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ABSTRACT

Catching up with the West: Chinese Pathways to the Global Middle Class*

We investigate whether Chinese household incomes have caught up to those of the middle class in the developed world. Using nationwide survey data for 2002 and 2013, we find considerable catch up. Defining the global middle class as being neither poor nor rich in the developed world, we estimate that China's global middle class grew rapidly after 2002, reaching 250 million in 2013. We describe the characteristics of this middle class, which is predominately urban, in the eastern region, and wage-earning. A distinct business middle class exists but is relatively small. Analysis of the chances of attaining the middle class reveals the importance of an individual's circumstances at birth. Parents' education and occupation matter. Being born with an urban hukou provides a large advantage. For those born with a rural hukou, the most effective pathways to the middle class are migration and, if possible, obtaining an urban hukou.

JEL Classification: D31, P36
Keywords: China, middle class, income distribution, economic mobility

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1. Introduction

In recent decades China has grown substantially faster than the developed world. As a consequence, China's economy has caught up with or surpassed developed countries in terms of its overall size. By 2018 China's GDP was second largest in the world after the U.S., and it is predicted to equal that of the U.S. within the next decade. In purchasing power parity terms, China's GDP is already the largest in the world.

China as yet has a way to go before catching up with the developed world in per capita terms. Nevertheless, China's rapid economic growth has brought about dramatic change in household incomes and living standards. Although average household incomes remain noticeably lower than those in North America and Europe, media reports, business market analyses and casual observation suggest that more and more people in China live lives that resemble those in the developed world. These people have attained incomes that make it possible for them to afford consumption that would be considered middle class in North America or Europe, for example, travel on holidays or private ownership of a car.

Catch up at the household and individual levels can have significant economic, social and political implications both within China and globally. The emergence of a well-off consumer class is very much in line with the stated aims of China's policy makers during the reform era. While previously peasants and workers were the focus of the official rhetoric, the new model citizen is someone with high cultural capital and the economic capacity to consume (Goodman 2014a). To the extent that such a class has benefited from and has a vested interest in the existing order, it would tend to work within the system rather than challenge the system (Tang 2011). The potential benefits of the middle class were noted in a joint report by the World Bank and the Development Research Center of the State Council as follows "…a growing middle class will also act as a catalyst for improved governance, better delivery of public services, and the empowerment of civil society" (World Bank and State Council Development Research Center 2013: 9). From a global perspective, due to its large population growth in the size of China's middle class could lead it to overtake the middle-class populations of Western countries, thus shifting the international center of gravity for tastes and trends in consumption.

The aim of this study is to investigate the extent to which Chinese household incomes have caught up with those of the middle class in the developed world, to describe who has caught

up, and to identify the pathways by which they have caught up. Using household survey data from the China Household Income Project (CHIP) for the years 2002 and 2013, we estimate the share of China's population that attained a level of household income equivalent to the that of the middle class in the developed world. Hereafter, we refer to these households as belonging to the "global middle class" or simply "middle class."

The years of our analysis—2002 and 2013—bookend the Hu-Wen period, during which China followed a policy strategy that emphasized the development of a moderately prosperous society (*xiaokang shehui* 小康社会) associated with the growth of a middle-income class. Income levels of the middle-class in the developed world are a higher standard than the goal of being moderately prosperous, but even so we find considerable catch up. By our estimates, in 2002 less than one percent of China's population enjoyed household income per person similar to that of middle-class households in the developed world. In 2013 the share had increased to 19 percent. Although still a modest share of total China's population, the rate of change was remarkable. Moreover, by 2013 this group was large in absolute number.

Using the 2013 CHIP survey data we examine the characteristics of and investigate the pathways to the global middle class in China. With respect to pathways, we ask how an individual's background, that is, circumstances at birth such as *hukou* 户口 (household registration) at birth, age, gender, ethnicity, and parents' characteristics (parental education and employment), affect the chances of joining the global middle class.

These questions are related to the degree of inequality in life chances. Sociologists and, more recently, economists have studied these issues under the topic of social and economic mobility. The CHIP survey data is cross-section and does not trace individuals over time. Nevertheless, it provides detailed information about current and past characteristics of individuals that we can use to shed light on these questions. Our analysis reveals that in China the chances of reaching the global middle class depend significantly on an individual's circumstances at birth. This is not a surprise. Even so, we find that some people with poor circumstances at birth manage to succeed, and they do so by following different routes to the middle class than those with more favorable backgrounds.

2. Definition of the global middle class, data and measurement

The literature on the middle class contains no consensus on how to define and measure the middle class (Goodman 2014b). Approaches vary and depend on the discipline and theoretical perspective of the authors. Different approaches yield somewhat different conclusions. Sociological studies usually view class as being related to one's position in the production process (work or occupation), social group identification, attitudes, and opportunities. Empirical studies based on these concepts typically employ multiple variables such as occupation, education, income, self-identification and home ownership to identify membership in the middle class. Examples of studies on China along these lines include Li Chunling (2003, 2013), Li and Zhang (2008), Li Qiang (2005, 2016), Liu (2007) and Tang (2011).

Economic studies define the middle class in terms of one's command over resources or ability to consume. The variable used to identify membership in the middle class is usually household income or consumption expenditures. Classification of individuals as middle class is relatively straightforward in that it depends on a single variable. Researchers must decide, however, where to set the cutoffs between the middle and other classes. One option is to define the cutoffs relative to the median or mean income in the country of interest. Here the middle class is that group of people whose incomes are in the middle of the income distribution. Studies on China that have defined the middle class using such cutoffs include Li, Chen and Zhang (2016), Li and Zhang (2008), Su (2016), and Wang and Li (2013). These studies often find that the size of China's middle class has not grown much or has even declined. Their somewhat counter-intuitive conclusions arise because the reference points—median or mean income in China—has been rising rapidly over time.

