially larger; however, this reflects their low cutoff for entering the middle class. Their preferred cutoff of only 10,000 RMB per year translates to only 27 RMB per day, much lower than our cutoff of 135 RMB per day.

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[12] In the Appendix, we report results from a sensitivity analysis in which we set the second and third cutoffs in accordance with the changes in the median incomes in the fifteen EU countries developed from 2002 and from 2007, i.e., using moving goal posts. This alternative approach gives a growth of the middle class in urban China from 2002 to 2007 that is faster than that reported in this section and a growth between 2007 and 2013 that is slower than that reported in this section.

Only Chen and Qin (2014) report the size of the middle class separately for the rural, urban, and migrant sectors. For the most recent year (2012 for Chen and Qin, 2013 for us), we find a smaller rural middle class and larger urban and migrant middle classes than they do.[13]

VI. Analyzing the Growth of the Chinese Middle Class

To what extent is the growth of China's middle class due to growth in average incomes versus redistribution toward the middle of the income distribution? Both growth and redistribution have taken place during the period of our analysis. As shown in other chapters in this volume, from 2007 to 2013 household income growth in China was broad-based. We also know, however, that some redistribution took place, because from 2007 to 2013 income growth was more rapid in the lower end and in the middle than at the top of the income distribution, as well as in the poorer rural sector than in the richer urban areas.

In order to explore the role of average income growth versus redistribution, we carry out a simulation exercise that begins with the 2007 distribution of income and assumes that from 2007 to 2013 all persons experienced the same annual growth rate of income. We set the uniform annual growth rate at 7.97 percent, equal to the average rate of growth in per capita household income during this period. This simulation yields a hypothetical distribution of income for 2013 that assumes no redistribution of income. We then compare the size of the middle class in this hypothetical distribution to that in the observed income distribution for 2013.

[Table 3.5 about here]

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[13] We note that our estimates are based on income, whereas those of Chen and Qin (2014) are based on consumption expenditures. Another difference is that the estimates of Chen and Qin (2014) are for households, whereas ours are for individuals.

Interestingly, we find that the size of China's middle class in the hypothetical distribution is virtually the same as that observed in 2013. We also find, however, that this result masks some differences in the composition of the hypothetical middle class versus the observed middle class. Using the assumption of uniform growth yields a middle class in urban China that is substantially larger (45 percent, not 34 percent), and a middle class in rural China that is somewhat smaller (2 percent, not 4 percent) than that which was in fact observed in 2013. We conclude that although redistribution did not affect growth in the overall size of China's middle class from 2007 to 2013, it increased the proportion of the middle class that was rural as opposed to urban. These results reflect the relatively rapid growth of rural incomes vis-à-vis the growth of urban incomes during this period.

A similar analysis going back further to the period from 2002 to 2007 also does not alter the share of the middle class in the national population. The simulation, however, yields a much larger reduction in rural poverty than actually occurred. A uniform growth rate would have reduced the poverty rate in rural China to 9 percent in 2007, as compared to the much higher observed poverty rate of 21 percent in 2007. These results reflect the relatively slow growth of rural income vis-à-vis urban income during this period.

[Table 3.6 about here]

How large will China's middle class grow in the future? We answer this question by projecting forward from 2013 to 2020 under an assumption of uniform 6.5 percent income growth per year for all households. We use 6.5 percent growth for the projection because China's Thirteenth Five-Year Plan (2016–2020) established a 6.5 percent target GDP growth rate and

because this growth rate is in line with standard forecasts, e.g., the IMF predicts China's GDP growth will be 6.5 percent in 2016 and gradually slow to 6.0 percent in 2020.[14]

The results from this exercise are reported in Table 3.6. A comparison with the numbers in Table 3.3 indicates that in the seven years from 2013 to 2020, the share of the middle class in China will almost double from 19 percent to 36 percent of the population, or from 254 million to 509 million persons (assuming population growth of 0.5 percent per annum). By 2020 most of urban China will be middle class, with 60 percent of urban residents so classified. Reflecting the persistent gap in income between the urban and rural areas, in 2020 rural China will still be overwhelmingly lower class, with only 13 percent of rural inhabitants classified as middle class.[15] In the near future, then, China's middle class will remain a mainly urban phenomenon.

VII. Characteristics of China's Middle Class

In this section, we use the 2013 survey data to identify the distinctive characteristics of China's middle class in comparison to the lower income and poor classes. First, we note that the Chinese middle class contains relatively high savers, with an average savings rate of 35 percent.[16] Figure 3.3 shows the relationship between the savings rate and income using a plot of the median savings rate by ventile of the income distribution. The median income per capita for each ventile

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[14] See the IMF World Economic Outlook, April 2016, http://www.imf.org/external/pubs/ft/weo/2016/01/. Accessed March 24, 2017.

[15] When digesting those results, it should be remembered that they assume that the income cutoffs defining the middle class remain unchanged at the median income levels observed in the EU countries in 2013. To the extent that households in the EU experience income growth between 2013 and 2020, one could argue that the criteria for being classified as middle class in China should be revised upwards, which would reduce the projected share of the middle class in China in 2020.

[16] The savings rate is estimated to be equal to the average savings rate among individuals. Each individual's savings rate is equal to its household savings rate. For each household, the savings rate is calculated as household disposable income minus consumption expenditures, divided by household disposable income.

is shown on the horizontal axis. The vertical lines delineate between the poor and the lower classes and between the lower and the middle classes. The median savings rate is negative for the poor, increases from about 10 percent to 30 percent through the lower class, and then reaches 35–40 percent for the middle class. Figure 3.3 indicates that expansion of the middle class may not lead to a rising rate of consumption out of income, although the absolute level of consumption might nevertheless increase.

[Figure 3.3 about here]

In the remainder of this section, we examine five sets of characteristics: a.) sources of income, b.) housing and ownership of consumer durables, c.) location of residence, d.) demographic and education characteristics, and e.) membership in the Communist Party. We find that the middle class is distinct along many, but not all, of these dimensions.

