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## The Rise of the Middle Class in the People's Republic of China

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## ADB Economics Working Paper Series



### The Rise of the Middle Class in the People's Republic of China

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Zhang Yuan, Guanghua Wan, and Niny Khor  
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# **The Rise of the Middle Class in the People's Republic of China**

**Zhang Yuan, Guanghua Wan, and Niny Khor**

February 2011

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## **Abstract**

Using \$2–\$20 (purchasing power parity) per capita daily income as the definition of middle class, majority of households in the People's Republic of China (PRC) have become middle class by 2007, which is especially impressive given that around 40% of households were still considered poor in 1991. The rise of the middle class is evident for both urban and rural areas and across East, Central, and West PRC. The drivers of this trend include market development, industrialization, and privatization. As industrialization and urbanization continue in the PRC, the growth of the middle class will intensify, and could hold the key to altering the PRC's growth pattern from investment- and export-led to consumption-led.





# I. Introduction

The economic growth rate of the People's Republic of China (PRC) over the past 3 decades has been impressive. Even more remarkable is the fact that the PRC has achieved astonishing poverty reduction since economic reform began in late 1978. In addition, as a consequence of rapid economic growth, we see the rapid emergence of a burgeoning middle class, and more recently, a super rich subpopulation whose wealth rivals that of their counterparts in developed countries.

Following the recent global crisis, calls for global rebalancing have refocused the spotlight on the middle class of Asia as the next engine of global growth. In this context, due to its sheer size and the rapid speed of its expansion, the middle class of the PRC plays especially an important role. However, there remains a wide gap in our knowledge of the middle class in the PRC. While much has been written on the PRC's growth and poverty reduction, the economic literature on the middle class in the PRC is still rather scarce. This scarcity could be partly attributable to shortage and inaccessibility of household survey data, compounded by the sensitivity of this terminology in the PRC.<sup>1</sup>

Nevertheless, as pointed out by Wan (2007), the middle class in the PRC is crucial for the stability of the country, and its dynamics bear important implications for political reforms. In addition, the size of the middle class affects economic growth as these middle class households typically possess high levels of human capital, are more entrepreneurial, and are more supportive of economic and political reforms (Adelman and Morries 1967, Geithman 1974, Thurow 1984, Murphy et al. 1989, Acemoglu and Zilibotti 1997, Landes 1998, Barro 1999). More importantly, the middle class is the dominant driving force of domestic consumption. Expanding domestic consumption is the PRC's chosen strategy after the global crisis, as the country strives to move from export-led to consumption-led growth. From this perspective, analyzing the middle class in the PRC is timely and important for rebalancing both the global and the PRC's economies. Finally, the rise of the middle class affects the probability of the PRC falling into the middle-income trap, which in turn is intrinsically linked with the prospects of global growth.

To date, there exist few studies on the middle class in the PRC. Kharas and Gertz (2010) attempted to depict future scenarios of the world's middle class in 2020 and 2030. The PRC's middle class received special mention but was not the focus. Similarly, the objectives of Ravallion (2009) are to measure the developing world's middle class and

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<sup>1</sup> Although not explicitly prohibited by the government, the term "middle class" is seldom seen in public media or other formal outlets. Instead, "middle-income group" (*zhongdeng shouruzhu*) or "middle-income layer" (*zhongcan jieceng*) is often used.

to examine its relationship with growth. One of his findings is that 61.8% of the PRC's population belonged to the middle class in 2005. Tomba (2004) tried to explain why middle income in Beijing grew, without any empirical measurement. Within the PRC, sociologists rather than economists have been leading studies on the middle class. They include Lu (2001), Li (2003), Zhou (2005), Yan (2006), and Li and Zhang (2008). Apart from the sociological perspective, none of these studies provided comprehensive profiles of the middle class.

This paper gives a detailed discussion of the middle class in the PRC, and to a slightly lesser extent, on poverty. The following section provides a brief discussion on data and measurement issues, including alternative definitions of the middle class. This is followed by profiles of the middle class and poverty in Section III, including their geographical breakdowns and composition characteristics. Section IV focuses on determinants and drivers of middle class and poverty, including policy variables. The role of the middle class in the PRC's development process is explored in Section V. Finally, Section VI offers summary and concluding remarks.

## **II. Data and Measurement Issues**

This paper relies on three main data sources. Firstly, most macroeconomic data are obtained from various publications of the National Bureau of Statistics (NBS). Secondly, the well-cited Chinese Household Income Project Survey (CHIPS), a subset of the nationwide household surveys conducted annually by the NBS, offers observations at the household level for 1988, 1995, and 2002. Conducted by the Chinese Academy of Social Sciences, CHIPS covers about 10,000 rural and urban households in more than 10 provinces in the PRC. Information collected include household characteristics, incomes, expenditures, job status, and entrepreneurial activities. A subset of the unreleased 2007 data is kindly provided by Professor Li Shi of Beijing Normal University, and will be used for the tabulation of the income groupings, but not for further in-depth analysis.

Thirdly, another set of unit record data comes from the Ministry of Agriculture and University of Adelaide's Chinese Economies Research Centre (CERC/MoA). The data cover 5 years: 1993–1995 and 1999–2000 for four provinces: Jiling, Shandong, Jiangxi and Sichuan. Only rural households were included. Four to five representative counties are selected from each province according to development status, location, and other characteristics. One town from each county is randomly selected, from which five villages are randomly selected. Within each village, 10 households are randomly chosen for interviews. Thus, the data cover 800 households, 200 from each province. The data contain unit records on inputs, outputs, sales, consumption, land use, and agricultural prices. Coverage and sample sizes of these two survey data are tabulated in Table 1.

**Table 1: Coverage of Household Survey Data**

		CHIPS				CERC/MoA
		1988	1995	2002	2007	1993–1995, 1999–2000
Rural Sample	Provinces	28	19	22	16	4
	Households	10,260	7,998	9,200	13,000	800
	Individuals	51,352	34,739	37,969	—	
Urban Sample	Provinces	10	11	12	16	
	Households	9,009	6,893	6,835	10,000	
	Individuals	31,827	21,698	27,818	—	

— means data not available.

CHIPS = Chinese Household Income Project Survey, CERC = Chinese Economies Research Centre, MoA = Ministry of Agriculture.

Source: Authors' compilation.

Given its gradual approach to reforms, its territory and population sizes, and very uneven development, serious and significant market fragmentations exist both across provinces and between urban and rural areas. Thus, it is important to consider differences in the price levels across regions and between rural and urban areas. Also, in order to compare household income across years, it is necessary to deflate household income with the consumer price index (CPI), using separate urban and rural CPIs with the base year of 2005.

## A. Defining the Middle Class

Thresholds for measuring the middle class are less well defined. Unlike poverty, for which thresholds like \$1.25/day are widely used, there exists no international or official definition of middle class. According to National Bureau of Statistics of China (2009), the middle income group contains those whose income falls between the third and fourth quintile. This corresponds to a disposable income range of 10,195.56–19,254.08 yuan in 2008 for urban residents. In purchasing power parity (PPP) terms, the range is equivalent to \$2,500–\$4,700 and is narrower than the \$3,470–\$8,000 used by Milanovic and Yitzhaki (2002); or the \$4,000–\$17,000 used by the World Bank (2006). Obviously, when quintile information is used to define the middle class, the boundaries of the middle class are relative to the underlying income distribution. This is the method adopted by Easterly (2001), who defined middle class as those between the second and fourth quintile in terms of consumption expenditure; or by Birdsall et al. (2000), who used 0.75 and 1.25 times median per capita income as the range of middle class incomes.

However, to facilitate cross-country comparisons of the middle class, we use an absolute definition of middle class. This requires defining a set of numerical values of income or expenditure as cutoff points. Again, opinions vary as to what the appropriate bands should be. Kharas (2010) defined the middle class as those with per capita daily expenditures between \$10 and \$100. Banerjee and Duflo (2008) classified middle class

alternatively as those with daily per capita expenditures between \$2 and \$4, or between \$6 and \$10.

The thresholds that we use follow those chosen for developing Asia (ADB 2010). According to the last column of Table 2, a household or individual must fall into one of three mutually exclusive income classes: lower class, middle class, or upper class. Here the middle class encompasses those whose daily income per capita falls between PPP \$2 and PPP \$20 per day. It contains three subclasses: lower middle class, middle middle class, and upper middle class. The actual cutoff points (in 2005 yuan) for these thresholds, calculated using the PPPs derived from PovcalNet data (World Bank 2010a) are presented in Table 3.

**Table 2: Cutoff Points for Measuring Income Classes**

Per Capita Daily Income (2005 PPP)	Economic Group	Income Class
Less than \$1.25	Poor	Lower class
\$1.25 to less than \$2	Near poor or vulnerable	
\$2–\$4	Lower middle class	Middle class
\$4–\$10	Middle middle class	
\$10–\$20	Upper middle class	
\$20–\$100	Upper class	Upper class
\$100 and above	Super rich class	

PPP = purchasing power parity.

Source: ADB (2010).

**Table 3: Annual Real Income Cutoff Points for Measuring Middle Class in the PRC (in 2005 yuan)**

Daily Income Band (US\$ PPP)	Implied Annual Income Limit (Rural)	Implied Annual Income Limit (Urban)
[\$0, \$1.25)	1345.94	1834.13
[\$1.25, \$2)	2153.50	2934.60
[\$2, \$4)	4307.00	5869.20
[\$4, \$10)	10767.50	14673.00
[\$10, \$20)	21535.00	29346.00
[\$20, \$100)	107675.00	146730.00
[\$100, +∞)	—	—

— means data not available.

PPP = purchasing power parity.

Source: Authors' calculation based on PPPs derived from PovcalNet data (World Bank 2010a), and consumer price indices from *China Statistical Yearbooks* (National Bureau of Statistics of China, various years).