A second strategy is to use cutoffs based on an exogenous yardstick, for example, an absolute level of purchasing power or consumption, or an external criterion such as income levels observed internationally. Studies defining the Chinese middle class based on exogenous cutoffs include Barton, Chen and Jin (2013), Chen and Qin (2014), Farrell, Ulrich and Stephenson (2006), Ji and Chen (2009), Li, Wei and Wang (2014), National Bureau of Statistics, Urban Research Group (2005), National Development and Reform Commission Social Development Research Group (2012), and Yuan, Wan and Khor (2012). These studies typically report that the Chinese middle class has grown. Their estimates of the size of the Chinese middle class, however, vary because researchers choose different cutoffs. For example, Yuan, Wan and Khor

(2012) report that as early as 2007 a slight majority of people living in rural China were middle class. In contrast, Ji and Chen (2009) find that in 2005 less than four percent of China's entire population including the better-off urban population belonged to the middle class.

Our study is motivated by the question of whether Chinese households are catching up with those in the developed world. Consequently, we adopt cutoffs that are defined in relation to the income distributions of developed countries. This approach has not been used previously for a focused analysis of China but is fairly common in economic studies of the worldwide or global middle class. Studies that use this approach include Milanovic and Yitzhaki (2002), which defines the global middle class as having income between the means in Brazil and Italy, and Kharas (2017), which defines the cutoff for entering the global middle class based on the poverty lines in a set of high-income countries (Portugal, Italy and United States) and the cutoff for entering the upper class at twice the median income of Luxembourg, the richest country in the European Union.

In our analysis we follow Bhalla (2007), who postulated that the global middle class is "where the poor end in the rich world." In other words, we define the global middle class in China based on the notion of being neither poor nor rich in a high-income country. We set our cutoff between lower and middle classes equal to the level of household income per person that separates the poor from the non-poor in the European Union (EU). The EU sets its poverty line at 60 percent of median income per equivalent person. Eurostat reports the median income per equivalent person of fifteen EU member countries in Euros for 2013. We multiply this median by 0.6 and convert the currency using the purchasing power parity (PPP) exchange rate for 2013. This yields a cutoff in 2013 of US $36 or RMB 135 per equivalent person per day (Table 1). The cutoff for 2002 is equal to the 2013 cutoff deflated to adjust for changes in the domestic price level between 2002 and 2013.

/Table 1 about here/

Our cutoff between the middle and upper classes is set at 200 percent of the median income (Kharas 2010; Pew Research Center 2012, 2015, and 2016; Gustafsson, Sicular and Yang, forthcoming). We apply this percentage to median income in the fifteen EU countries, which for 2013 yields a cutoff of US $120, or RMB 451 per equivalent person per day (Table 1). We also tested alternative cutoffs between the middle and upper classes such as 150 percent and

250 percent of the median; the results changed little because the proportion of Chinese households with incomes above any of these cutoffs is extremely small. As above, the cutoff for 2002 is equal to the 2013 cutoff deflated to adjust for changes in the domestic price level.

Although setting the cutoffs for the middle class relative to the median income in the EU is conceptually straightforward, some details require explanation. First, the Eurostat statistics for median incomes are expressed per equivalent person. Eurostat uses an equivalence scale to adjust household size to reflect economies of scale in household consumption. The equivalence scale gives a weight of 1.0 to the first adult in the household, 0.5 for additional adults, and 0.3 for each child (ages 14 years and younger). For consistency, we apply the EU equivalence scale to the Chinese income data. Unless noted otherwise, all household income calculations reported here are per equivalent person.

Second, when calculating changes in the size of the middle class over time, one has the choice of using fixed goalposts, that is, cutoffs for both years based on the median income in a particular year (e.g., 2013), or using moving goalposts, that is, cutoffs for each year based on median income in that year. In fact, we find that for China the results from using fixed versus moving goalposts are not much different because the change in the level of median income in the EU from 2002 to 2013 was modest (Gustafsson, Sicular and Yang, forthcoming). For simplicity, we therefore only report results based on the fixed goalpost of EU median income in 2013.

For our analysis we use data from the CHIP household surveys for the years 2002 and 2013. The CHIP samples were drawn from the larger household survey samples of the National Bureau of Statistics of China (NBS) that are used to produce China's official statistics on household income and consumption. When analysed using population weights, the CHIP survey data are thought to be representative at the national, sectoral (urban-rural-migrant), and provincial levels. The 2013 CHIP sample contains 57,821 individuals, of whom 18,668 are urban, 37,090 are rural, and 2,063 are migrant.[1] The 2002 CHIP sample contains 63,911 individuals, of whom 20,624 are urban, 37,969 rural, and 5,318 migrant. The provincial coverage of the CHIP samples to some extent changed across the rounds of the survey, as did

[1] Urban is defined as individuals with urban hukou resident in urban areas; rural as individuals with rural hukou resident in rural areas; and migrant as individuals with rural hukou resident in urban areas. Residency is defined as living in the location for more than six months of the year.

the sampling probabilities for the urban/rural/migrant subgroups and regions. To control for this, in our analysis we employ two-level (region x urban/rural/migrant) population-based sampling weights developed by the CHIP team. Details about the CHIP survey data and weights can be found in Song et al. (2013) and Yue et al. (2018).

Following previous work by the CHIP project and in line with international practice, our measure of income equals the NBS's estimates of household disposable or net income adjusted to include imputed rents from owner-occupied housing and implicit subsidies on subsidized urban rental housing. So defined, income is comprised of different components including wage earnings, net business income, pension income, property income, imputed rental income on owner-occupied housing, and transfers received by the household net of taxes paid. We divide household income by household size (the number of household members adjusted using the Eurostat equivalence scale) to obtain household income per equivalent person.