Figure 3.4 shows the average composition of income for the middle class and each of the other income classes in 2013.[17] The middle and upper classes differ from the poor and lower classes in terms of the importance of income from wage employment. For the middle and upper classes, wages contribute on average more than one-half of the total income.

[Figure 3.4 about here]

For the middle class, pensions are also a significant source of income, contributing 15 percent of income, compared to 9 percent for the lower class and only 5 to 6 percent for the poor and upper classes. Since pensions are typically linked to past employment, this further underscores the central role of employment as a source of income for the middle class. Together, wage and pension income account for 67 percent of middle-class income, as compared to about 50 percent for the upper and lower classes and only 18 percent for the poor. We note, however,

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[17] We calculate the share of income by income component for each household, and then we take the average of the shares over the households in each income class. Consequently, the shares reported in the figures do not add up to 100 percent.

that the heavy reliance of the middle class on employment for income has declined over time. Analysis of the 2007 data reveals that six years earlier the sum of wages plus pensions constituted a substantially larger share (80 percent) of middle-class income.

The middle class also differs from other classes in terms of the relative unimportance of income from household businesses. In 2013 business income on average accounted for 14 percent of middle-class income. For the other classes, business income was noticeably more important, in all cases higher than 20 percent of income. We conclude that China's middle class is, in general, a salaried rather than an entrepreneurial class. Business income is most concentrated in the rich and poor classes.

[Table 3.7 about here]

Table 3.7 shows housing characteristics and ownership of consumer durables by class. The differences in housing among the classes show up very clearly in the market rental values of their housing (self-reported). On average, middle-class individuals live in housing that is valued more than three times that of the housing of the lower class, and almost ten times that of the housing of the poor. The upper class, however, lives in housing with an average rental value that is double that of the middle class. Housing conditions, as measured by the presence of piped water and a flush toilet, are nearly universal for the middle and upper classes but not so for the lower and poor classes. Fuel used for cooking also differs considerably. Exceedingly few middle- and upper-class individuals use firewood or coal for cooking, as compared to one-third of the lower class and two-thirds of the poor individuals.

With respect to consumer durables, ownership of the two major household appliances, refrigerators and washing machines, is widespread among the upper, middle, lower, and even poor classes. Large differences emerge, however, with respect to other durables. Most of the

middle class owns air conditioners and a computer with internet connections. These items are almost universal for the upper class but are not typical for the two lower classes. Almost one in two middle-class individuals lives in a household that owns a personal car; however, car ownership is unusual among the lower classes. In terms of ownership of consumer durables, then, China's middle class is somewhat distinct from China's lower classes and resembles the middle classes in the developed world.

[Table 3.8 about here]

China's middle class is geographically concentrated (Table 3.8); 90 percent of middle-class persons are urban residents (including migrants). Similarly, 90 percent of the upper class is urban. In comparison, 85 percent of the poor are rural residents. Regionally, the middle classes are concentrated in the East. Three out of five middle-class persons live in the East, as compared to only one out of five of the poor. The upper class is even more concentrated in the East than the middle class.

The geographic distribution of China's middle class is related to the spatial variations in levels of economic development and urbanization. To investigate this relationship, we calculate the share of the middle class in each of the fourteen provinces covered by the 2013 CHIP survey and plot it against the provincial per capita GDP, the provincial average disposable household income per capita (as reported by the NBS in its statistical yearbooks), and the provincial rate of urbanization (Figure 3.5). The graphs show the expected relations: the size of the middle class increases with the provincial per capita GDP, the provincial average household income, and the level of urbanization.

[Figure 3.5 about here]

Note that Beijing is an outlier located far in the northeast corner of all the graphs. Not only does Beijing have a substantially higher GDP per capita, income per capita, and urbanization than the other thirteen provinces, it also has a markedly larger middle class. The share of the middle class in Beijing exceeds 50 percent, as compared to 30 percent for second-place Jiangsu. This gap in the size of the middle class between Beijing and the other provinces reveals that impressions of China's income distribution based on its capital city present a misleading picture of the importance of the middle class in China as a whole.

[Table 3.9 about here]

With respect to demographic variables, the middle class is not very different from the other classes (Table 3.9). China's ethnic minorities are less frequently represented among the middle class than among the other classes. Children make up a slightly smaller proportion and adults make up a slightly larger proportion of the middle class than that in the overall population. Education levels are relatively high for adults in the middle class, at 11.7 years, as compared to 8.7 years for the lower class and 7.6 years for the poor. In other words, completion of high school is typical for adults in the middle class, as compared to completion of junior middle school for adults in the lower and poor classes. Adults in the upper class, however, have completed on average 13 years of education.

[Table 3.10 about here]

Communist Party membership is highest in the middle class. Table 3.10 shows that not less than one in five middle-class persons is a Party member, compared with 16 percent of the upper class and less than 10 percent of the lower class and the poor. Party membership is also most prevalent among formal urban residents. Among China's urban middle class, almost one in four is a Party member.

To what extent is the Communist Party a middle-class party? Table 3.11 shows the class composition of Communist Party members. Overall, the majority of Party members (58 percent) belong to the lower class; however, a substantial minority (40 percent) is middle class. In rural areas, Party membership is dominated by the lower class; in urban areas, Party membership contains roughly equal shares of the middle and lower classes. Together, the lower and middle classes comprise 97 percent of Party members; the upper class and the poor account for the exceedingly small remainder.

VIII. Conclusions

In this study, we propose a definition of the middle class based on household income per capita, with reference to notions of the middle class in the developed countries. The middle class is defined as having a per capita income that is high enough not to be classified as poor and low enough not to be classified as upper class if living in Europe. The cutoff for belonging to the middle class is 60 percent of the median income, and the cutoff for belonging to the upper class is 200 percent of the median income in fifteen EU countries as observed in 2013. We subdivide those with incomes below the middle-class cutoff into two groups. The poor are defined as those living in a household with a disposable income that is below PPP US$ 2 per day. The lower class consists of people with a per capita income above PPP US$ 2 per day but not high enough to be classified as middle class.