## B. Adjusting for Spatial Price Differences for Intra-PRC Comparison

To account for price differences across regions, a spatial price index is constructed using long time series of provincial-level CPIs based in the prereform period (Wan 2001). Prices in prereform PRC were strictly controlled and almost uniform across provinces. As a

first step, we could observe the trajectory of diverging prices across time by comparing regional CPIs compiled with 1977 as the base year (1977 = 100). That is, CPIs in a later year (for example 2005) can reflect regional differences in price levels in 2005 given that prices in 1977 were almost uniform throughout the PRC. As shown in the Table 4, prices in 2005 were highest in Beijing (CPI<sup>1977</sup> = 651.7), with Henan registering lowest levels of prices (CPI<sup>1977</sup> = 380.1). Next, we construct an index reflecting spatial price differences in 2005 by dividing these provincial CPIs in 2005 by their median value, which is 478.35. This index (one value for each province) is presented in Table 4 (column 3) below and will be used to adjust income and expenditure data to compensate for differences in purchasing power across regions.<sup>2</sup>

**Table 4: Provincial CPIs and Spatial Price Index**

	2005 CPIs (1977 = 100)	Spatial Price Index
Beijing	651.7	1.3624
Tianjin	473.4	0.9897
Hebei	414.2	0.8659
Shanxi	472.9	0.9886
Inner Mongolia Autonomous Region	474.8	0.9926
Liaoning	466.5	0.9752
Jilin	474.6	0.9922
Heilongjiang	498.2	1.0415
Shanghai	570.9	1.1935
Jiangsu	471.3	0.9853
Zhejiang	463.1	0.9681
Anhui	455.4	0.9520
Fujian	481.5	1.0066
Jiangxi	472.4	0.9876
Shandong	440.4	0.9207
Henan	380.1	0.7946
Hubei	506.2	1.0582
Hunan	607.8	1.2706
Guangdong	545.6	1.1406
Guangxi Zhuang Autonomous Region	522.6	1.0925
Hainan	567.2	1.1857
Chongqing	618.7	1.2934
Sichuan	516.8	1.0804
Guizhou	489.9	1.0241
Yunnan	481.0	1.0055
Shaanxi	475.7	0.9945
Gansu	466.8	0.9759
Qinghai	519.3	1.0856
Ningxia Hui Autonomous Region	490.5	1.0254
Xinjiang Uighur Autonomous Region	474.2	0.9913
Median Value	478.35	

CPI = consumer price index.

Source: National Bureau of Statistics of China (various years).

<sup>2</sup> An alternative is to use regional price indices constructed by Howes and Lanjouw (1991) or Brandt and Holz (2006). However, these indices come with various assumptions that may not be valid. Therefore, there are no strong justifications for preferring these indices over the use of CPIs based in the prereform period.

## C. Adjusting Prices for International Comparison

To compare the PRC middle class to that in other countries, we need to convert international poverty lines and other cutoff points for income classes into the local currency. This is not as straightforward as it may seem. To begin with, when we measure poverty rate by the commonly used \$1.25 per day threshold, PPP rates reported by the World Development Indicators (WDI) of the World Bank (2010b)<sup>3</sup> typically result in a rural poverty rate way beyond what is commonly perceived as the actual poverty rates in the rural PRC. Thus, we use PPPs derived from PovcalNet data. These are 4.02 for urban areas and 2.95 for rural areas in 2005, compared to the official PPP rates of 4.09. We will discuss the implications of this choice further in Table 6 below.

## D. Poverty Measurements

We measure poverty by the headcount ratio, using both official and international poverty lines. The former is used by the PRC government to measure rural poverty.<sup>4</sup> The lines are roughly 50% of the international counterparts, as seen in Table 5, leading to considerable underestimation of poverty in the PRC. It is useful to mention that in 2000 the PRC government introduced the category of low-income population. This came with the concept of the low-income line, which was higher than the corresponding official poverty line. More importantly, the government merged the low-income line with the official poverty line in 2008. Since then, any individual or household with a per capita income below the low-income line is classified as poor. As Table 5 demonstrates, the new official poverty line is closer to but still lower than the international poverty line of PPP \$1.25/day.

<sup>3</sup> Based on the findings of the 2005 International Comparison Program.

<sup>4</sup> No official urban poverty line existed until 2008 when the low-income threshold was merged with the poverty line.

**Table 5: Poverty Lines Used (yuan)**

Year	Official Poverty Line	\$1.25 Poverty Line	Low-Income Line
1978	100		
1984	200	364.61	
1985	206	392.33	
1986	213	416.26	
1987	227	442.07	
1988	236	519.43	
1989	259	619.68	
1990	300	647.56	
1991	304	662.46	
1992	317	693.59	
1993	350	788.61	
1994	440	973.15	
1995	530	1,143.45	
1996	580	1,233.78	
1997	640	1,264.63	
1998	635	1,251.98	
1999	625	1,233.20	
2000	625	1,231.97	865
2001	630	1,241.82	872
2002	627	1,236.86	869
2003	637	1,256.65	882
2004	668	1,316.96	924
2005	683	1,345.94	944
2006	693	1,366.13	958
2007	730	1,439.90	1067
2008	778	1,533.49	1196

Sources: National Bureau of Statistics of China (various years) and authors' calculations.

### III. Defining the Middle Class in the PRC

In this section, we describe the distribution of the middle class in the PRC and the pattern of its growth over time. The growth of the PRC middle class is crucial for rebalancing the global and PRC economies. Due to its sheer size, the PRC is home to majority of the middle class population in developing countries. Further expansion of the PRC middle class and their incomes means a significant increase in the share of PRC consumption in the global total.<sup>5</sup>

<sup>5</sup> McKinsey Global Institute (2006) estimates that by 2025, the PRC consumer market will be the third largest in the world, approximating the size of Japan's in real terms.



## A. Profile of the Middle Class in the PRC

Table 6 presents the profile of the middle class in the PRC. Three observations are immediately evident from the table. First, even as recently as 1991, the majority of the PRC households were still in the poor and near-poor income groups. Second, growth of per capita real income has been exceedingly strong from 1991 to 2002, resulting in a tremendously rapid shift of households into higher income brackets. Meanwhile, poverty in terms of \$1.25 per day dropped from 40.77% in 1991 to around 12% in 2002, and below 2% by 2007. In addition, the percentage of vulnerable households with per capita daily incomes between \$1.25 and \$2 also declined. Third, the sharpest growth occurred in the \$4–\$10 income bracket. In 1991, only 10% of all households were found in this income bracket. This percentage rose to 33% 10 years later, and further to over 47% in 2007 (see Figure 1). Conversely, the percentage of households with per capita daily incomes between \$2 and \$4 remained roughly around one third of all households from 1991 to 2002 and decreased to about a quarter in 2007.

This phenomenal shift into higher income groups is experienced by both urban and rural households. In urban areas, less than 10% of all households remained in the bottom two income brackets by 2002, and the majority of households are found in the \$4–\$10 daily per capita income bracket.<sup>6</sup> Despite lower income levels, rural households also experienced strong growth in incomes. Consequently, the proportion of poor rural households dropped substantially, from 67% in 1991 to 22% in 2002. By 2002, the largest income group consisted of those with \$2 to \$4 daily per capita income, constituting more than a third of all rural households. More impressively, by 2007, the number of households earning \$4–\$10 became the dominant group, accounting for almost half of all rural households. This underscores the tremendous income growth even for the rural PRC households.

What does this imply for the overall size of the middle class in the PRC? In Table 7 we present a summary of the percentage of households with per capita daily incomes between \$2 to \$20 (2005 PPP). Three important findings emerge from this table. First, a sizeable middle class already exists in the rural areas. It amounted to 14.7% of rural households in 1991 and reached 51.8% in 2002, and almost 87.4% in 2007. Second, as expected, the percentage share of the middle class in urban areas is larger than that in rural areas. As early as 1995, almost 84% of urban households can be classified as middle class while less than 30% of rural households fell into this category. Third, the size of the middle class in the PRC expanded at a historically unprecedented rate of 6% per annum, growing from 39.3% in 1988, to 55.6% in 1995, 71.3% in 2002, and almost 90% in 2007. This translates to a population of over 1 billion. What is more interesting is that in 2007 there were almost equal numbers of middle class residents in rural and urban areas of the PRC. Such a finding is not surprising because different CPIs and PPPs are used for the rural and urban areas, which lead to a higher percentage of households

<sup>6</sup> Perhaps more significantly, this meant that less than 2% of all urban households were poor by 2002.

classified as middle class in the rural areas than otherwise. Also, the population base in rural areas is much larger. According to latest statistics, the rural population accounts for 60.91% of the PRC's total in 2002 although this percentage has decreased to 54.32% in 2008 due to urbanization.

**Table 6: Distribution of Income Classes in the PRC (percent)**

Per Capita Daily Income (2005 PPP)	1991	1995	2002	2007
<b>Whole PRC</b>				
Less than \$1.25	40.77	23.89	11.85	1.65
\$1.25 to less than \$2	18.83	20.53	16.48	5.11
\$2–\$4	29.39	37.66	34.04	23.37
\$4–\$6	7.76	12.43	18.71	21.53
\$6–\$10	2.83	4.76	13.88	25.51
\$10–\$20	0.37	0.7	4.66	18.7
\$20 and above	0.04	0.03	0.37	4.13
<b>Urban</b>				
Less than \$1.25	10.07	3.03	1.87	0.14
\$1.25 to less than \$2	19.84	13.43	5.39	1.02
\$2–\$4	50.06	54.94	30.77	9.35
\$4–\$6	14.03	20.5	28.78	16.11
\$6–\$10	5.27	7.11	24.71	33.03
\$10–\$20	0.64	0.94	8.01	32.82
\$20 and above	0.09	0.05	0.48	7.54
<b>Rural</b>				
Less than \$1.25	67.36	44.57	21.71	2.81
\$1.25 to less than \$2	17.96	27.75	26.33	8.25
\$2–\$4	11.48	22.52	36.92	34.10
\$4–\$6	2.34	3.48	9.92	25.69
\$6–\$10	0.73	1.4	3.96	19.75
\$10–\$20	0.14	0.29	0.99	7.88
\$20 and above	0	0	0.16	1.53

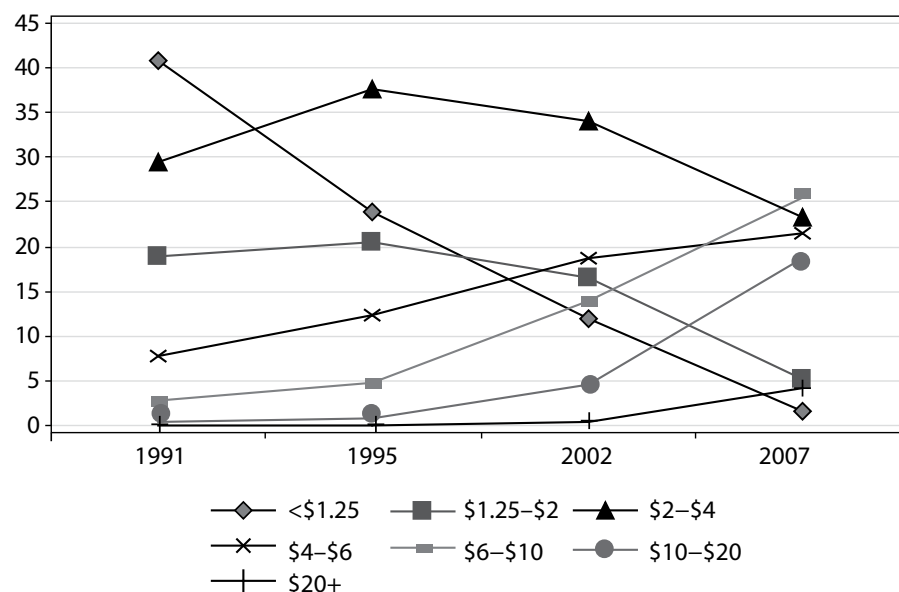
PPP = purchasing power parity.