In much of our analysis we divide the middle class into subgroups based on the major source of household income. The wage-earning middle class comprises individuals who live in middle-class households for which at least 50 percent of income is from wage employment. The self-employed or business middle class comprises those whose households receive at least 50 percent of their income from self-employment and self-owned businesses. The pensioner middle class comprises of those whose households received at least 50 percent of their income from pensions. The last subgroup is the residual "other" subgroup, which consists mainly of those in households with income from multiple sources, none of which exceeds 50 percent of household income.

3. The size and characteristics of China's global middle class

/Table 2 about here/

Table 2 shows our estimates of the size of China's global middle class. The first column shows the shares of the middle class in the total population. In 2002 only one percent of China's population belonged to the global middle class and almost none belonged to the upper class. In other words, in 2002 China's population essentially belonged entirely to the lower class. Even among the richer urban population, the share of the middle class was extremely low at only 2.4

percent. In absolute number, however, China's global middle class was not trivial at 12.5 million persons.

By 2013 China's middle class had grown to 19 percent of the population (254 million), a twenty-fold increase over 2002. This rapid expansion in China's middle class far outpaced growth in China's GDP, which had roughly tripled over the same period.[2] These estimates reveal a substantial catch up to the West in terms of household incomes.

The catch up was largely urban-based. As shown in the second and third columns of Table 2, in 2013 in rural China less than 5 percent of the population belonged to the middle class. In contrast, more than one third of urban residents (with urban hukou) were in the middle class. Among rural-urban migrants (individuals with rural hukou living in urban areas), one fifth belonged to the middle class. The higher middle class share for migrants than for the rural population suggests that migration was a pathway to the middle class for the rural-born population, a possibility that we explore more fully below.

/Table 3 about here/

Table 3 shows the average composition of income for each of the lower, middle and upper classes in 2013. Wages contributed more than half of total income for all three classes. For the middle class, pensions were also important and contributed 14 percent of income, compared to 11 percent for the lower class and only 6 percent for the upper class. Pensions are linked to past employment, which further underlines the central role of wage employment for China's middle class. Together, wage and pension income accounted for 71 percent of middle-class income, as compared to about 60 percent for the lower and upper classes.

The middle class also differs from other classes in the relative unimportance of income from household business. In 2013 business income on average accounted for 13 percent of income for China's middle class. For the other classes business income was noticeably more important. In addition, asset income accounted for less than 5 percent of middle-class income, compared

[2] Calculated using GDP growth data in constant prices, http://www.stats.gov.cn/tjsj/ndsj/2015/indexeh.htm. Accessed 21 March 2019.

to 15 percent for the upper class. We conclude that China's middle class is, in general, a salaried rather than an entrepreneurial class.

/Table 4 about here/

Although on average wage earnings constituted the largest income source for China's middle class, these households generated income in diverse ways. Table 4 disaggregates the middle class into subgroups based on the major source of income of the individual's household. In 2013 the wage-earner subgroup accounted for 60 percent of the middle class. The importance of wage employment to the middle class increases further if one adds in the additional 12 percent of the middle class with pensions as the main income source. The remainder of the middle class included individuals whose main source of income was from business and self-employment (13 percent) plus the "other" subgroup.

/Table 5 about here/

Table 5 reports information on the characteristics of the middle class. On average China's middle class saved 34 percent of its income, as compared to 15 percent for the lower class. The savings rate was especially high for the business middle class, which saved half its income.

The median length of education of the middle class was 11 years, higher than for the lower class. For the business middle class subgroup education was lower at 9 years, as compared to more than 12 years for the wage-earner subgroup. In terms of family background, the middle class had parents who were more highly educated than the lower class, and within the middle class the wage-earner subgroup had parents who were most highly educated. The business middle class had a much larger proportion of parents from rural areas than the wage-earner and other middle-class subgroups.

Living standards of the middle class in many regards resembled those of the middle class in the West, e.g., having running water, flush toilets, heated water, refrigerators, washing machines, air conditioning, and access to the internet. Living standards for China's middle class were considerably more comfortable than for the lower class. Ownership of a personal car is an illustrative example: in 2013 only 14 percent of the lower class owned a car, as compared 44 percent of the middle class. More than half of the business middle class owned a car.

/Figure 1 about here/

Figure 1 disaggregates the middle class further by location of residence and hukou (household registration). For reference, the bottom bar in Figure 1 shows the composition of the lower class, which was predominately rural or of rural origin.

The top bar in Figure 1 shows the composition of China's middle class as a whole. Most of the middle class was urban—61 percent of the middle class consisted of formal urban residents with urban hukou, and another 18 percent consisted of hukou converters. So, more than three-fourths of the middle class held urban hukou. Rural hukou holders were a minor segment of the middle class: 12 percent of the middle class were rural-to-urban migrants and only nine percent were rural stayers.

Examination of the remaining bars in Figure 1 reveals differences among the subgroups of the middle class. The wage-earner middle class was 84 percent urban, including 67 percent who were formal urban residents and 17 percent who were hukou converters. The pensioner middle class was even more heavily urban. Individuals with urban hukou comprised 98 percent of the pensioner middle class.

The subgroups of the middle class that were substantially rural in origin were the business and "other" middle classes. Three fourths of the business middle class were born with a rural hukou. Only 22 percent of the business middle class, however, still lived in rural areas. Slightly more than half of the "other" middle class was born with a rural hukou; however, only 26 percent of this subgroup still held a rural hukou, and only 23 percent lived in rural areas.

4. Circumstances at birth and pathways to the global middle class

The results in Figure 1 suggest that prospects for social mobility differed among individuals from different backgrounds. Of particular interest for understanding mobility are circumstances at birth, that is, background factors beyond one's control or choice. We begin by examining one such circumstance that is important in China: hukou at birth. We divide the sample into those born with urban hukou versus rural hukou and then chart the pathways to the middle class for each of these two groups. We then employ a multivariate regression model to identify how

hukou at birth and other background variables affect one's chances of belonging to the middle class.