Using these definitions, we measure the sizes of the middle and other income classes in China in 2002, 2007, and 2013, and we trace the changes in their relative importance over China's period of substantial economic growth. We find that during this eleven-year period, the

size of the middle class in China grew extremely rapidly, rising from 12 million people to 254 million people, at an average rate exceeding 30 percent per year. By 2013, then, the absolute size of China's middle class was large, equivalent to 80 percent of the population of the United States.

This expansion of the middle class was accompanied by a change in the shape of China's income distribution from a distinct pyramid shape toward an olive shape but still with a marked peak in the share of the population that falls in the lower-income class, which, at 77 percent of the population, remained by far China's largest class in 2013. Despite the rapid expansion of the middle class, in 2013 the middle still constituted a relatively small share—only 20 percent—of China's population.

China's middle class is very much an urban phenomenon. Most of China's middle-class persons are urban residents. Most of the rural population belongs to the lower-income class. A clear majority of China's poor live in the rural areas.

We have investigated how the characteristics of the middle class compare to those of the other classes using data from 2013. The middle class earns most of its income from wage employment and it is less involved in business and self-employment than the poorer classes. Variations among the classes across some demographic variables are modest. Children, adults, and the elderly make up proportions of the middle class that are similar to those of the overall population. Education levels are noticeably higher for adults in the middle class than for those in the lower and poor classes. We have found that the middle class is politically well integrated in the sense that as many as one in five persons in the middle class is a member of the Communist Party, a considerably higher proportion than among the lower-income class and the poor. Nevertheless, the Communist Party continues to be largely made up of lower-class individuals.

Looking ahead, we project that if household incomes grow at a uniform average rate of 6.5 percent per annum from 2013 to 2020, the proportion Chinese households that are classified as middle class will almost double by 2020, reaching over 500 million and accounting for about one-third of the population. If such an expansion occurs, which is not unlikely given recent and expected rates of China's GDP growth, then by 2020 Chinese will become the single largest nationality in the global middle class. It is not unreasonable to assume that this quantitative expansion will have consequences in terms of the evolution of the tastes and habits of middle-class consumers in other countries. We note, however, that China's population will continue to belong predominately to the global lower-income class.

It has been observed that growth of the middle class is important for China's shift from an investment-led to a consumption-led growth model. In fact, we find that China's middle-class households are large savers, saving on average more than one-third of their income and with savings rates higher than those of the lower classes. Consequently, the expansion of China's middle class may not necessarily be an engine of consumption growth and could conceivably hinder China's shift to a consumption-led growth model unless it is accompanied by other changes that alter savings behavior. Nevertheless, the expansion of China's middle class will reflect rising absolute incomes, so that even if the share of income spent on consumption declines, the absolute levels of consumption will rise. In addition, the composition of consumption will likely change as the level of demand for items associated with middle-class consumption in China (and elsewhere), such as housing improvements, household appliances, electronic equipment, and automobiles, increases.

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Appendix. *Alternative estimates of the size and growth of the Chinese middle class using moving goal posts*

Here we report the outcome of an alternative approach to define the Chinese middle class whereby the cutoffs for the middle class are updated over time ("moving goal posts"). For the year 2013 we use the same definition of middle class as in the main body of this chapter. For earlier years, instead of adjusting the 2013 middle-class cutoffs back in time using the consumer price index for rural and urban China, respectively, we set the cutoffs equal to 60 percent and 200 percent of the median income in fifteen EU countries, as observed in 2002 and 2007. The median real income in fifteen EU countries increased between 2002 and 2007 as well as between 2007 and 2013, which means that the alternative cutoffs are lower than those in the main body of this chapter, which are all based on the 2013 median incomes. The alternative cutoffs are presented in Table A3.1.

Table A3.1. *Alternative class cutoffs: Updated over time (moving goal posts)*

USD:

	2002(2001)	2007	2013
cutoff between the poor and the lower class	US$ 2/day	US$ 2/day	US$ 2/day
cutoff between the lower class and the middle class	US$ 26/day	US$ 31/day	US$ 36/day
cutoff between the middle class and the upper class	US$ 86/day	US$ 105/day	US$ 120/day

RMB:

	2002(2001)	2007	2013
cutoff between the poor and the lower class	7.1	7.0	7.52
cutoff between the lower class and the middle class	92.3	108.5	135.36

cutoff between the middle class and the upper class	305.3	367.5	451.2

Notes. The first cutoff is set close to the World Bank's global poverty line. The second cutoff is set at 60 percent of the median income per equivalized person for the fifteen EU countries that prevailed in each of the three years. The third cutoff is set at 200 percent of the median income per equivalized person from the fifteen EU countries that prevailed in each of the three years. Because Eurostat did not publish information on the median income of European countries in 2002, for 2002 we use the median income for 2001. Data for the median income of the fifteen EU countries is from Eurostat. US dollars are converted to RMB using the PPP exchange rate.

The alternative estimates of the sizes of the middle class and the other classes for 2002 and 2007 based on these alternative cutoffs are shown in Table A3.2. By definition, the estimates for 2013 are the same as those used in the body of this chapter.

A comparison of the estimates in Table A3.2 and our base estimates, as shown in Table 3.3 in the body of the chapter, reveals a very minor difference for the year 2002. For example, the size of the middle class in China based on the alternative cutoffs is 1.2 percent instead of 1.0 percent according to our base estimates. More differences between the alternative and the base estimates are observed for 2007. Under the alternative cutoffs, in 2007 7.8 percent of the Chinese population would be middle class, as compared to 4.8 percent for our base estimates. The difference for 2007 is particularly noticeable in terms of the size of the middle class in urban China, which when using the alternative cutoffs is 20 percent of the urban population, as compared to 12 percent as reported in our base estimates.

Thus, the alternative estimates give a larger expansion of the middle class from 2002 to 2007. From this it follows that the expansion of the middle class between 2007 and 2013 using the alternative cutoffs was smaller than that for our base estimates. This sensitivity analysis indicates that the timing of the expansion of the middle class from 2002 to 2013, especially in urban China, is somewhat sensitive to whether the cutoffs in all years are based on the median EU income in 2013 (fixed goal posts) or on the median EU incomes for each of the years

(moving goal posts); however, the magnitude of the expansion over the longer period from 2002 to 2013 is not affected substantially.