Source: Authors' calculation based on data from the Chinese Household Income Project Survey.

**Table 7: Summary of Middle Class (\$2–\$20 daily per capita income)**

	1991	1995	2002	2007
Rural	14.7	27.7	51.8	87.4
Urban	70.0	83.5	92.3	91.3
Whole	40.4	55.6	71.3	89.1

Source: Authors' calculation based on data from the Chinese Household Income Project Survey.

**Figure 1: Distribution of Households in the PRC by Income Bracket, 1991–2007 (percent)**

Source: Authors' estimates.

It is important to point out that in 2002, a majority of the middle class in the rural and urban PRC fell into the category of lower middle class who can slip out of the middle class rank during bad times. However, by 2007, the majority of the urban households were well above the vulnerability income group.

Thus, based on an absolute definition of middle class as those households with per capita daily income between \$2 and \$20, there were over 1 billion people belonging to the middle class in the PRC by 2007. What is more interesting is that in 2007 there were almost equal numbers of middle class residents in the rural and urban areas of the PRC.

A comparison of the size of the middle class in the PRC with those in other countries makes little sense without a standardized definition across countries. Nonetheless, these definitions are predicated on certain assumptions, and altering them might materially affect the measurement of the size of the middle class. In the next section, we explore the implications of using various definitions of the middle class for the PRC.

## B. Robustness of Middle Class Definitions

How sensitive is the distribution of the PRC's middle class to our definitions? Obviously, the distribution and growth of the middle class would be sensitive to the adjustments made to price levels across provinces and PPPs. In Table 8a, we compare the distribution of households by three different combinations of procedures. In general, the distribution

looks very robust. Applying the spatial price index (SPI) or using a national CPI rather than separate urban and rural CPIs do not alter the distribution much. However, the WDI PPP, while resulting in similar distributions for the higher income groups, produces a much higher percentage for poor households. This is because the WDI PPP (at 4.09<sup>7</sup>) is significantly higher than the PPP of 2.95 that was estimated for the rural PRC using PovcalNet data, affecting the classifications of households with lower incomes. However, the salient point here is that the trend of rapidly growing middle class holds across all definitions.

**Table 8a: Robustness Checks for Middle Class Definitions for 2002**

Per Capita Daily Income (2005 PPP)	With PPP Derived from PovcalNet Data and SPI (1)		With WDI PPP and SPI (2)		With WDI PPP, SPI, and Consumption Data (3)	
	2002	2007	2002	2007	2002	2007
Less than \$1.25	11.85	1.65	21.36	4.32	35.97	7.17
\$1.25 to less than \$2	16.48	5.11	18.62	9.67	17.97	14.37
\$2–\$4	34.04	23.37	28.53	28.21	26.05	28.93
\$4–\$6	18.71	21.53	15.1	17.8	12	17.11
\$6–\$10	13.88	25.51	11.99	20.39	6.17	18.45
\$10–\$20	4.66	18.7	4.09	15.78	1.57	10.87
\$20 and above	0.37	4.13	0.31	3.83	0.26	3.09
Total Middle Class (\$2–\$20)	71.3	89.1	59.7	82.2	45.8	75.4

PPP = purchasing power parity, SPI = spatial price index, WDI = World Development Indicators.

Source: Authors' estimates.

Should we include the \$2–\$4 bracket as middle class? For 2007, the median household income per capita is approximately \$4.78 per day (Table 8b), thus that the upper bound of \$4 ought to be classified middle class would not be a controversial statement. The lower bound of \$2, however, could be debatable. The minimum living standards in 30 cities in the PRC in 2007 averaged to \$1.97 per day (see Appendix Table 3), and it is reasonable to argue that the boundaries of the middle class ought to be higher than the minimum living standards. However, given that these are urban minimum living standards that are conceivably higher than the corresponding living standards in rural areas, it is also plausible that \$2 could still be a suitable lower bound for the rural middle class.

As an alternative to absolute definitions of the middle class, a common procedure is to define middle class relatively, based on the median household income. Following a popular choice of bounds in the literature, we use 75% of the median household income as the lower bound and 125% of the median as the upper bound. This translates to approximately a middle class bracket of \$3.58–\$5.97 per capita daily income, which

<sup>7</sup> According to Chen and Ravallion (2008) this PPP for the PRC was computed based on International Comparison Program survey results for only 11 cities and some surrounding rural areas, and as such may not be representative of the rural PRC.

implies that 22.3% of all households belong to the middle class, with roughly 38% below and above this middle group.

**Table 8b: Distribution of Household Income Per Capita, 2007**

	Annual (2005 yuan)	Daily \$ PPP	Annual \$ PPP
10th percentile	2578.2	1.73	630.37
25th percentile	4073.9	2.73	996.06
50th percentile	7131.2	4.78	1,743.57
75th percentile	12,896.1	8.64	3,153.08
90th percentile	20534	13.75	5,020.54
99th percentile	46,750.9	31.32	11,430.54

PPP = purchasing power parity.

Source: Authors' estimates.

Nonetheless, were we to narrow our definition of middle class to just those with per capita daily income of \$4–\$20, the rate of growth of the middle class remains strong over the years and would constitute the majority of households in the PRC.

Another potential way to define middle class is using durable goods owned by the households. Sociologists often consider other variables such as asset stocks in measuring and analyzing middle class. Since data on the types of durable goods differ across urban and rural households, we present first the results for that of urban households. Observations on eight types of durable goods are available, which can be divided into two groups: luxury goods (car, piano, video camera, and personal computer) and ordinary goods (washing machine, refrigerator, color television sets, and cell phones). According to Table 9, ownership rates of luxury goods are far lower than ordinary goods, with almost universal ownership of washing machine, refrigerator, and color television sets in the urban PRC.

**Table 9: Durable Goods Owned by Urban Households, 2002**

	Durable Goods	Mean	s.d.	min.	max.
Luxury Consumption Goods	Car	0.0116	0.1096	0	2
	Piano	0.0170	0.1292	0	1
	Video camera	0.0225	0.1484	0	1
	Personal computer	0.2372	0.4436	0	3
Necessary Consumption Goods	Washing machine	0.9481	0.3388	0	1
	Refrigerator	0.8775	0.3842	0	2
	Color television set	1.2796	0.5483	0	5
	Cellular phone	0.6825	0.8079	0	4

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey urban sample.

Relying on the 2002 urban data on ownership of durable goods, a household is considered to belong to the middle class if it possesses at least one luxury good. Those who own at most one ordinary good are categorized as poor. Those who own 2–3 ordinary durables are categorized as near poor or vulnerable, while those with 4–10 durable necessities are lower middle class. Households with one luxury good are considered middle middle class. Ownership of 2–3 luxury goods puts households in the upper middle class, and those who own all four luxury goods are the super rich. The measurement results are surprisingly similar to the distribution of classes by the income variable: a very small proportion of rich or poor, with the majority of households belonging to the middle class (58.88%). The main difference between the income-based and the durable goods-based definitions is that households seem less affluent in terms of stocks of durable goods than in terms of income. In particular, the size of the near-poor or vulnerable group increased from about 5% to close to 36% (Table 10).

**Table 10: Defining Middle Class in the Urban PRC by Durable Goods Owned**

Luxury Goods	Necessary Goods	Economic Group	Share (%)	Middle Class (%)
0	0	Poor	1.65	
0	1		2.65	
0	2	Near poor or vulnerable	9.09	
0	3		27.21	
0	4	Lower middle class	20.30	58.88
0	5–10		14.10	
1		Middle middle class	21.83	
2		Upper middle class	2.65	
3		Rich/Upper middle class	0.40	
4		Super rich	0.12	

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey urban sample.

### C. Income Mobility of the Middle Class

If we can follow the same households over time, it is possible to explore trends in income mobility. Table 11 shows the income mobility matrices for the PRC in the early and late 1990s. Two important takeaways emerge from the table. First, considerable mobility existed from one period to the next. This is consistent with Khor and Pencavel (2006 and 2010) who found higher mobility in the PRC than in many countries, especially in the early 1990s. Second, the mobility decreased in the late 1990s. More importantly, stratification rose in the upper income brackets, as those on the top end of the income distribution tend to remain there. More specifically, 47.9% of households in the \$10–\$20 bracket in 1991 moved down to the next lower income bracket in 1995, while 36.6% remained where they were. By 2002, however, the percentage remaining in the \$10–\$20 bracket rose to 59.3%, while 17.1% moved to the higher income bracket. In other words, these households are more upwardly mobile between 1998 and 2002.

Of greater interest to the policy maker is the downward mobility of the vulnerable households. A household in the vulnerable bracket in 1991 (\$1.25–\$2 group) would remain in that bracket with a 34.1% probability, and a 14.8% probability of stepping into poverty. In 1998, these probabilities became 34.3% and 7.9%, respectively. Thus, downward mobility for the lower income brackets seems to have attenuated. Nonetheless, it is crucial for the PRC to institute measures against vulnerability and nurture the growth of the middle middle class and the upper middle class in order to maintain stability.

**Table 11: Income Mobility Matrix for Households in the PRC**

		1995						
1991		I	II	III	IV	V	VI	VII
Less than \$1.25	I	0.519	0.254	0.178	0.047	0.001	0.000	0.000
\$1.25–\$2	II	0.148	0.341	0.437	0.072	0.001	0.000	0.000
\$2–\$4	III	0.017	0.110	0.606	0.260	0.006	0.001	0.000
\$4–\$10	IV	0.003	0.008	0.257	0.682	0.046	0.004	0.000
\$10–\$20	V	0.014	0.070	0.070	0.479	0.366	0.000	0.000
\$20–\$100	VI	0.000	0.200	0.000	0.400	0.200	0.200	0.000
\$100++	VII	0.000	0.000	0.500	0.500	0.000	0.000	0.000

		2002						
1998		I	II	III	IV	V	VI	VII
Less than \$1.25	I	0.462	0.330	0.181	0.025	0.002	0.000	0.000
\$1.25–\$2	II	0.079	0.343	0.500	0.075	0.003	0.000	0.000
\$2–\$4	III	0.019	0.061	0.500	0.404	0.014	0.002	0.000
\$4–\$10	IV	0.006	0.008	0.064	0.743	0.171	0.008	0.000
\$10–\$20	V	0.000	0.007	0.032	0.196	0.593	0.171	0.000
\$20–\$100	VI	0.000	0.028	0.028	0.361	0.222	0.361	0.000
\$100++	VII	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Source: Authors' estimates.