/Figure 2 about here/

In 2013 the share of China's population with an urban hukou at birth was 30 percent, somewhat smaller than the share of China's total urban population (which also includes migrants and hukou converters). For those born with an urban hukou, the probability of belonging to the middle class was 38 percent, double that for the population as a whole.

Examination of the urban-born middle class's major source of income provides clues regarding its pathways to the middle class. Together, the wage-earner and pensioner subgroups made up more than 80 percent of the urban-born middle class. Furthermore, among wage-earners in the urban-born middle class, 59 percent were employed by party and government units or by state-owned enterprises.[3] We conclude that for individuals born with an urban hukou, the main pathway to the middle class is through well-paying wage employment that provides generous pension benefits. More often than not, this employment is in party or state units.

The 70 percent of the population born with a rural hukou is much less likely to belong to the middle class. Overall, only 10 percent of this group reached the middle class. Those born with rural hukou had three routes to the middle class. The most common route was to stay in the countryside: 56 percent of those born with rural hukou were rural stayers; however, only 4 percent of rural stayers reached the middle class. The second route was migration while keeping a rural hukou, which accounted for 28 percent of those born with rural hukou. Among migrants, 12 percent reached the middle class. Most of these were wage-earners; a substantial minority were in business.

The third route was to convert from a rural to an urban hukou. Using information on current hukou versus hukou at birth in the CHIP data, we estimate that in 2013 16 percent of those born with a rural hukou had converted to an urban hukou. Obtaining an urban hukou was

[3] Among members of the middle class with urban hukou at birth, 32 percent worked for government and party institutions (including *shiye danwei*), 22 percent for state-owned enterprises (including state majority-owned shareholding enterprises), and 33 percent for individual and private businesses. Among the wage-earner middle class subgroup with urban hukou at birth, these shares were 35 percent, 24 percent, and 27 percent respectively.

difficult, but for those who did the chances of reaching the middle class were fairly good. The share of hukou converters that reached the middle class was 26 percent, lower than for the urban-born but markedly higher than for the rest of the rural-born population. Like their urban-born middle-class neighbors, most hukou converters were wage-earners or pensioners.

A multinomial logit regression model allows us to estimate the effects of hukou at birth plus other background factors on the probability of belonging to different subgroups of the middle class. This methodology allows us to estimate the marginal effects of each background factor holding all other background factors constant at their mean values. In our specification the omitted category is the lower class, so the estimated probabilities of belonging to the different subgroups of the middle class are relative to the likelihood of being in the lower class.[4] The estimated marginal effects are reported in Table 6.

/Table 6 about here/

The explanatory variables in the model reflect the individual's circumstances at birth and include gender, age, whether the person was born with a rural or urban hukou, ethnicity, sibling number and order, the educational attainment of both parents, and the primary employment of both parents. We also include region of current residence (West, Central or East).[5] Mean values of the variables are reported in an appendix table.

The estimates in Table 6 reveal that background factors are related to the probability of belonging to the various segments of the middle class in significant and understandable ways. Being urban-born significantly increases the probability of belonging to three of the four subgroups of the middle class. The effect is largest for the wage-earner middle class: the probability of an urban-born person belonging to the wage-earner middle class is 10 percentage points higher than that of a rural-born person, all else held constant. Hukou at birth, however, does not raise the probability of belonging to the business middle class.

[4] In this analysis we have deleted the small number of observations of persons in the upper class because the number of observations in this group is too small to yield statistically significant estimates.

[5] This variable is measured in 2013, not at birth as would have been desirable, but the dataset does not include information about place of origin. Much of China's population, however, does not migrate across regions. In order to find out whether the results are sensitive to the inclusion of this region variable, we also estimated the model omitting region. The results were similar.

Parents' characteristics are also significant. A longer education of either the father or mother increases the probability of belonging to the wage-earner and pensioner subgroups of the middle class. Having a parent (father or mother) whose primary employment was in a government or party organization has a large, significant effect on belonging to the wage-earner middle class, which probability increases by 3 to 5 percentage points depending on which parent. Having a parent who was an employee in another type of work unit increases the probability of belonging to the wage-earner middle class by 2 to 3 percentage points. Having a father who was an employer increase the probability of belonging to the business or "other" middle class by 1 to 2 percentage points. Interestingly, having a mother who was self-employed or worked at home/was a homemaker has a positive, significant effect on probability of belonging to the wage-earner middle class. These results reveal inter-generational links in pathways to the middle class.

Compared to being male, being female slightly reduces the probability of being in the wage-earner middle class and slightly increases that of being in the pensioner middle class. This may reflect the earlier retirement age in China for women than men. Age cohort is negatively related to belonging to the wage-earner and business subgroups of the middle class but, not surprisingly, positively related to belonging to the pensioner middle class.

Having more than two siblings decreases the probability of belonging to the wage-earner middle class. Sibling factors have small and mostly insignificant effects with respect to the other subgroups. We find no evidence that ethnicity (Han versus non-Han) matters, which may reflect that ethnicity is correlated with other significant background factors such as education, parental education and occupation, and the number of siblings.

/Table 7 about here/

Using the estimates from the multivariate model, we identify six types of individuals in the population—three rural-born types and three urban-born types—based on the likelihood of belonging to the middle class (Table 7). For each kind of hukou we identify high, medium and low probability types. This exercise provides a sense of who within each hukou group is more or less likely to join the middle class and what pathways they follow.

Among those born with a rural hukou, the lowest probability of belonging to the middle class is for individuals who are older, live in central China, have many siblings, and have parents with low education and who worked as peasants (type A). For individuals with these characteristics, the probability of belonging to the middle class was only 3 percent. Chances are better (around 10 percent) for those who are young, live in the West, have one parent with more education, and have fewer siblings (type B). Chances are quite high (49 percent) for those who are young, have no siblings, live in the East, and both parents had wage jobs (type C). Of course, few rural-born individuals belong to type C.