Table A3.2. *The shares of the four classes in China, and among the urban, rural, and migrant populations calculated using the updated 2002/2007cutoffs* **(%)**

A: 2002

	All	urban	rural	migrants
poor	40.2	4.4	59.5	13.3
lower	58.6	92.5	40.2	85.4
middle	1.2	3.1	0.2	1.3
upper	0	0	0	0
All	100	100	100	100

B: 2007

	All	urban	rural	migrants
poor	14.8	0.1	27.0	1.2
lower	77.2	79.4	72.5	93.1
middle	7.8	20.2	0.5	5.5
upper	0.1	0.2	0.01	0.2
All	100	100	100	100

Notes. In the calculations for this table we allow the goal posts to change and we base the class cutoffs for 2002 and 2007 on the median income in the fifteen EU countries in 2002 and 2007, respectively. The cutoffs are shown in Table A3.1.

Table 3.1. *Classification of income classes, with comparisons to the literature*

Classes Used in This Chapter	Classes Used in the Literature: Developing World Frame of Reference	Classes used in the Literature: Developed World Frame of Reference
Poor	Poor	Ultra-poor
Lower	Vulnerable + middle	Poor + vulnerable
Middle	Upper middle + upper	Middle
Upper	Ultra-rich	Upper + rich

Table 3.2. *Cutoffs used in this study (per person per day, 2013 prices)*

	First Cutoff	Second Cutoff	Third Cutoff
	Separating the poor from the lower class	Separating the middle class from the lower class	Separating the upper class from the middle class
2013 RMB	7.52	135.36	451.20
2013 USD	2.00	36.00	120.00

Notes: The first cutoff is set close to the World Bank's global poverty line. The second cutoff is set at 60 percent of the median income per equivalized person for fifteen EU countries in 2013. The third cutoff is set at 200 percent of the median income per equivalized person from fifteen EU countries in 2013. Data for the median income of the fifteen EU countries are from Eurostat. US dollars are converted to RMB using the PPP exchange rate. For 2002 and 2007 the cutoffs are equal to the RMB cutoffs converted from the 2013 prices into the 2002 and 2007 prices using the urban and rural consumer price indexes, as published by the NBS.

Table 3.3. *The size of the four income classes in China as a whole, and among the urban, rural and migrant populations, 2002, 2007, and 2013 (%)*

A: 2002				
	all	urban	rural	migrants
poor	26.88	1.92	40.34	6.95
lower	72.15	95.65	59.44	92.32
middle	0.97	2.43	0.22	0.73
upper	0	0	0	0
all	100	100	100	100
B:2007				
	all	urban	rural	migrants
poor	11.3	0.09	20.58	1.05
lower	81.44	81.21	78.97	93.96
middle	7.16	18.49	0.44	4.74
upper	0.10	0.21	0.01	0.24
all	100	100	100	100
C:2013				
	all	urban	rural	migrants
poor	3.58	0.94	6.65	1.18
lower	77.29	63.71	88.93	79.02
middle	18.66	34.44	4.31	19.49
upper	0.47	0.91	0.11	0.32
all	100	100	100	100

Notes:

1) Calculated using weights. With weights, the urban/rural/migrant population shares are as follows: 2002: 33.65 percent /64.74 percent /1.60 percent; 2007: 34.51 percent/54.21 percent /11.28 percent; and 2013: 40.93 percent/45.77 percent/13.30 percent.

2) For 2002 and 2007 the cutoffs are equal to the RMB cutoffs in Table 3.2 converted from the 2013 prices into the prices for 2002 and 2007 using the urban and rural consumer price indexes as published by the NBS.

3) The first cutoff (between the poor and the lower class) is applied to income per capita (equal to household income divided by the number of persons in the household). The second and third cutoffs are applied to the equivalized income per capita (equal to the household income divided by the number of equivalent individuals in the household, see the text).

4) Here and elsewhere, we do not use spatial price deflators to control for the differences in prices between the rural and urban areas and among the provinces.

Source: Authors' estimates based on the CHIP data.

Table 3.4. *Estimates of the Chinese middle class in the literature*

Author(s)	Definition of the middle class	Year of measurement	Data	Size of the middle class (% of population)			
				Rural	Urban	Migrants	All of China
Kharas (2010)	10–100 USD per person per day	2009	Merging information on household income data for deciles with national account data on mean expenditures	NE	NE	NE	Less than 12 percent
Bonnefond, Clément, and Combarnous (2015)	Four different definitions, with a preference for 10,000 RMB per person per year to the 95th percentile	1989–2009	China Health and Nutrition Survey (CHNS)				Approximately 50 percent of the urban households in 2009 may be said to belong to the middle class
Yuan, Wan, and Khor (2012)	4–10 USD per person per day	1988	CHIP	3	NE	NE	NE
		1995		5			
		2002		15			
		2007		53			
Chen and Qin (2014) ("upper middle class")	10–20 USD PPP per person per day	1995	CHIP	<0.5	2	NE	1
		2002	CHIP	<1	3	2	2
		2010	China Family Panel Survey (CFPS)	5	14	10	8
		2012	CFPS	9	20	14	13
This study	36–120 USD per person and day	2002	CHIP	< 0.5	3	1	1
		2007		<0.5	12	6	7
		2013		4	34	20	19

Notes: NE=not estimated. Estimates by Chen and Qin (2014) refer to consumption, not income, and the percentage of households, not individuals.