The middle class spatial distribution, segregated into rural and urban areas, is shown in Table 12. For the rural PRC, the results indicate that the sizes for all subgroups of the middle class increased over time. Further, the overall size of the middle class is larger in East PRC than in Central PRC, which in turn is larger than in West PRC. This order holds clearly in terms of the upper-middle class size, and to a lesser extent, the middle-middle class size but not the lower-middle class size. In 1995 and 2002, the percentage of the lower-middle class was higher in Central PRC than in the two other areas. For each and every area and within the middle class rank, the percentage displays a general increasing trend from the high income bracket to lower brackets.

Table 13 shows the geographical distribution of the middle class in the PRC. Generally speaking, the middle class is concentrated in the eastern region although the concentration has declined over time. The declining trend can be explained by the observation that the size of middle class in East PRC was already large and its marginal

increases are expected to be smaller than those in Central and West PRC. By 2002, the share of the middle class in East PRC is almost identical to those in Central PRC.

What about the characteristics of the middle class in the PRC? Table 14 indicates that for the urban PRC (i) household size becomes bigger as households get poorer while the ratio of urban *hukou* becomes smaller; and (ii) the education level is positively related with income classes, much as expected. For those in higher middle classes, the average schooling of the household head is over 12 years, while it is less than 10 years for the lower middle class. Another interesting observation is that more households are male-headed as one moves down the income ladder. The income–age relationship is however not clear. In passing, it is noted that average schooling of the family labor force is consistently higher than that of the household head, indicating growing human capital in the PRC over time.

**Table 12: Spatial Distribution of Different Income Classes in the PRC (percent)**

Rural PRC	1988			1995			2002		
	East	Central	West	East	Central	West	East	Central	West
[\$0, \$1.25)	12.35	24.37	19.83	8.79	16.45	16.37	3.41	6.49	9.21
[\$1.25, \$2)	10.58	12.06	4.87	6.61	15.00	6.20	6.36	10.13	8.15
[\$2, \$4)	8.57	3.96	1.37	10.24	11.34	2.24	12.68	17.43	7.76
[\$4, \$10)	1.53	0.34	0.07	5.26	0.90	0.18	10.18	5.12	1.46
[\$10, \$20)	0.10	0.01	0.00	0.36	0.05	0.00	1.13	0.15	0.04
[\$20, \$100)	0.00	0.00	0.00	0.01	0.00	0.00	0.25	0.02	0.01
[\$100, +∞)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Urban PRC</b>									
[\$0, \$1.25)	5.05	6.24	2.31	0.23	1.25	0.73	0.18	0.45	0.45
[\$1.25, \$2)	11.68	12.89	5.21	2.22	5.24	4.00	0.86	1.58	1.64
[\$2, \$4)	28.00	13.19	8.82	16.18	20.37	16.38	6.55	11.50	9.14
[\$4, \$10)	4.69	0.74	0.94	17.08	8.85	6.15	21.86	19.88	14.66
[\$10, \$20)	0.13	0.03	0.02	0.88	0.15	0.13	5.72	2.79	1.73
[\$20, \$100)	0.03	0.00	0.00	0.12	0.01	0.04	0.73	0.16	0.10
[\$100, +∞)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Whole PRC</b>									
[\$0, \$1.25)	8.94	15.90	11.64	4.83	9.42	9.13	2.03	3.92	5.48
[\$1.25, \$2)	11.10	12.45	5.03	4.58	10.48	5.18	4.02	6.49	5.38
[\$2, \$4)	17.65	8.28	4.85	12.99	15.52	8.78	10.07	14.90	8.35
[\$4, \$10)	3.01	0.53	0.48	10.73	4.58	2.94	15.16	11.41	7.08
[\$10, \$20)	0.11	0.02	0.01	0.60	0.09	0.06	3.09	1.28	0.76
[\$20, \$100)	0.00	0.00	0.00	0.05	0.01	0.02	0.46	0.08	0.05
[\$100, +∞)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: Authors' calculation based on data from the Chinese Household Income Project Survey.



**Table 13: Spatial Distribution of the Middle Class in the PRC (percent)**

	1988			1995			2002		
	East	Central	West	East	Central	West	East	Central	West
Rural PRC	63.95	27.02	9.03	51.88	40.20	7.92	42.88	40.57	16.55
Urban PRC	51.50	31.13	17.37	39.62	34.08	26.30	36.37	36.42	27.21
Whole PRC	59.46	25.26	15.27	43.20	35.87	20.93	39.28	38.27	22.45

Source: Authors' calculation based on data from the Chinese Household Income Project Survey.

**Table 14: Characteristics of Urban Households, 2002**

	Household Head			Whole Household				
	Ratio of Male-Headed Household	Age	Average Schooling	Schooling of Laborer	Nonlaborer Ratio	Party Member	Ratio of Urban Hukou	Household Size
[\$0, \$1.25)	0.8219	44.67	8.20	8.56	0.4445	0.1216	0.9023	3.59
[\$1.25, \$2)	0.7342	46.68	8.60	9.07	0.4530	0.2781	0.9580	3.38
[\$2, \$4)	0.7075	45.45	9.74	10.03	0.4425	0.4825	0.9708	3.24
[\$4, \$10)	0.6260	46.38	11.05	11.33	0.4543	0.7394	0.9867	2.96
[\$10, \$20)	0.5406	45.59	12.18	12.26	0.4591	0.9747	0.9923	2.62
[\$20, \$100)	0.5057	40.31	13.32	13.10	0.4389	1.0920	0.9943	2.60

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

Table 15 presents the characteristics of rural households in 2002. Most findings based on Table 14 are applicable to Table 15, as far as the income–household characteristics nexus is concerned. However, contrasting Tables 14 and 15 reveals significant rural–urban gaps in average schooling for both household head and labor force, and in the average number of party members. A very interesting finding is that rural households are dominated by male heads, while in urban rich households, there are almost equal numbers of households headed by males as by females. In addition, the rural population seems larger and younger and as indicated by its lower nonlaborer ratio.

**Table 15: Characteristics of Rural Households, 2002**

	Household Head			Whole Household			
	Ratio of Male-Headed Household	Age	Average Schooling	Schooling of Laborer	Nonlaborer Ratio	Party Member	Household Size
[\$0, \$1.25)	0.9704	46.08	6.61	6.41	0.3295	0.1576	4.62
[\$1.25, \$2)	0.9695	46.20	7.03	6.92	0.2949	0.1946	4.34
[\$2, \$4)	0.9592	46.17	7.47	7.28	0.2529	0.2360	4.01
[\$4, \$10)	0.9371	47.40	7.70	7.77	0.2094	0.3485	3.58
[\$10, \$20)	0.9344	48.11	8.06	8.02	0.1878	0.4836	3.39
[\$20, \$100)	0.9583	45.63	9.08	8.14	0.1576	0.6667	3.17

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

Table 16 documents the proportion of household laborers in different sectors or enterprises. This can only be done for urban households, as a dominant proportion of rural households are engaged in family farming. Based on Table 16, although not uniform across income classes, those in the middle class have higher percentage of jobs in manufacturing, even more in the services sector than those in lower income classes. In fact, the percentage is linearly and positively correlated with employment in service industry and SOEs. Income classes seem negatively correlated with employment in collective enterprises and to a less extent in small and medium enterprises (SMEs) (definitely so within middle classes). These do not mean development of SMEs and collective enterprises is not conducive to the expansion of middle classes. Rather, the results appeal for more support to these sectors so employees in these sectors can receive adequate income.

**Table 16: Proportion of Urban Household Members in Different Sectors/Enterprises (percent)**

	<b>Secondary Industry</b>	<b>Tertiary Industry</b>	<b>SMEs</b>	<b>SOEs</b>	<b>Collective Enterprises</b>
[\$0, \$1.25)	0.1399	0.1579	0.3333	0.0619	0.0206
[\$1.25, \$2)	0.1228	0.2280	0.3982	0.0898	0.0186
[\$2, \$4)	0.1906	0.2492	0.2904	0.1321	0.0205
[\$4, \$10)	0.1772	0.3349	0.2602	0.1869	0.0124
[\$10, \$20)	0.1454	0.4237	0.2496	0.2231	0.0064
[\$20, \$100)	0.2484	0.4902	0.2941	0.2484	0.0065

SMEs = small and medium enterprises, SOEs = state-owned enterprises.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

## IV. Who are the Rising Middle Class in the PRC?

This section is devoted to identifying determinants of the middle class in the PRC. As argued earlier in the paper, the focus will be on the urban PRC when discussing issues on the middle class, while focus will be on the rural PRC when discussing issues of poverty reduction. As far as analytical techniques are concerned, discrete (logit, probit, or bivariate) regression models will be specified and fitted to CHIPS data for 2002. Earlier data are not considered as they do not resemble the current situation as well as the 2002 data.

### A. Drivers of the Urban Middle Class

Although focus will be on the determinants of a household belonging to the middle class, information about the upper class and lower class are available and ought to be utilized. In such a case, with three different categories of income classes, it is appropriate to apply

bivariate probit models, which is more efficient than single equation logit or probit models. CHIPS 2002 data for the urban PRC are used for this purpose.

Table 17 provides definitions of variables for this modeling exercise (descriptive statistics of these variables can be found in Appendix Table 1). Table 18 presents estimation results of the bivariate probit models, together with single equation probit and logit models. It can be seen that most parameter estimates are robust to different specifications and estimation techniques. In what follows, discussions will be based on estimation results of the bivariate probit models.

**Table 17: Definitions of Middle Class Determinants**

Variable	Definition
MC	Dummy for middle class
UC	Dummy for upper class
Hhage	Age of household head
Hhsex	Sex of household head (1 = male; 0 = female)
Hhedu	Schooling years of household head
Hhpartymember	Number of communist party member
Depend_ratio	Ratio of nonlabor in household
Laboravedu	Average schooling years of labor
Insurance_ratio	Ratio of insurance expense to household annual income
Ind_2_ratio	Ratio of household members employed in the secondary industry
Ind_3_ratio	Ratio of household members employed in the tertiary industry
Hukou_ratio	Ratio of household members with urban <i>hukou</i>
SME_ratio	Ratio of household members employed in SMEs
SOE_ratio	Ratio of household members employed in SOEs
Collective_ratio	Ratio of household members employed in collective units
Other_ratio	Ratio of household members employed in other units
East	Dummy of East region
Middle	Dummy of Central region

SMEs = small and medium enterprises, SOEs = state-owned enterprises.

Source: Authors' definitions based on 2002 Chinese Household Income Project Survey.