Among those born with an urban hukou, the lowest probability of belonging to the middle class is for those who are older, have many siblings, live in the Center and have parents with low education and who worked as peasants (type D). For these individuals, the probability of belonging to the middle class was only 10 percent. Chances are better (39 percent) for those who are middle-aged, have fewer siblings, live in the West, have one parent with more education, and both of whose parents were employees of non-state units (type E). Chances are very high (85 percent) for those who are young or middle-aged, only children, live in the East, and whose parents have more education and worked for party and state units (type F).

For all six types, the probability of being in the wage-earner middle class is substantially higher than that of being in any other middle-class subgroup. Type C—rural-born, young, from the East, etc.—has the highest likelihood of belonging to the business middle class, but that probability is very low, only 2 percent.

5. Conclusions

Since 2002 China's population has been catching up with the middle class in the developed world. China's global middle class is a relatively new phenomenon, having only emerged after 2002, but thereafter it grew rapidly. Although from a domestic perspective this population share was relatively modest at 19 percent in 2013, in absolute number China's middle class was sizable at approximately 250 million people. This is roughly two-thirds the size of the EU's middle class of 370 million people.[6] Comparable statistics are not available for the US, but the

[6] According to Eurostat data for 2013 (https://ec.europa.eu/eurostat/data/database Table tessi126, accessed 29 March 2019), 17 percent of the EU population had equivalized income below 60 percent of the median. Statistics are not available for the share of the EU population with income above two times the median; we assume the share

entire population of the US in 2013 was 316 million. Thus, China's middle class was equivalent in size to 80 percent of the US population.

As expected, China's middle class is predominately urban, located in the eastern region, and mainly depends on wage employment for its income. Consistent with the literature, we find heterogeneity in the middle class between those whose income is derived mainly from wage employment and those whose income is derived mainly from business and self-employment. The former subgroup of the middle class is overwhelmingly urban with urban hukou. The business subgroup is more diverse and includes more rural residents and migrants. The business subgroup also has a higher savings rate.

We find that in China the chances of attaining the global middle class depend significantly on background factors such as hukou at birth, parents' education, and parents' occupation, and in expected ways. Not surprisingly, those born with urban hukou have a fairly high chance of joining the middle class, and rural residents who remain in the countryside have a very low chance.

Some findings were unexpected. The fact that the majority of China's middle class derives its income form employment is not surprising, but the overwhelming dominance of this group—including pensioners, over 80 percent of the middle class—and the small share of the business middle class—only 13 percent—was a surprise. This lopsided composition suggests that, despite heterogeneity between the business and wage-earner (cum pensioner) middle classes, overall China's middle class is quite homogeneous in its dependence on wage employment. Middle-class interests are therefore likely dominated by the concerns of a salaried middle class similar to that found in, say, Japan (Tanaka and Shikata 2019). These interests are likely to emphasize growth of wages and benefits, security of employment, and good job opportunities. Moreover, given that a fairly large share of China's middle class is state-sponsored, that is, employed by party, government or state-owned units, its concerns are disproportionately tied to the state.

is about 10 percent. This gives a middle-class share of 83 percent, which we multiply by the 2013 population for the EU 28 countries (505 million) to obtain an EU middle class of 393 million.

We expected that the chances of joining the middle class would be higher for the urban than the rural population, but the magnitude of the difference was surprising. Being born with an urban hukou provides a huge advantage. Nearly 40 percent of this group attained the global middle class, versus only 10 percent of those born with a rural hukou. The urban hukou advantage is confirmed by our multinomial logit estimates.

These results reflect the segmentation between China's urban and rural populations with respect to life chances. For those born with rural hukou, the only real path to the middle class is through the urban sector and, if possible, through obtaining an urban hukou. Our multivariate analysis identifies other background factors that matter, in particular, age, parental characteristics, and region. Some of these variables, however, are highly correlated with hukou at birth.

Finally, the high savings rate of China's global middle class raises questions with respect to this group's role as the driver of consumption-led economic growth. China's middle class saves more one-third of its income, compared to a 15 percent savings rates for those with lower incomes. An extra dollar going to the lower-income class instead of the middle class would therefore be more effective in promoting consumption-led growth, as well as having advantages from a distributional perspective.

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Table 1. Cutoffs for the global middle class (per person per day)

	Between the middle class and lower class		Between the middle class and upper class	
	RMB	USD	RMB	USD
2013	135	36	451	120
2002	93	26	312	88

Notes: The 2013 cutoffs for the middle class are set at 60 percent and 200 percent of 2013 median income per equivalized person (Euros 18,219) in the EU-15 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom), divided by 365 to obtain the per day value. EU data are from Eurostat (https://ec.europa.eu/eurostat/data/database, accessed 24 March 2017). Euros are converted to US dollars and RMB using the 2013 PPP exchange rates for private consumption (https://stats.oecd.org/index.aspx?DataSetCode=SNA_Table4, accessed 24 March 2017). The 2002 cutoffs are in 2002 prices. The RMB cutoffs for 2002 are equal to the 2013 RMB cutoffs deflated using China's consumer price index (http://www.stats.gov.cn/english/statisticaldata/annualdata/, accessed 24 March 2017). The 2002 RMB cutoffs are converted to USD using the 2002 PPP exchange rate.