Table 3.5a. *The simulated shares of the four classes in 2013, assuming that all individuals'*
incomes grew at the same rate between 2007 and 2013 (%)

	Total	Urban	Rural	Migrants
poor	4.01	0.02	7.25	0.68
lower	76.38	53.16	90.62	79.01
middle	18.71	44.57	2.08	19.49
upper	0.90	2.25	0.05	0.83
all	100	100	100	100%

Notes: This simulation yields a hypothetical distribution of income for 2013 that assumes income grew at the same rate for all persons and there was no redistribution of income between 2007 and 2013. To calculate the simulated shares, we start with the 2007 distribution of income and assume that from 2007 to 2013 all persons experienced the same annual rate of income growth. We use a uniform income growth rate of 7.97 percent, which is equal to the average annual rate of growth of household income per capita during this period. The urban/rural/migrant population shares are assumed to remain unchanged at their 2007 values. This yields the simulated income for each equivalent person in 2013. Using the cutoffs shown in Table 3.2, we then obtain the share of the population in each class.

Table 3.5b. *The simulated shares of the four classes in 2007, assuming that all individuals'*
incomes grew at the same rate between 2002 and 2007 (%)

	Total	Urban	Rural	Migrants
poor	6.16	0.13	9.38	2.54
lower	87.59	83.77	89.5	90.24
middle	6.19	15.9	1.11	7.11
upper	0.00	0.20	0.00	0.11
all	100	100	100	100

Notes: This simulation yields a hypothetical distribution of income for 2007 that assumes income grew at the same rate for all persons and there was no redistribution of income between 2002 and 2007. To calculate the simulated shares, we start with the 2002 distribution of income and assume that from 2002 to 2007 all persons experienced the same annual rate of income growth. We use a uniform income growth rate of 14.71 percent, which is equal to the average annual rate of growth of household income per capita during this period. The urban/rural/migrant population shares are assumed to remain unchanged at their 2002 values. This yields the simulated income for each equivalent person in 2007. Using the cutoffs shown in Table 3.2, we then obtain the share of the population in each class.

Table 3.6. *The simulated shares of the four classes in 2020, assuming that all individuals'*
incomes grew at the same rate between 2013 and 2020 (%)

	All	Urban	Rural	Migrants
poor	1.70	0.65	2.86	0.95
lower	59.81	34.36	84.20	54.21
middle	36.18	60.31	12.50	43.43
upper	2.31	4.69	0.43	1.41
all	100	100	100	100

Notes: This simulation yields a hypothetical distribution of income for 2020 based on the assumption that income grew at the same rate for all persons, and there was no redistribution of income. To calculate the simulated shares, we start with the 2013 distribution of income and assume that from 2013 to 2020 all persons experienced the same annual 6.5 percent rate of income growth. The urban/rural/migrant population shares are assumed to remain unchanged at their 2013 values. This yields the simulated income for each equivalent person in 2013. Using the cutoffs shown in Table 3.2, we then obtain the share of the population in each class.

Source: Authors' estimates based on the CHIP data.

Table 3.7. *Housing and ownership of consumer durables by income class, 2013*

	Total	Poor	Lower	Middle	Upper
Estimated monthly market rent of dwelling (RMB)	797	202	533	1 917	3901
Piped water in dwelling (%)	82.9	50.4	80.4	98.8	97.0
Flush toilet in dwelling (%)	60.9	20.9	54.6	94.2	94.9
Ownership of refrigerator (%)	82.6	54.0	80.7	95.4	97.9
Ownership of washing machine (%)	84.3	69.2	82.2	95.4	100.0
Ownership of air conditioner (%)	47.5	19.8	41.3	77.5	84.6
Main fuel for cooking is firewood or coal (%)	27.6	66.2	32.2	2.1	2.4
Ownership of computer connected to the Internet (%)	40.6	14.0	33.8	72.9	81.8
Ownership of private car (%)	20.2	9.3	14.6	44.2	74.3

Sources: Authors' estimates based on the CHIP data; calculated using weights. Means are calculated over individuals in each class.

Table 3.8. *Composition of the income classes by location in 2013 (%)*

	Total	Poor	Lower class	Middle class	Upper class
Sector					
Urban	40.9	10.7	33.7	75.5	80.3
Rural	45.8	84.9	52.7	10.6	10.6
Migrants	13.3	4.4	13.6	13.9	9.1
Total	100	100	100	100	100
Region					
East	41.5	20.9	37.6	60.4	85.4
Central	31.5	34.6	34.0	21.0	9.9
West	27.0	44.5	28.4	18.6	4.7
Total	100	100	100	100	100

Sources: Authors' estimates based on the CHIP data using weights. Calculated over individuals.

Table 3.9. *Composition of the classes by demographic variables in 2013*

Table 3.9-1: All

	All	Poor	Lower	Middle	Upper
Ethnicity (%)					
Han	93.1	87.2	92.8	95.6	92.4
Minority	6.9	12.8	7.2	4.4	7.6
Age group (%)					
Child	15.1	17.3	15.4	13.4	16.4
Adult	75.9	72.6	75.6	77.1	79.9
Elderly	9.0	10.1	9.0	8.9	3.7
Average education among adults (years)	9.3	7.6	8.7	11.7	13.0

Table 3.9-2: Urban (including migrants)

	All	Poor	Lower	Middle	Upper
Ethnicity (%)					
Han	94.5	89.7	94.0	95.8	91.5
Minority	5.5	10.3	6.0	4.2	8.5
Age group (%)					
Child	14.9	15.1	15.5	13.6	16.3
Adult	76.3	75.0	75.8	77.3	79.9
Elderly	8.8	9.9	8.7	9.2	3.8
Average education among adults (years)	10.5	9.1	9.7	12.0	13.3

Table 3.9-3: Rural

	All	Poor	Lower	Middle
Ethnicity (%)				
Han	91.5	86.7	91.8	93.7
Minority	8.5	13.3	8.2	6.3
Age group (%)				
Child	15.3	17.7	15.3	12.3
Adult	75.5	72.1	75.5	81.3
Elderly	9.2	10.2	9.3	6.4
Average education among adults (years)	7.8	7.3	7.7	9.4

Notes: Authors' estimates based on the CHIP data. Calculated over individuals. Ethnicity is based on the ethnicity information of each person, not the ethnicity of the household head. Age groups are defined as follows: children (age<16); adults (16<=age<=65); elderly (age>65). The number of rural upper-class observations in the sample is extremely small, so we do not report the rural upper-class characteristics.