The estimation results are consistent with earlier discussions. First, education levels of household head and household members exert positive impacts on the likelihood of it becoming middle class or upper class. This demonstrates the importance of human capital formation in this context. Second, membership in the communist party is positively correlated with the probability of being in the middle or upper class. This is not surprising as the membership can represent political capital in the PRC, which often brings about economic benefits. Third, as the proportion of the household labor force engaged in manufacturing or services sectors increases, the probability of its belonging to the middle classes and rich classes rises. This is closely related to the urban bias that has prevailed in the PRC for a long time. It is well known that profits in the primary sector is low and often negative (Wan and Chen 2001). Thus, the more a household is

involved in nonfarming production, the more likely it will join the middle or upper class. Fourth, the proportion of household members with insurance of any kind is positively but not significantly associated with the probability of joining the middle class, implying that better social protection or social safety nets might not help promote the middle class in the PRC. This seemingly counterintuitive result may be caused by the fact that in 2002, social protection in the PRC was still in its infancy. In fact, Wang (2007) finds that the impact of the urban minimum living standard guarantee program on poverty is rather limited. Fifth, employment in SOEs is positively correlated with the probability of being in middle and upper classes while employment in non-SOEs has the opposite effects. The result is consistent with the fact that SOEs in the PRC are usually large and many of them are monopolists with super profits and offer high salary. These include banking, insurance, telecommunications, and energy sectors. Until non-SOEs can compete with SOEs on all fronts, expansion of the private sector may not be conducive to the formation of middle and upper classes in the PRC. Finally, development of SMEs is not significantly associated with the probability of a household being in the middle class. This finding does not necessarily mean SMEs are not important for the growth of the middle class. In fact, discrimination on the capital market and lack of government support to SMEs undermine the competitiveness of SMEs. SMEs in the PRC are rather vulnerable and often in a disadvantaged position when it comes to access to credit and other government support. Thus, the potential positive impacts of SMEs on the middle class cannot be brought into full play until various discriminations favoring SOEs and large enterprises are removed.

Based on the above findings and earlier discussions, a driver of middle class expansion must be human capital formation. Also, the role of education in helping expansion of middle class is well recognized by sociologists (Levy and Michel 1983, Coleman and Rainwater 1978). It can be said that without continuous inputs into education by the government and individuals, it would not be possible for the PRC to have such a sizeable middle class. As shown in Table 19, the stock of human capital in the PRC has grown considerably in the postreform period as graduates increased. In particular, returned graduates with overseas qualifications demonstrated significant growth.

The second driver of the middle class is industrialization and urbanization, underscored by the higher returns in nonagriculture sectors and the persistence of urban bias. From this perspective, employment growth in the secondary and tertiary sectors will help nurture the middle class in the PRC. As shown by Figure 2, employment in these sectors has been growing at a consistent rate, with employment in the tertiary sector overtaking that in the secondary sector in 1995. It is worth pointing out that the fast growth of nonagriculture sectors is partly attributable to the emergence and development of town and village enterprises or TVEs (Wan and Zhu 2006), which must have played a dominant role in promoting the middle class in the rural PRC.

**Table 18: Determinants of Urban Middle Class and Upper Class, 2002**

	Biprobit		Probit		Logit	
	Upper Class	Middle Class	Upper Class	Middle Class	Upper Class	Middle Class
Hhsex	-0.220*** (0.049)	-0.107*** (0.038)	-0.281*** (0.051)	-0.129*** (0.039)	-0.510*** (0.096)	-0.214*** (0.065)
Hhage	-0.003* (0.002)	0.002 (0.002)	-0.003 (0.002)	0.002 (0.002)	-0.005 (0.004)	0.003 (0.003)
Hhedu	0.046*** (0.012)	0.030*** (0.008)	0.055*** (0.013)	0.033*** (0.008)	0.101*** (0.025)	0.056*** (0.015)
hhpartymember	0.204*** (0.030)	0.119*** (0.024)	0.252*** (0.031)	0.130*** (0.024)	0.463*** (0.057)	0.205*** (0.040)
Laboravedu	0.032** (0.015)	0.042*** (0.011)	0.030** (0.015)	0.041*** (0.011)	0.069** (0.031)	0.071*** (0.019)
Depend_ratio	-0.052 (0.174)	0.015 (0.126)	-0.051 (0.178)	0.037 (0.126)	-0.172 (0.355)	0.061 (0.217)
Insurance_ratio	-0.656 (0.463)	0.847*** (0.314)	-0.867* (0.500)	0.794** (0.320)	-1.407 (0.942)	1.315** (0.526)
Ind_2_ratio	0.369** (0.144)	0.431*** (0.108)	0.389*** (0.146)	0.399*** (0.107)	0.843*** (0.289)	0.690*** (0.184)
Ind_3_ratio	0.754*** (0.134)	0.630*** (0.103)	0.806*** (0.136)	0.588*** (0.102)	1.608*** (0.268)	1.000*** (0.176)
Hukou_ratio	0.698* (0.368)	0.278 (0.197)	0.796** (0.384)	0.291 (0.198)	1.521* (0.818)	0.503 (0.364)
SME_ratio	-0.386*** (0.097)	-0.250*** (0.078)	-0.480*** (0.098)	-0.258*** (0.078)	-0.902*** (0.186)	-0.417*** (0.131)
SOE_ratio	0.747*** (0.194)	0.185 (0.151)	0.823*** (0.192)	0.179 (0.147)	1.693*** (0.387)	0.282 (0.252)
Collective_ratio	-0.019 (0.381)	-0.289 (0.267)	0.057 (0.382)	-0.280 (0.265)	0.254 (0.776)	-0.519 (0.470)
Other_ratio	0.775*** (0.243)	-0.451** (0.191)	0.807*** (0.242)	-0.480** (0.188)	1.656*** (0.478)	-0.840** (0.330)
East	0.533*** (0.061)	0.287*** (0.044)	0.593*** (0.062)	0.287*** (0.045)	1.164*** (0.123)	0.478*** (0.076)
Middle	0.066 (0.065)	0.015 (0.046)	0.088 (0.067)	0.016 (0.046)	0.189 (0.135)	0.029 (0.079)
Constant	-3.415*** (0.404)	-2.245*** (0.232)	-3.676*** (0.419)	-2.237*** (0.232)	-7.033*** (0.884)	-3.804*** (0.423)
/athrho	-1.746*** (0.153)					
Observations	6,375		6,375	6,375	6,375	6,375
Pseudo/adjusted R <sup>2</sup>			0.1489	0.064	0.1511	0.063

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

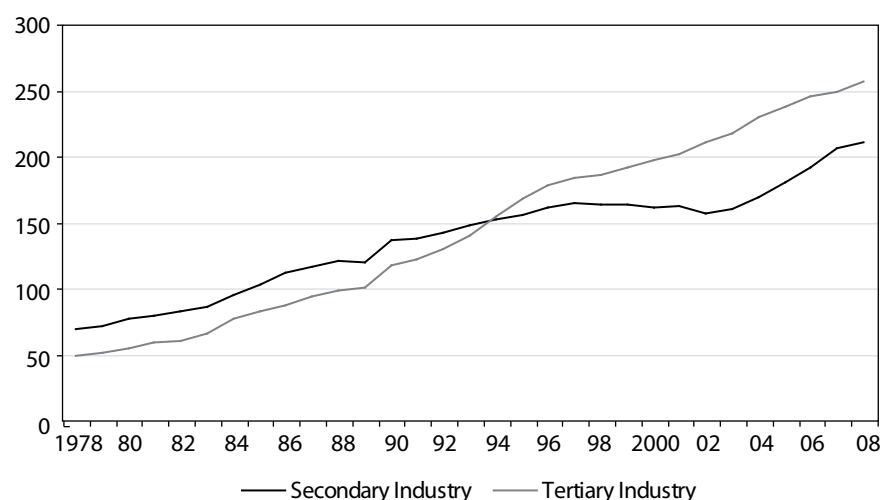
**Table 19: Number of Graduates in the PRC**

	<b>Regular Institutions of Higher Education (millions)</b>	<b>Regular Secondary School (millions)</b>	<b>Vocational Secondary School (millions)</b>	<b>University Postgraduates (person)</b>	<b>Returned Students from Abroad (person)</b>
1978	0.1650	23.7530	—	9	248
1979	0.0850	23.8440	—	140	231
1980	0.1470	15.8100	0.0790	476	162
1981	0.1400	16.4030	0.0940	11,669	1,143
1982	0.4570	13.4270	0.1310	4,058	2,116
1983	0.3350	11.9540	0.2160	4,497	2,303
1984	0.2870	11.4020	0.2780	2,756	2,920
1985	0.3160	11.9490	0.4130	17,004	1,424
1986	0.3930	12.8100	0.5790	16,950	1,388
1987	0.5320	13.6410	0.7500	27,603	1,605
1988	0.5530	14.0780	0.8100	40,838	3,000
1989	0.5760	13.7750	0.8630	37,232	1,753
1990	0.6140	13.4210	0.8930	35,440	1,593
1991	0.6140	13.0850	0.9450	32,537	2,069
1992	0.6040	13.2840	0.9670	25,692	3,611
1993	0.5710	13.6590	1.0250	28,214	5,128
1994	0.6370	13.6190	1.0760	28,047	4,230
1995	0.8050	14.2900	1.2400	31,877	5,750
1996	0.8390	14.8400	1.3960	39,652	6,570
1997	0.8290	16.6400	1.5010	46,539	7,130
1998	0.8300	18.3200	1.6280	47,077	7,379
1999	0.8476	18.5271	1.6783	54,670	7,748
2000	0.9498	19.0860	1.7628	58,767	9,121
2001	1.0363	20.4744	1.6650	67,809	12,243
2002	1.3373	22.6363	1.4543	80,841	17,945
2003	1.8770	24.5370	1.3550	111,091	20,152
2004	2.3910	26.1740	1.4250	150,777	24,726
2005	3.0680	27.6809	1.7000	189,728	34,987
2006	3.7750	27.8950	1.7950	255,902	42,000
2007	4.4779	27.4516	1.9775	311,839	44,000
2008	5.1195	26.9895	2.1669	344,825	69,300

— means data not available.

Source: National Bureau of Statistics of China (2009).