Table 2. The shares of the global middle, lower and upper classes in China's population, 2002 and 2013 (%)

A: 2002				
	all	urban	rural	migrant
lower	99.0	97.6	99.8	99.3
middle	1.0	2.4	0.2	0.7
upper	0.0	0.0	0.0	0.0
all	100	100	100	100
B:2013				
	all	urban	rural	migrant
lower	80.9	64.7	95.6	80.2
middle	18.7	34.4	4.3	19.5
upper	0.5	0.9	0.1	0.3
all	100	100	100	100

Notes: Urban refers to living in urban areas and having an urban hukou; rural refers to living in rural areas and having a rural hukou; migrant refers to living in urban areas and having a rural hukou. Calculated using the cutoffs in Table 1. For 2002 the cutoffs in Table 1 are deflated to 2002 prices using urban and rural consumer price indices published by the NBS. Calculated using the CHIP data, with region x urban/rural/migrant population weights. Calculated over individuals based on the income per equivalent adult of the households to which they belong.

Table 3. The composition of income by class, 2013

	lower	middle	upper
wage income	52.7%	56.6%	53.1%
net business income	21.4%	12.6%	24.4%
asset income	3.1%	4.6%	9.9%
pension income	8.7%	14.1%	6.3%
net transfer income	0.1%	-3.5%	-5.3%
imputed rent	13.9%	14.9%	11.3%
in-kind rental housing subsidies	0.2%	0.8%	0.2%
Total (%)	100%	100%	100%

Notes: Shares of the different income components are first calculated for each observation, and then the means are calculated for each class.

Table 4. The composition of China's global middle class by income subgroup, 2013 (%)

	definition	% of middle class
Wage-earning middle class	Wage income ≥ 50%	59.81
Business middle class	Business of self-employment income ≥ 50%	12.76
Pensioner middle class	Pension income ≥ 50%	11.54
Other	No single source of income ≥ 50%	15.89

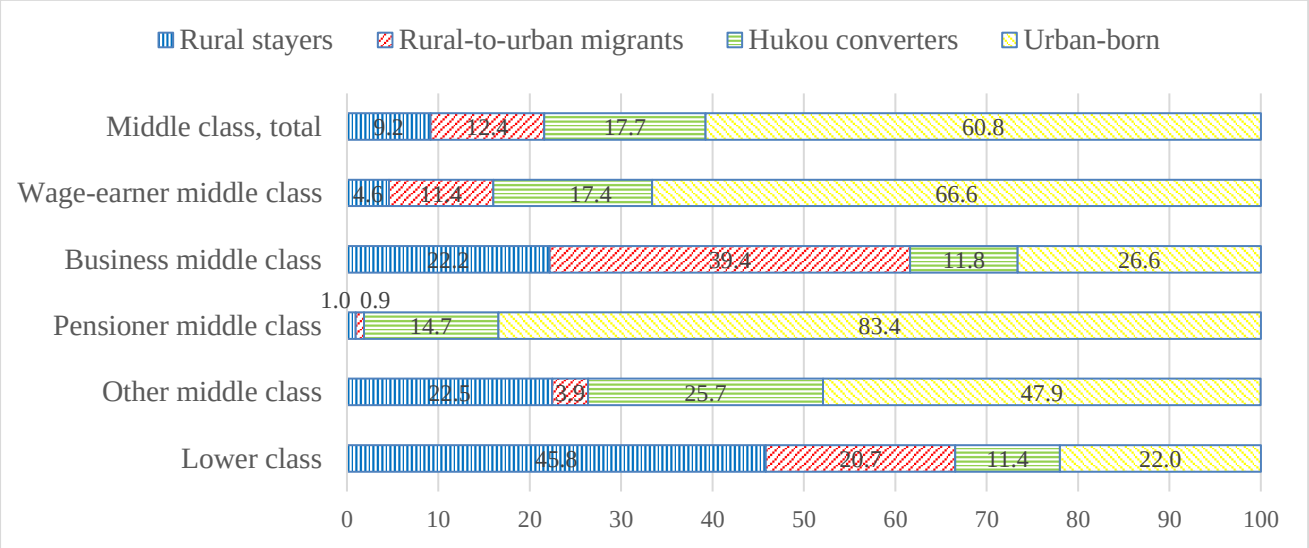
Notes: Subgroups are determined by the source of income that comprises 50% or more of the income of the household to which the individual belongs.

Table 5. Characteristics of the middle class and its subgroups

	Lower class	Middle class total	Wage-earner middle class	Business middle class	Pensioner middle class	Other middle class
Saving rate (%)	14.9	33.7	34.2	48.4	35.1	29.1
Education (years)	8.2	11.1	11.8	9.1	11.1	10.0
Education of parents (%)						
Father-the % of senior middle school and above	12.7	32.2	39.8	23.1	17.4	19.2
Mother-the % of senior middle school and above	8.3	25.7	32.8	15.9	11.6	14.8
The share of whose parents are peasants (%)						
Father	42.2	20.3	15.8	35.9	17.7	28.4
Mother	50.9	24.3	19.3	42.1	21.2	33.9
Housing conditions and ownership of consumer durables						
Running water in dwelling (%)	79.1	98.8	99.3	95.1	99.6	99.1
Flush toilet in dwelling (%)	53.1	94.2	96.8	81.4	95.5	93.5
Ownership of water heater (%)	61.3	92.0	93.0	83.0	93.6	94.0
Ownership of refrigerator (%)	79.6	95.5	95.4	91.2	99.1	96.4
Ownership of washing machine (%)	81.6	95.1	95.5	92.7	98.1	95.8
Ownership of air conditioner (%)	40.4	78.5	79.7	68.5	82.1	73.0
Main fuel for cooking is firewood or coal (%)	33.7	2.1	1.0	8.8	0.1	2.5
Ownership of computer connected to the internet (%)	32.9	72.9	80.3	66.5	47.7	68.6
Ownership of private car (%)	14.3	44.1	47.2	55.0	17.7	43.6
Ownership of mobile phone connected to internet (%)	33.9	57.0	62.5	57.5	31.3	54.5