Table 3.10. *Membership in the Chinese Communist Party by class and by urban/rural/migrant in 2013 (%)*

|	All	Poor	Lower	Middle	Upper
Total	9.1	4.2	6.7	19.5	16.4
Rural	4.7	3.4	4.7	7.7	-
Migrants	2.7	0.0	2.3	4.9	-
Urban	16.0	11.5	11.8	23.8	-

Notes: Authors' estimates based on the CHIP data, with weights. The percentages refer to the share of individuals who are members of the Communist Party. "All" includes all four classes. Due to the small number of upper-class observations in the sample and thus the very few in each sector, we do not report the breakdown for the upper class by urban/rural/migrant.

Table 3.11. *Communist Party members belonging to each class in 2013 (%)*

|	All	Poor	Lower	Middle	Upper
total	100	1.7	57.5	39.9	0.9
rural	100	4.9	87.8	7.0	-
migrant	100	0.0	65.3	34.0	-
urban	100	0.7	47.0	51.1	-

Notes: Authors' estimates based on the CHIP data, with weights. The percentages refer to the share of individuals who are members of the Communist Party. "All" includes all four classes. Due to the small number of upper-class observations in the sample and thus the very few in each sector, we do not report the breakdown for the upper class by urban/rural/migrant.

**Figure 3.1.** *China's income distribution in 2002, 2007, and 2013 (RMB per equivalized person per day)*
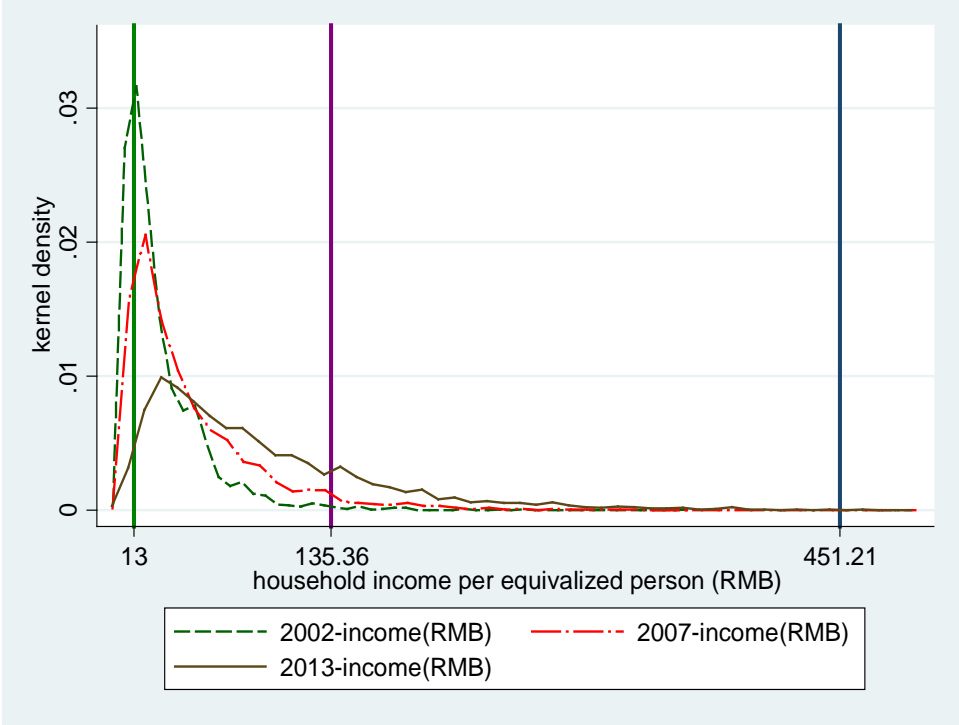
Notes: Income in all years is expressed in 2013 constant prices. Authors' calculations using the CHIP data, with weights.