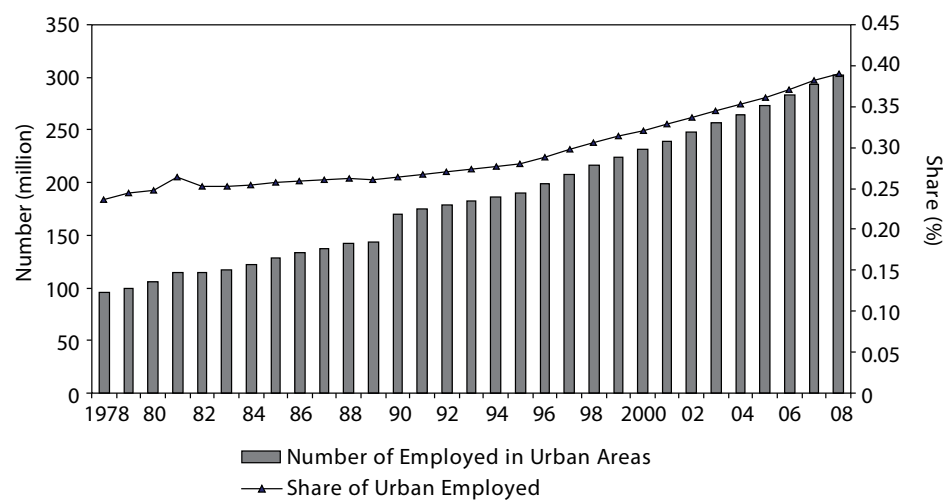
**Figure 2: Employment in Secondary and Tertiary Industry in the PRC, 1978–2008**



Source: National Bureau of Statistics of China (2009).

It is known that the growth of the tertiary sector relies on urbanization. Since the PRC has been moderating urbanization through various institutional restrictions, notably the *hukou* system, the tertiary sector lags behind the PRC's economic development. In other words, the tertiary sector could have employed more people and contributed more to GDP had urbanization kept pace with the PRC's economic development. Precisely because of the lag, ample rooms exist for expansion of the tertiary sector that will help drive GDP growth, consolidate the size of middle class, and reduce poverty. Nevertheless, the urban sector has been absorbing more and more labor, as shown by Figure 3. The urban share of employment has risen from under 30% in the late 1970s to almost 40% in 2008.

**Figure 3: Employment in the Urban PRC**



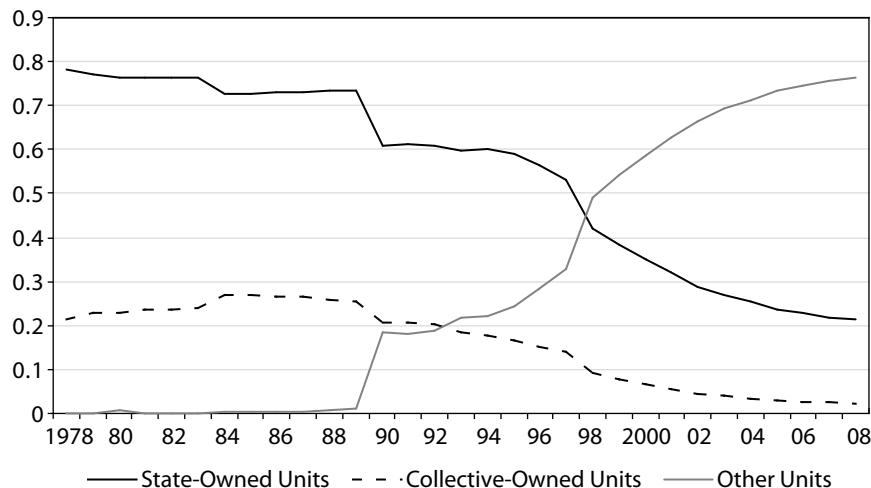
Source: National Bureau of Statistics of China (2009).

The third driver of the middle class is globalization and privatization as both contribute to economic growth and creation of jobs. It is common knowledge that working for joint ventures or foreign companies almost guarantees high pay. Thus, large flows of foreign direct investment (FDI) as an indicator of globalization must have played an important role in creating and expanding the middle class in the PRC by creating demand for highly skilled labor for management and research and development. On the other hand, despite concerns about trade imbalance and controversies on the role of FDI on technology transfer, globalization has definitely helped generate jobs for both urban residents and migrant workers, the latter having reached a total of 150 million. The importance of globalization in employment creation was best demonstrated by the contraction of the migrant labor force during the global economic crisis.

Earlier privatization helped create an elite group in the PRC, who now form the core driving force for private investment and entrepreneurship. They possess the capital and management skills needed for the establishment of new enterprises and expansion of established ones, both of which are crucial for the PRC's future growth and job generation. In addition, the transformation of SOEs into stockholding companies, another form of privatization, also gives rise to many high-paying positions and opens up opportunities for many to gain a foothold in the middle income class. The importance of non-SOEs can be confirmed by the losses in the employment shares of SOEs and collectives (see Figure 4). Employment share of SOEs was almost 80% in 1978, and dropped to 20% in 2008. Meanwhile, the combined non-SOEs and noncollective employment share grew from almost nil to 80%. Such a dramatic change must have contributed to the growth of the middle class in the PRC.

Moreover, privatization altered the wage setting mechanism in the PRC, which has helped raise returns to education. Increased returns to education in turn have been responsible for pushing the highly educated and skilled into the middle class. In the long run, the PRC can only rely on the private sector to provide jobs that are essential for poverty reduction and expansion or formation of the middle class.

**Figure 4: Employment Shares under Different Types of Ownership in the Urban PRC**



Source: National Bureau of Statistics of China (2009).



## B. Drivers of the Rural Middle Class

To gain insights into the determinants of poverty (and middle class), biprobit models can be applied. Since poverty incidence is quite small in 2002 in the urban PRC, this modeling exercise will be based on 2002 CHIPS data from the rural PRC. Definitions of variables used in the modeling exercise are provided in Table 20 while descriptive statistics of these variables can be found in Appendix Table 2 .

Since the number of households in the upper class in the rural PRC was very small, biprobit models were estimated using middle class and lower class as the two category variables. Here, two additional independent variables are considered. One is the proportion of migrant workers (Migrant\_ratio) and the other is proportion of nonfarming workers (Nonagr\_ratio) relative to household size. Since most migrant workers are engaged in nonfarming activities, these two variables are highly correlated. Thus, they enter the biprobit models separately. As expected, migration and nonfarming employment help reduce poverty and increase the likelihood of becoming middle class. While a higher nonlaborer ratio erodes the chances of a household joining the middle class, party membership is a positive contributor. The impact of household head age, typically representing working experiences, displays a U-pattern. A major finding from Table 20 is that education level of household head and household laborers are positively correlated with the likelihood of being in the middle class, notwithstanding different levels of statistical significance.

Table 20 reports estimation results for rural households to be either poor or middle class. Focusing on poverty determinants, it can be concluded that education, nonfarming employment, party membership, and migration all help increase the chance of a household becoming middle class. The modelling results are largely consistent with Gregory et al. (2007), who decomposed the difference in the probability of being poor over time and attributed the difference to three sets of factors: the demographic structure of households, human capital stock, and regional effects. They found that families with large size or smaller labor force were more likely to fall into poverty. Better educated households are less inclined to fall below poverty. Everything else remaining the same, households in less affluent regions are more likely to be poor.

**Table 20: Determinants of Rural Middle Class**

	Model 1		Model 2	
	Poverty	Middle Class	Poverty	Middle Class
hhsex	0.084 (0.091)	-0.109 (0.106)	0.065 (0.092)	-0.055 (0.110)
hhage	0.040*** (0.013)	-0.019 (0.022)	0.039*** (0.013)	-0.017 (0.022)
hhage_sqr	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)	0.000 (0.000)
hhedu	-0.015* (0.009)	-0.034** (0.014)	-0.010 (0.009)	-0.033** (0.014)
hhpartymember	-0.169*** (0.037)	0.205*** (0.045)	-0.128*** (0.038)	0.144*** (0.047)
laboravedu	-0.069*** (0.011)	0.074*** (0.017)	-0.069*** (0.011)	0.069*** (0.017)
depend_ratio	0.940*** (0.088)	-0.896*** (0.147)	0.901*** (0.088)	-0.687*** (0.151)
Migrant_ratio	-0.482*** (0.101)	0.095 (0.133)		
Nonagr_ratio			-1.006*** (0.094)	1.155*** (0.100)
east	-0.743*** (0.043)	0.947*** (0.083)	-0.695*** (0.043)	0.816*** (0.084)
middle	-0.488*** (0.038)	0.266*** (0.089)	-0.469*** (0.038)	0.192** (0.090)
constant	-1.166*** (0.337)	-1.796*** (0.562)	-1.117*** (0.338)	-2.045*** (0.579)
/athrho		-1.446 (21.149)		-1.396 (22.374)
Observations	8,885		8,885	
Likelihood test	P=0.00		P=0.00	

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

## V. The Role of the Middle Class in the PRC

Economic historians have long argued for the importance of a large middle class for economic development (Landes 1998, Adelman and Morries 1967). The roles of the middle class can be summarized as follows. First, they are main consumers of modern goods and services, thus their demand is instrumental in stimulating investment or physical capital formation. Murphy et al. (1989) find that middle class consumers are willing to pay a little extra for quality. Second, the middle class are usually better educated and highly motivated in their work. Thus, they are the main sources of human capital for the economy. Third, the middle class possesses management

and entrepreneurial skills, which are vital for structural transformation, productivity improvement, and escaping the middle class trap. Finally, middle class citizens typically are supporters of meritocracy and growth-oriented policies. Thurow (1984) argues that “a healthy middle class is necessary to have a healthy democracy” because social unrest usually increases when income and people become polarized. Barro (1999) provides empirical evidence that countries are more likely to be democratic the higher the share of income going to the middle class.

In the postcrisis era, the role of the middle class in promoting domestic consumption becomes even more crucial. They hold the key for rebalancing the global economy, and for the PRC to embark on altering its growth strategies from being export-led to consumption-led. Using the same household data, we investigate the consumption behavior of the middle class. Regression results of ordinary least squares and Tobit models are presented in Table 21, where the dependent variables are per capita consumption in logarithm, number of items possessed among the ordinary durables (i.e., television sets, refrigerator, and laundry machine, denoted by “ordinary\_durables”); and number of items owned among the luxury durables (i.e., car, piano, video camera, and personal computer, denoted by “luxury\_durables”).

The regression model confirms that the middle class consumes more than lower classes and possesses more luxury durable goods too. The positive and significant estimate for insurance corroborates with the proposition that social safety nets do help reduce precautionary savings and promote consumption.

That increasing social safety nets will have implications on the savings pattern is further corroborated by rural household data on social networks and living quality. As seen in Table 22, the main motive for savings is for education of children, followed by retirement needs. It is noted that the importance of saving for retirement increases with income, and thus would become more important as the middle class grows. Undoubtedly, a revamped and improved social safety net will allay this particular precautionary savings motive.