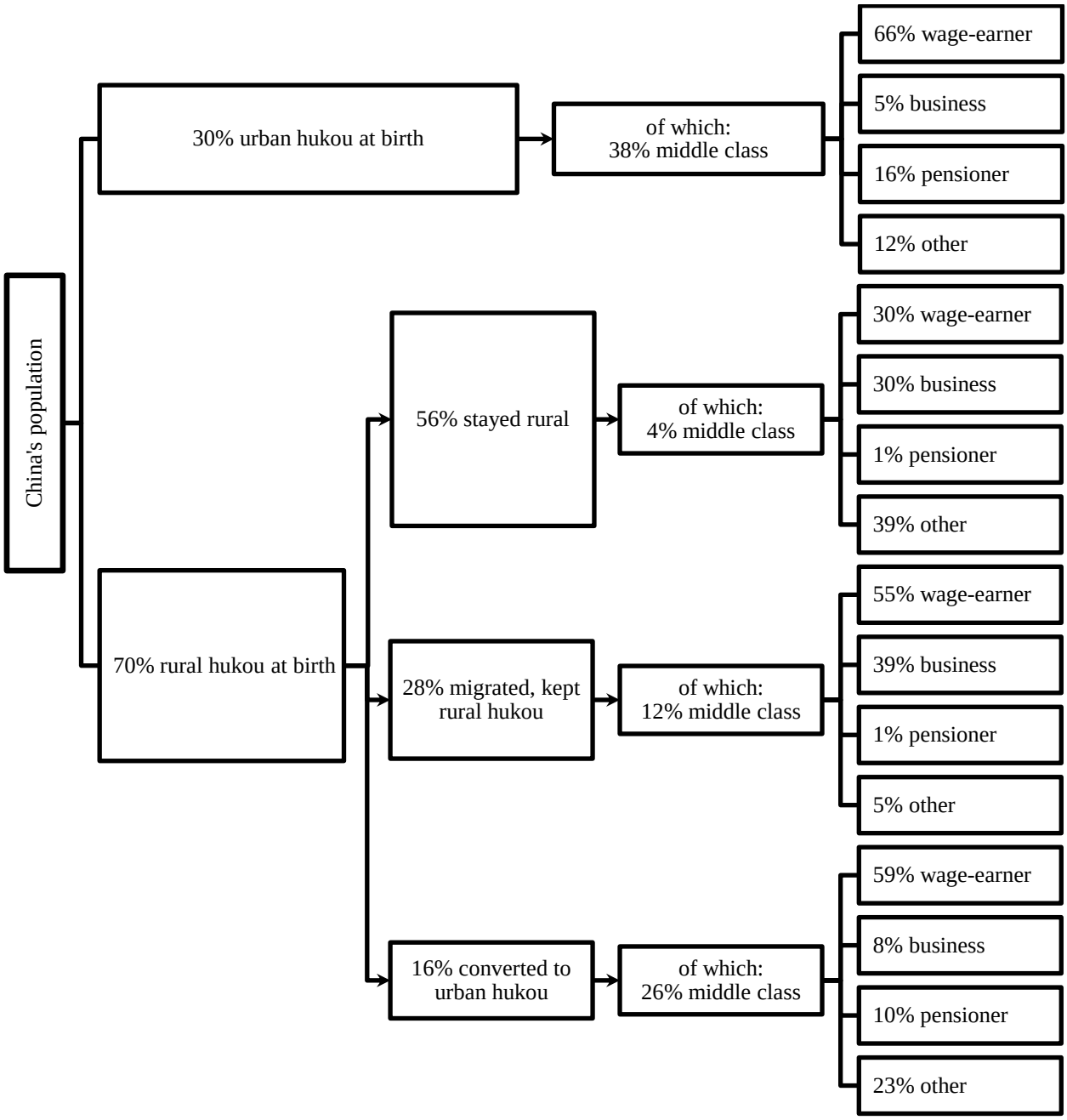
Notes: The saving rate is calculated by calculating for each household the difference between household income and consumption expenditures, and then dividing by income. Mean education levels are for adults only.

Figure 1. Description of various subgroups of the middle classes



Notes: Rural stayers are people who live in rural areas and have rural hukou. Rural-to-urban migrants are people who live in urban areas and have rural hukou. Hukou converters are people who were born with rural hukou and now have urban hukou. Urban-born are people who were born with urban hukou. Calculated with weights using information on hukou at birth, current hukou, and current location of residence in the CHIP 2013 data.

Figure 2. Routes to the middle class for those born with urban versus rural hukou, 2013



Notes: Calculated (with weights) using information in the dataset on hukou at birth, current hukou, and current location of residence in the CHIP 2013 data.

Table 6. Estimates of the multinomial logit model (marginal effects)

		Wage-earner middle class	Business middle class	Pensioner middle class	Other middle class
hukou type at birth	Rural hukou (omitted group)				
	Urban hukou	.091***	.003	.007***	.013***
education of father	Junior middle school and below (omitted group)				
	Senior middle school and above	.033***	.001	.002***	.003
education of mother	Junior middle school and below (omitted group)				
	Senior middle school and above	.024***	-.008	.002**	-.004
work information of father	Peasant (omitted group)				
	Self-employed (excluding peasants)	.015	.004	.001	.016***
	Employee of government and party agencies, public institutions	.033***	.002	.003***	.015***
	Employee of other work units	.024***	-.003	.002**	.008
	Employer	.020	.013*	.003*	.024**
	Works in the home or homemaker	.016	.002	.000	.007
work information of mother	Peasant (omitted group)				
	Self-employed (excluding peasants)	.046***	-.002	.001	.002
	Employee of government and party agencies, public institutions	.053***	-.011	.001	.021***
	Employee of other work units	.033***	-.005	.002**	.009
	Employer	.011	-.007	.001	-.011
	Works in the home or homemaker	.034***	-.001	.001*	.001
gender	Male (omitted group)				
	Female	-.005***	.001	.001***	.002
cohort	Cohort 1 (omitted group): born after 1969, entered education after 1976				
	Cohort 2: born between 1959 and 1969, entered education between 1966 and 1976	-.013***	-.012***	.004***	.006
	Cohort 3: born between 1944 and 1958, entered education between 1951 and 1965	-.059***	-.032***	.014***	.019***
	Cohort 4: born before 1944, entered education before 1951	-.203***	-.045***	.017***	.019***
ethnicity	Han (omitted group)				
	Ethnic minority	-.018	-.005	-.001	-.006
sibling order	No siblings, only child (omitted group)				
	Oldest of two siblings	-.004	.001	-.001	.004
	Youngest of two siblings	.003	.003	-.002**	.009
	Oldest of three siblings	-.024***	-.011*	-.001	.001
	Youngest of three siblings	-.009	-.007	.000	.002