Figure 3.2. *Cumulative distributions of income for China as a whole, urban China, and rural China, 2002, 2007, and 2013 (RMB per equivalized person per day)*
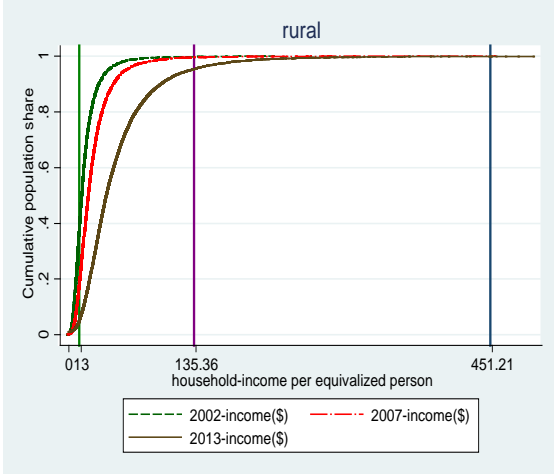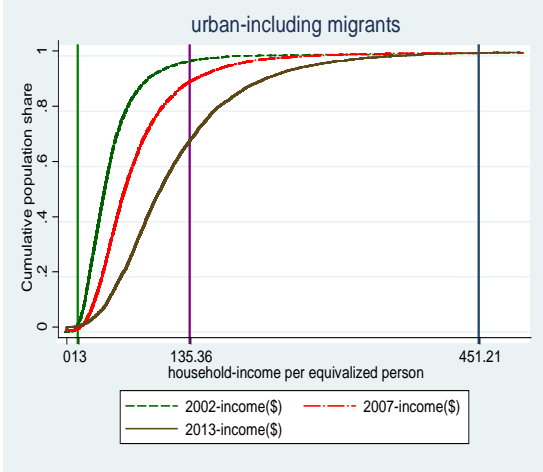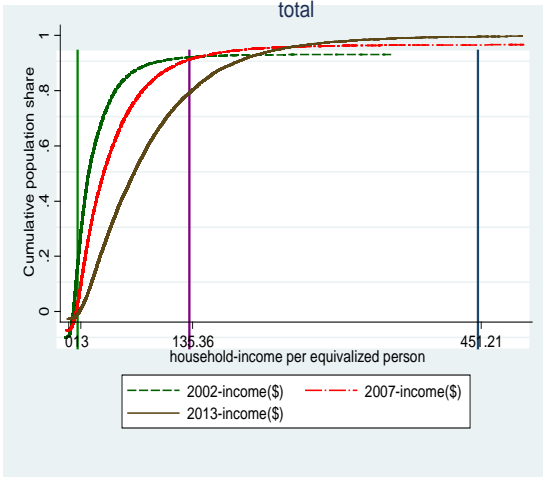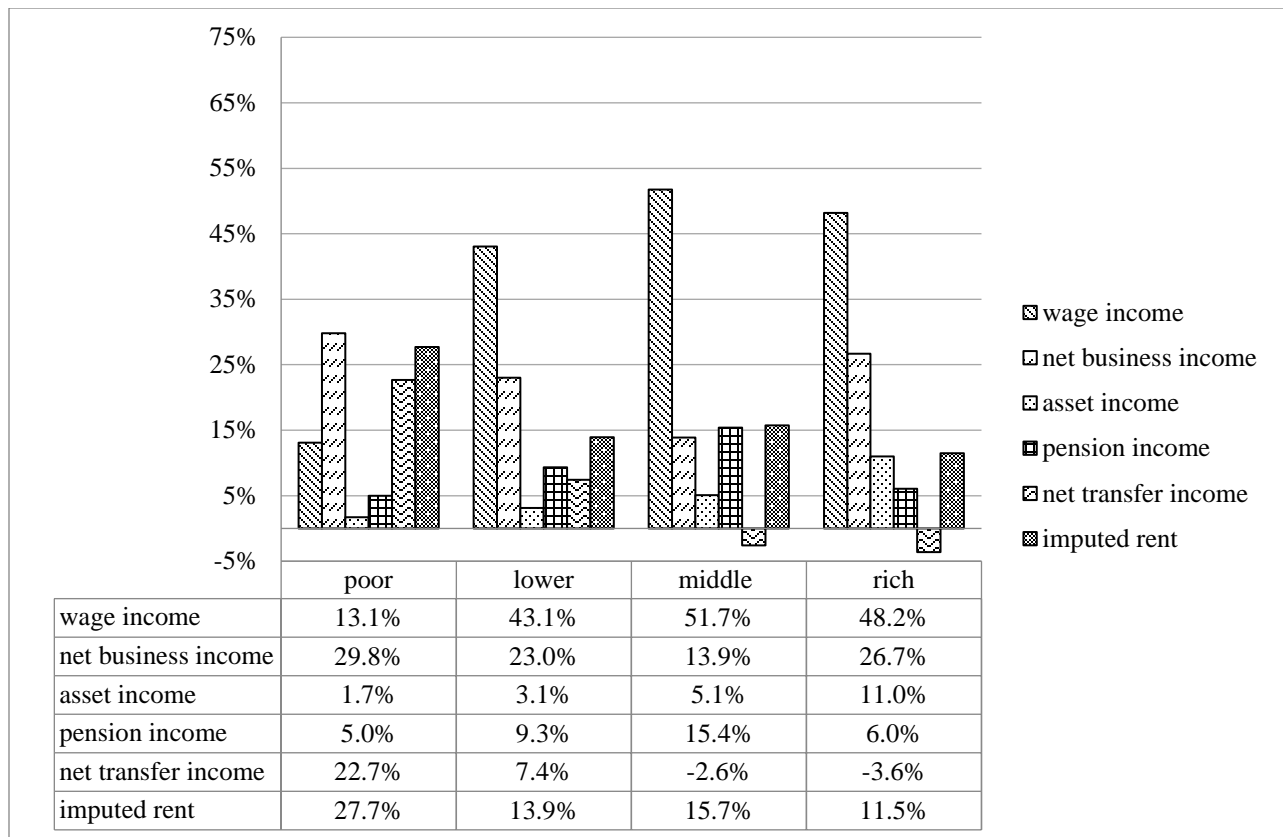

Notes: Income in all years is expressed in 2013 constant prices. Authors' calculations using the CHIP data, with weights.

**Figure 3.3.** *Savings rate by ventile in the income distribution, 2013*
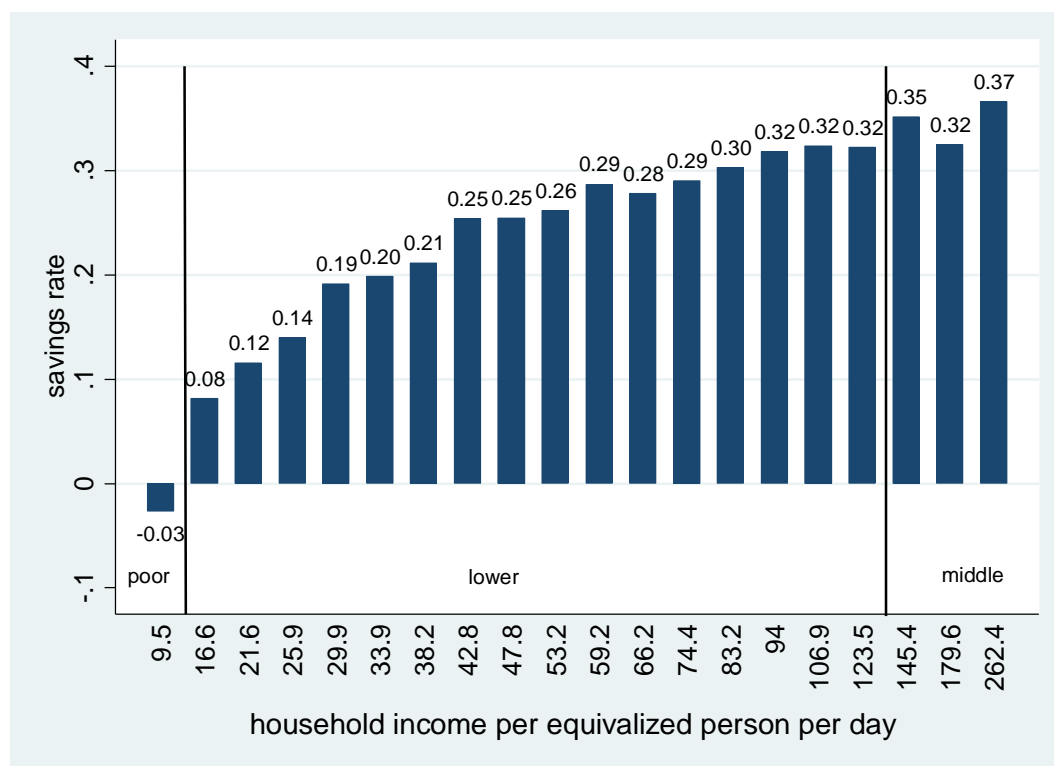
Notes: Each bar gives the median savings rate for each ventile (5 percentile group) in the income distribution. Labels on the horizontal axis are the median income of each ventile (in RMB). The vertical lines indicate the income cutoffs between the classes. No cutoff is shown between the middle and upper classes because the upper class constitutes only 0.47 percent of the population and thus is a small component of the top ventile. Authors' calculations using the CHIP data, with weights.