**Table 21: Consumption Models for the Urban Middle Class in the PRC**

	OLS			Tobit	
	Consumption	Ordinary_ Durables	Luxury_ Durables	Ordinary_ Durables	Luxury_ Durables
MC	0.502*** (0.013)	0.284*** (0.026)	0.182*** (0.014)	0.285*** (0.026)	0.684*** (0.053)
UC	0.827*** (0.019)	0.461*** (0.037)	0.403*** (0.021)	0.461*** (0.038)	1.111*** (0.071)
Hhsex	-0.131*** (0.012)	-0.168*** (0.023)	-0.089*** (0.013)	-0.170*** (0.024)	-0.334*** (0.048)
Hhage	0.000 (0.000)	0.003*** (0.001)	0.001*** (0.000)	0.003*** (0.001)	0.003* (0.002)
Hhedu	0.025*** (0.002)	0.025*** (0.004)	0.021*** (0.002)	0.025*** (0.004)	0.089*** (0.008)
Hhpartymember	0.035*** (0.007)	0.085*** (0.015)	0.039*** (0.008)	0.086*** (0.015)	0.133*** (0.030)
Hukou_ratio	0.307*** (0.052)	0.627*** (0.104)	0.044 (0.058)	0.639*** (0.106)	0.507* (0.284)
Depend_ratio	-0.032 (0.027)	-0.240*** (0.055)	-0.411*** (0.030)	-0.242*** (0.056)	-1.915*** (0.133)
Insurance_ratio	0.402*** (0.099)	0.623*** (0.198)	0.368*** (0.110)	0.605*** (0.201)	1.529*** (0.397)
East	0.138*** (0.014)	0.163*** (0.028)	0.190*** (0.015)	0.163*** (0.028)	0.678*** (0.060)
Middle	-0.157*** (0.014)	-0.121*** (0.027)	0.024 (0.015)	-0.129*** (0.027)	0.126** (0.062)
_cons	7.812*** (0.058)	2.086*** (0.116)	-0.015 (0.064)	2.072*** (0.118)	-2.307*** (0.310)
Observations	6,832	6,832	6,832	6,832	6,832
Pseudo/Adjusted R <sup>2</sup>	0.4453	0.1128	0.845	0.0436	0.1246

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1.

HH = household, MC = middle class, OLS = ordinary least squares.

Source: Authors' estimates.

**Table 22: Savings Motive of Rural Households (percent)**

PPP	Preparing for Elderly Life (1)	Preparing for Sickness (2)	Children's Education (3)	Building House (4)	Children's Wedding (5)	Bequest for Children (6)	Others (7)	Hard to Say (8)	Total
<1.25	24.1	6.18	45.56	6.12	10.17	3.48	1.85	2.53	100
1.25–2	25.45	4.82	43.99	8.12	10.68	2.69	2.08	2.17	100
2–4	24.23	4.09	43.42	7.38	14.09	3.05	1.93	1.82	100
4–6	29.96	3.56	39.69	5.68	14.16	3.28	1.64	2.02	100
6–10	34.85	4.56	34.85	5.69	13.9	3.64	0.68	1.82	100
10–20	29.46	4.46	39.29	10.71	8.04	5.36	1.79	0.89	100
20+	56.52	4.35	21.74	4.35	4.35	8.7			100

PPP = purchasing power parity.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

Also noteworthy is that the third most important motive for rural household savings is for the children's wedding. However, in view of the expectations of Chinese parents to rely on their children for retirement support, the emphasis on both education and wedding of children reflects a degree of retirement savings motive. Almost two thirds of rural heads of households, especially for those in lower-income groups, cite their children as their expected main provider during retirement. Those citing private insurance and other types of official pensions account for less than 10% of all rural households (Table 23).

**Table 23: Retirement Expectations of Rural Households (percent)**

PPP	N	Own Savings	Supported by Children	Official Pension	Private Insurance	Others	Total
		(1)	(2)	(3)	(4)	(5)	
<1.25	1784	25.84	67.1	3.98	0.73	2.35	100
1.25–2	2306	28.23	63.66	4.21	1.17	2.73	100
2–4	3489	29.55	61.94	4.16	1.55	2.81	100
4–6	1040	30.96	57.88	6.06	2.21	2.88	100
6–10	440	30.23	54.09	10.45	4.09	1.14	100
10–20	112	30.36	49.11	12.5	5.36	2.68	100
20+	23	39.13	30.43	26.09	4.35		100

N = number of observations, PPP = purchasing power parity.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

What would a growing middle class imply in terms of satisfaction with living standards? Data from both urban and rural households offer a glimpse into satisfaction with life in various dimensions. In general, self-reported levels of happiness are lower for urban households,<sup>8</sup> where 14.12% of household heads reported being not very happy or not happy at all, compared to 8.95% for rural households. Nonetheless, within urban and rural areas, respectively, one of the striking regularities is that satisfaction of life, perhaps unsurprisingly, is positively correlated with income (see Tables 24 and 25). Almost two fifths of urban households with daily income per capita less than \$2 PPP were unhappy. In contrast, the incidence of unhappiness for households in the next income bracket half of that, at approximately one fifth. Thus an increasingly large middle class bodes well for the overall increase in social welfare.

What affects the happiness of households? Overall, the main reason for not being happy is by far a low income level, as the majority of households in both urban and rural areas report this to be the main cause of their unhappiness. In the urban areas, unemployment and *xiagang* rank a distant second main contributor to unhappiness. We observe variation in factors that influence well-being across income groups. For example, unemployment issues affect the poorest households in urban areas much more than those who are in the upper income groups.

<sup>8</sup> Average score of happiness for urban households is 2.51 while that of rural households is 2.36. Note that here that 1 denotes the highest level of happiness.

**Table 24: Happiness and Unhappiness in the Urban PRC**

PPP	Average Happiness Score	Share of Income Group that is Unhappy (%)	Main Reason for Unhappiness (percentage breakdown for each income group)						
			Low Income (1)	Unstable Life in the Future (2)	Bad Health (3)	Family Contradiction (4)	Personal Problem (5)	Unemploy- ment and <i>Xiagang</i> (6)	Others (7)
<1.25	2.97	38.26	59.09	9.09	4.55	2.27	2.27	22.73	0.00
1.25–2	3.17	39.22	66.41	6.87	4.58	0.76	0.00	18.32	3.05
2–4	2.68	19.54	54.95	11.20	5.47	2.86	1.04	20.05	4.43
4–6	2.49	11.85	47.41	12.50	5.17	3.45	2.59	17.67	11.21
6–10	2.33	7.80	45.32	17.27	10.07	2.88	5.04	9.35	10.07
10–20	2.19	5.04	21.88	9.38	31.25	6.25	6.25	6.25	18.75
20+	2.02	6.98	33.33	0.00	0.00	0.00	0.00	0.00	66.67
Total	2.51	14.12	52.33	11.61	6.74	2.80	2.07	17.31	7.15

Note: For happiness and satisfaction scores: 1 = very happy, 2 = happy, 3 = just so-so, 4 = not very happy, 5 = not happy at all.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

For rural households, the positive correlation between income and satisfaction generalizes beyond an overall sense of happiness: respondents report higher satisfaction with income, housing conditions, and living conditions as a whole as income rises (Table 25). Overall the percentage of unhappy households in rural areas is half of that observed for urban households. The contrast is especially stark for poor households earning less than \$1.25 PPP per day. While two fifths of their urban counterparts are unhappy, only about 16% of rural households in this income bracket are unhappy. While low income is still the major cause of unhappiness, the second main reason for unhappiness is bad health.

Given the higher levels of unhappiness reported in urban versus rural areas, one may then question the relevance of these reported measures of satisfaction of happiness. Despite the correlation between happiness and income, as the data from the above tables demonstrate, the nexus is far from a simple linear relationship. Perhaps more important to policy makers are the ways these measures of satisfaction influence household behavior and other types of perceptions, for example on the importance of election and such. Below we describe different questions addressing perceptions of fairness that were asked of urban and rural households, respectively.

**Table 25: Happiness and Unhappiness in the Rural PRC**

PPP	Average Happiness Score	Average Satisfaction Score with Each Category			Share of Income Group that is Unhappy	Main Reason for Unhappiness (percentage breakdown for each income group who reported “not very happy” or “not happy at all”)					
		Income	Housing	Living Conditions as a Whole		Low Income	Unstable Life in the Future	Bad Health	Family Contradiction	Personal Problem	Others
		(1)	(2)	(3)	(%)	(1)	(2)	(3)	(4)	(5)	(6)
<1.25	2.66	3.39	3.13	3.12	15.81	68.79	4.61	10.28	3.90	4.26	8.16
1.25–2	2.48	3.17	3.00	2.94	10.93	66.67	5.16	11.51	4.37	6.35	5.95
2–4	2.25	2.90	2.75	2.68	6.45	58.22	5.78	14.67	5.78	3.56	12.00
4–6	2.11	2.66	2.53	2.47	3.65	50.00	2.63	18.42	5.26	7.89	15.79
6–10	2.06	2.52	2.46	2.30	4.32	52.63	5.26	21.05	10.53	5.26	5.26
10–20	2.05	2.35	2.35	2.25	4.50	20.00	-	20.00	40.00	20.00	
20+	1.83	2.22	2.04	2.00	8.70	50.00	-	-	50.00	-	
Total	2.36	3.01	2.84	2.78	8.95	63.67	4.98	12.52	5.10	4.98	8.87

Note: For happiness and satisfaction scores: 1 = very happy, 2 = happy, 3 = just so-so, 4 = not very happy, 5 = not happy at all.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

Just like happiness, we find that the perception of fairness of income distribution and the perception of harmonious relationship in the PRC are positively correlated with income level. That is, the higher the income, the higher the percentages of households who perceive more harmony and fairness. Specifically, only 12% of urban households found that the income distribution in the country and in their cities are fair or very fair. Not surprisingly, the percentages of poorer households who feel that the income distribution is fair is lower than that of richer households. Nonetheless, it is noteworthy that in urban areas, the majority of households found that the income distribution in the country is not fair (Table 26).

For rural households, it is those in the higher income groups that view village elections to be important. Nonetheless, across all income brackets, the median household reports that village elections are very important. In addition, the rich tend to view relations between villages and lineages to be more harmonious than the poor (Table 27). Two thirds of rural households view that intervillage and intravillage relations are relatively harmonious or very harmonious. There is a slightly higher tendency for richer households to perceive more harmony, but the variance of their answers is smaller than that observed for urban households on the issue of fairness of income distribution.