	Oldest of four siblings	-.029***	-.005	-.001	-.001
	Youngest of four siblings	-.039***	.001	-.002**	.002
	Oldest of five siblings	-.039**	.001	-.002*	.004
	Youngest of five siblings	-.029**	-.012*	-.000	-.013
	Others	-.033***	-.007	-.001	.003
region	Eastern region (omitted group)				
	Central region	-.068***	-.005*	-.003***	-.021***
	Western region	-.062***	-.013***	-.003***	-.003
Number of obs.	28735				
Wald chi^2(116)	2875.69				
Prob > chi^2	0.000				
Pseudo R^2	0.199				

Notes: The table shows the estimated marginal effects calculated at the means of the independent variables. The dependent variable takes the values: Y=1, the lower class (base/reference outcome); Y=2, wage-earner-middle class; Y=3, business middle class; Y=4, pensioner middle class; Y=5, other middle class. As there are too few observations in the upper class, we do not include them in the estimation. The estimation sample is restricted to adults age 25 and higher. Estimated with weights and robust standard errors (clustered by household) using the CHIP 2013 data.

Table 7. Predicted probabilities of belonging to the middle class for selected types of individuals

Type	Lower class	Wage-earner middle class	Business middle class	Pensioner middle class	Other middle class
A: Rural-born, low probability: Center, parents low education, parents peasants, older, oldest of many siblings	97.3%	0.2%	0.4%	0.9%	1.2%
B: Rural-born, moderate probability: West, mother low education, father high education, both parents peasants, young, oldest of three siblings	90.1%	6.5%	1.9%	0.0%	1.5%
C: Rural-born, high probability: East, both parents high education, both parents employees of non-state units, young, only child	51.3%	44.4%	2.1%	0.2%	1.9%
D: Urban-born, low probability: Center, both parents low education, both parents peasant, older, oldest of many siblings	90.1%	0.6%	0.5%	6.7%	2.1%
E: Urban-born, moderate probability: West, mother low education, father high education, both parents employees of non-state units, middle aged, oldest of three siblings	60.7%	32.8%	0.6%	1.1%	4.8%
F: Urban-born, high probability: East, both parents high education, both parents employees of state/public units, younger or middle-aged, only child	15.0%	81.2%	0.8%	0.7%	2.2%

Notes: Rural-born means having a rural hukou at birth; urban-born means having an urban hukou at birth. Calculated using estimates from the multinomial logit model (Table 6).

Appendix table: Descriptive statistics for variables in the multinomial logit model

		Obs.	Mean	Std. Dev.
hukou type at birth	Rural hukou	28735	0.704	0.456
	Urban hukou	28735	0.296	0.456
education of father	Junior middle school and below	28735	0.910	0.287
	Senior middle school and above	28735	0.090	0.287
education of mother	Junior middle school and below	28735	0.952	0.213
	Senior middle school and above	28735	0.048	0.213
work information of father	Peasant	28735	0.526	0.499
	Self-employed (excluding peasants)	28735	0.102	0.303
	Employee of government and party agencies, public institutions	28735	0.074	0.261
	Employee of other work units	28735	0.226	0.419
	Employer	28735	0.013	0.113
	Works in the home or homemaker	28735	0.059	0.235
work information of mother	Peasant	28735	0.568	0.495
	Self-employed (excluding peasants)	28735	0.085	0.279
	Employee of government and party agencies, public institutions	28735	0.033	0.179
	Employee of other work units	28735	0.161	0.367
	Employer	28735	0.009	0.094
	Works in the home or homemaker	28735	0.144	0.351
gender	Male	28735	0.494	0.500
	Female	28735	0.506	0.500
cohort	Cohort 1: born after 1969, enter education after 1976	28735	0.374	0.484
	Cohort 2: born between 1959 and 1969, entered education between 1966 and 1976	28735	0.316	0.465
	Cohort 3: born between 1944 and 1958, entered education between 1951 and 1965	28735	0.255	0.436
	Cohort 4: born before 1944, entered education before 1951	28735	0.055	0.227
ethnicity	Han	28735	0.937	0.242
	Ethnic minority	28735	0.063	0.242
sibling order	No siblings, only child	28735	0.085	0.279
	Oldest of two siblings	28735	0.102	0.303
	Youngest of two siblings	28735	0.080	0.271
	Oldest of three siblings	28735	0.085	0.279
	Youngest of three siblings	28735	0.063	0.242
	Oldest of four siblings	28735	0.050	0.218
	Youngest of four siblings	28735	0.038	0.191
	Oldest of five siblings	28735	0.027	0.163
	Youngest of five siblings	28735	0.026	0.159
	Other	28735	0.445	0.497
region	Eastern region	28735	0.430	0.495
	Central region	28735	0.316	0.465
	Western region	28735	0.254	0.435

Note: The sample here is restricted to adults age 25 and older. All means and standard deviations are calculated using the CHIP 2013 data, with weights. The number of observations is unweighted.