Figure 3.4. *The composition of income by class, 2013*

	poor	lower	middle	rich
wage income	13.1%	43.1%	51.7%	48.2%
net business income	29.8%	23.0%	13.9%	26.7%
asset income	1.7%	3.1%	5.1%	11.0%
pension income	5.0%	9.3%	15.4%	6.0%
net transfer income	22.7%	7.4%	-2.6%	-3.6%
imputed rent	27.7%	13.9%	15.7%	11.5%

Note: Authors' calculations using the CHIP data, with weights.

Figure 3.5. *The size of the middle class by province plotted against provincial GDP per capita, household disposable income per capita, and the rate of urbanization, 2013 (%)*
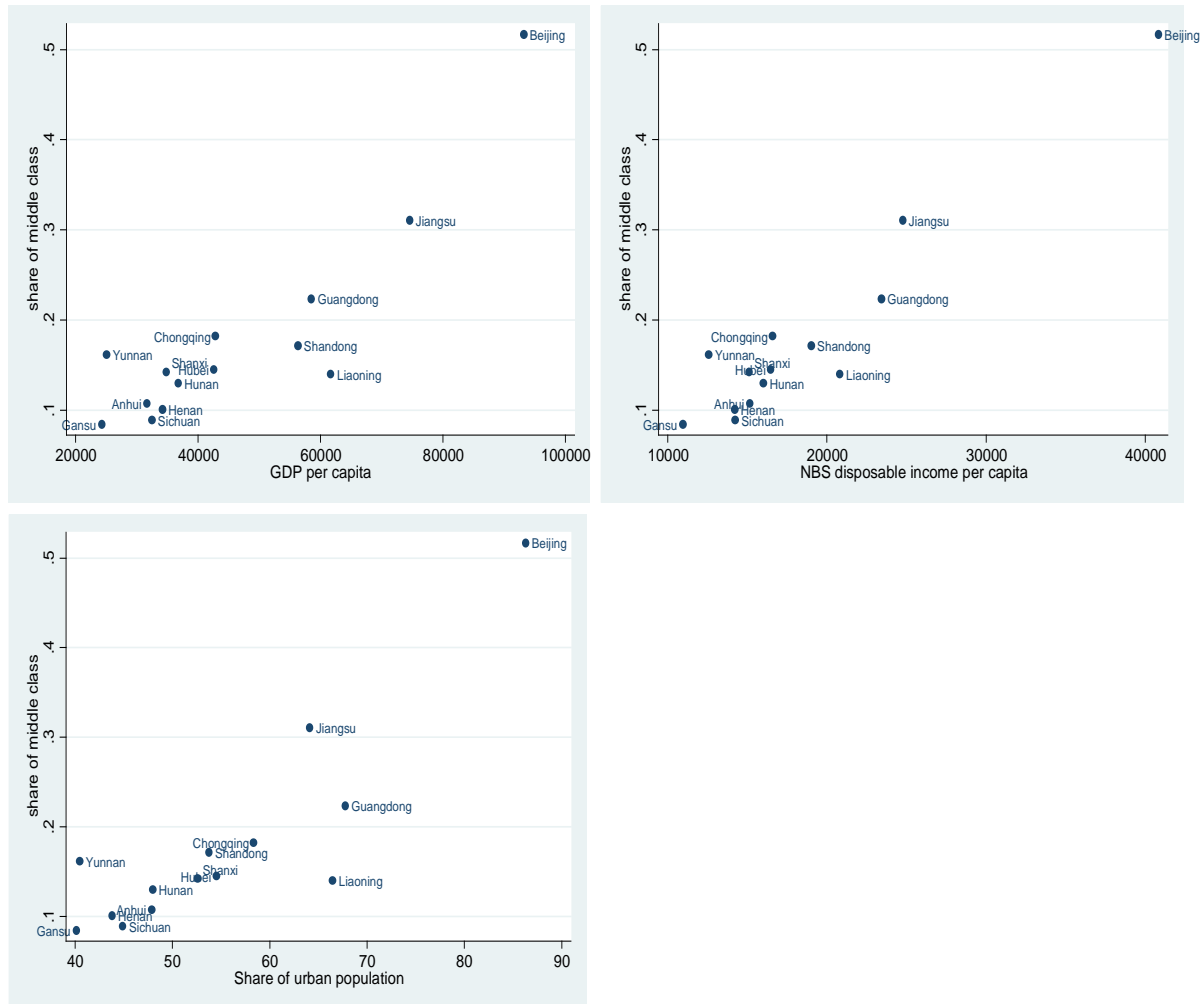
Notes: Provincial GDP per capita, NBS disposable income per capita, and the share of the urban population are based on statistics published by the NBS. Provincial shares of the middle class are calculated by the authors using the CHIP data, with weights.