**Table 26: Perception of Fairness of Income Distribution in the Urban PRC**

<b>Do you think the current situation on income distribution is fair countrywide? (percentage breakdown for each income group)</b>					
<b>PPP</b>	<b>Very Fair</b>	<b>Fair</b>	<b>Not Very Fair</b>	<b>Very Unfair</b>	<b>Don't Know</b>
<1.25	0.94	2.83	41.51	41.51	13.21
1.25–2	0.90	5.69	42.22	42.81	8.38
2–4	0.66	9.92	44.63	37.61	7.18
4–6	0.31	11.80	46.81	35.05	6.03
6–10	0.73	12.51	52.61	28.38	5.78
10–20	0.95	12.93	51.58	25.87	8.68
20+	0.00	18.60	55.81	20.93	4.65
Total	0.62	11.16	47.89	33.58	6.76

<b>Do you think the current situation on income distribution is fair in your city? (percentage breakdown for each income group)</b>					
<b>PPP</b>	<b>Very Fair</b>	<b>Fair</b>	<b>Not Very Fair</b>	<b>Very Unfair</b>	<b>Don't Know</b>
<1.25	0.94	6.60	44.34	40.57	7.55
1.25–2	0.30	6.59	45.51	39.22	8.38
2–4	0.66	10.18	48.91	33.99	6.26
4–6	0.31	11.96	50.13	31.73	5.88
6–10	0.56	13.74	53.90	25.97	5.83
10–20	0.79	15.62	53.63	22.56	7.41
20+	0.00	13.95	58.14	18.60	9.30
Total	0.53	11.92	50.82	30.45	6.29

PPP = purchasing power parity.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

**Table 27: Village Election and Harmonious Relations in the Rural PRC**

<b>PPP</b>	<b>Median Answer on Importance of Village Election*</b>	<b>Harmonious Relations among Different Villages (average)**</b>	<b>Harmonious Relations among Different Lineages (average)**</b>
<1.25	2	2.25	2.25
1.25–2	1	2.22	2.24
2–4	1	2.16	2.17
4–6	1	2.11	2.09
6–10	1	2.01	2.06
10–20	1	2.09	2.19
20+	1	2.04	2.04
Total	1	2.18	2.19

\* 1 = very important, 2 = relatively important, 3 = just so-so, 4 = not so important, 5 = not important.

\*\* 1 = very harmonious, 2 = relatively harmonious, 3 = just so-so, 4 = not very harmonious, 5 = unharmonious.

PPP = purchasing power parity.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

If the sense of well-being affects economic and social behavior, then perception of one's position in the income distribution matters. Yet often we find a gap between perception and reality. For the PRC households in particular, this is highlighted by the existence of



a downward bias in the perception of one's own relative economic situation. For urban households, two thirds of all households believed that they are in the bottom two quartiles of the income distribution. This downward bias is pervasive across all income groups, and is much smaller than the other type of "optimistic" error—illustratively about two thirds of households in the highest income group believe that they are below median, while only 7% of those in the poorest income bracket think that they are above the median (see Table 28).

**Table 28: Perceptions of Income Groups and Reality in the Urban PRC**

PPP	In which group do you think your household living standard falls in the city?			
	Lowest Quartile (bottom 25%)	2nd Quartile (below median)	3rd Quartile (above median)	Highest Quartile (top 25%)
<1.25	0.62	0.30	0.07	0.01
1.25–2	0.42	0.50	0.08	0.00
2–4	0.17	0.65	0.17	0.00
4–6	0.07	0.62	0.30	0.00
6–10	0.03	0.49	0.47	0.01
10–20	0.02	0.36	0.60	0.03
20+	0.05	0.28	0.56	0.12
Total	0.11	0.56	0.32	0.01

PPP = purchasing power parity.

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

Both the downward bias in households' perception of their own relative living standard and the earlier finding of higher levels of happiness in rural areas suggest that there are factors beyond mere income that ought to be considered in defining well-being and middle class. However, that would be beyond the scope of the current paper.

## VI. Summary and Concluding Remarks

Using official data and household survey data, this paper examines the size of the middle class in the PRC, their trends, and geographical distributions. Determinants or drivers of changes in the size of middle class are explored. We summarize the major findings below.

The middle class has been on the rise while poverty rate has been declining. Irrespective of poverty lines and datasets to be used, these trends hold in both the urban and rural PRC, and across East, Central, and West PRC.

Poverty prevails in rural areas and inland while the middle class is concentrated in urban and coastal areas. The rural poor accounted for over 95% of the PRC's total poor.

Regionally, West PRC has been home to half of the poor in the country. On the other hand, the proportion of households with daily per capita income between \$2 and \$20 PPP, which defines the middle class, is quite large, reaching 71.3% in 2002 (92.3% for urban and 51.8% for the rural PRC). In 2002, the proportions for East and Central region are almost equal, and they stood at 28.32 and 27.59, respectively. The Western region lags behind with 16.19%.

At the macro level, drivers of poverty reduction and middle class expansion include market development, industrialization, and privatization whose impacts are confirmed by empirical modeling results. Social protection in terms of provision of various insurance also plays a role. At the micro level, factors affecting the likelihood of a household being poor or middle class include age of household heads, education level of household members, and location of residence. Interestingly, membership in the communist party is found to be a significant positive determinant.

Urbanization has played and will play the pivotal role in nurturing the middle class in the PRC, as evidenced by the identified impacts of internal migration on poverty, and the growth of manufacturing and tertiary sectors on both poverty and middle class. Fundamentally, the prospects of economic growth and income distribution depend upon the pace at which the dual structure of the PRC economy evolves, and urbanization is the only and inevitable driving force for dismantling the urban–rural and coastal–inland divides.

As poverty reduction and expansion of the middle class have been entirely driven by economic growth so far, the detrimental effects of fast rising inequality must be addressed in order for the PRC to not fall into the middle-income trap, as experienced by some Latin American and Middle Eastern economies for decades.<sup>9</sup>

Nonetheless, the detrimental effects of rising inequality could also be exacerbated by an erroneous downward-biased perception of one's position in the income distribution, which affects the perception of inequality and fairness of the income distribution in question.

If administrative restriction was the major barrier to migration or urbanization in the past, the huge and increasing urban–rural disparity has become one of the most important obstacles for urban expansion as rural residents simply cannot afford housing and other services, and are often discriminated in factor markets due to income status. On the other hand, because access to health care and education are increasingly linked to income levels, with local governments unable to provide a public option, areas and groups with

<sup>9</sup> The middle-income trap refers to the state where a country cannot compete with low-wage, low-income economies in manufacturing, or with advanced economies in cutting-edge innovative activities. Its primary cause lies in the failure to improve human skills and technology. To escape the trap, two transformations are needed: a shift from accumulating factors of production to using resources more efficiently in the modern economy. This can happen only if cities develop properly. The second transformation is to move beyond basic education for all. The PRC faces unprecedented challenges in both urbanization (Wan 2008) and in providing higher education for all.

low-income levels tend to have reduced rates of human capital formation, which in turn propagate into further income inequalities over a lifetime of reduced earnings (World Bank 2009). In fact, education beyond 9 years is largely and increasingly financed privately. Thus, the growing income gaps imply that more and more households are at disadvantaged positions when it comes to acquiring human capital. Needless to say, inequality is a major force undermining domestic demand. How inequality is addressed determines if the PRC can transform from being an export-led to a consumption-led economy. Finally, inequality itself can produce unwanted socioeconomic consequences including those on health, public security, and political stability (Wan and Zhang 2007). From these perspectives, it can be said that the issue of income distribution holds the key to whether the PRC can escape the middle-income trap.

## Appendix

**Appendix Table 1: Descriptive Statistics on 2002 Urban Data**

Variable	Mean	Max.	Min.
Middle Class	0.2702	1	0
Upper Class	0.1065	1	0
hhage	45.9594	92	18
hhsex	0.6441	1	0
hhedu	10.7101	23	0
hhpartymember	0.6730	5	0
Depend_ratio	0.4513	1	0.1667
laboravedu	10.9502	23	0
Insurance_ratio	0.0485	1.837	0
Ind_2_ratio	0.1753	1	0
Ind_3_ratio	0.3122	1	0
Hukou_ratio	0.9809	1	0
SME_ratio	0.2028	1	0
SOE_ratio	0.1689	1	0
Collective_ratio	0.0145	1	0
Other_ratio	0.0533	1	0
east	0.3590	1	0
middle	0.3637	1	0

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

**Appendix Table 2: Descriptive Statistics on 2002 Rural Data**

Variable	Mean	Max.	Min.
Middle Class	0.0485	1	0
Poverty	0.1937	1	0
hhage	46.39	88	16
hhsex	0.9587	1	0
hhedu	7.25	16	0
hhpartymember	0.2340	4	0
Depend_ratio	0.2695	1	0.2332
laboravedu	7.12	15	0
Nonagr_ratio	0.16	1	0
Migrant_ratio	0.12	1	0
east	0.3403	1	0
middle	0.3934	1	0

Source: Authors' calculation based on data from the 2002 Chinese Household Income Project Survey.

**Appendix Table 3: Minimum Living Lines in 30 Cities in the PRC, 2007**

	<b>Monthly (2007 yuan)</b>	<b>In 2005 Prices</b>	<b>Daily, in 2005 PPP \$</b>
Beijing	330	311.14	2.54
Tianjing	330	311.14	2.54
Shijazhuang	220	207.43	1.70
Taiyuan	220	207.43	1.70
Huhehaote	230	216.86	1.77
Shenyang	260	245.14	2.00
Changchun	245	231.00	1.89
Haerbin	245	231.00	1.89
Shanghai	350	330.00	2.70
Nanjing	300	282.86	2.31
Hangzhou	320	301.72	2.47
Hefei	260	245.14	2.00
Fuzhou	238	224.40	1.84
Nanchang	210	198.00	1.62
Jinan	280	264.00	2.16
Zhengzhou	260	245.14	2.00
Wuhan	248	233.83	1.91
Changsha	220	207.43	1.70
Guangzhou	330	311.14	2.54
Nanling	220	207.43	1.70
Haikou	293	276.26	2.26
Chongqing	210	198.00	1.62
Chengdu	245	231.00	1.89
Guiyang	215	202.72	1.66
Kunming	210	198.00	1.62
Lasa	230	216.86	1.77
Xian	200	188.57	1.54
Lanzhou	230	216.86	1.77
Xining	178	167.83	1.37
Yinchuan	200	188.57	1.54
Wulumuqi	156	147.09	1.20
Dalian	280	264.00	2.16
Qingdao	300	282.86	2.31
Ningpo	300	282.86	2.31
Shenzhen	361	340.37	2.78
Xiamen	287.5	271.07	2.22
Average	255.875	241.255	1.97

PPP = purchasing power parity.

Source: Authors' computations based on monthly minimum living lines published by the Ministry of Civil Affairs.

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### **About the Paper**

Using \$2–\$20 purchasing power parity per capita daily income as the definition of middle class, Zhang Yuan, Guanghua Wan, and Niny Khor find that majority of households in the People's Republic of China have become middle class by 2007. This is especially impressive given that around 40% of households were still considered poor in 1991. This paper discusses these trends, their main determinants, and geographical distributions.

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