


RESEARCH ARTICLE

# China's Prosperous Middle Class and Consumption-led Economic Growth: Lessons from Household Survey Data

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## Abstract

Can the expansion of a prosperous middle class help China to rebalance to consumption-led growth? We address this question through analysis of macro- and micro-level data. Using macro statistics, we examine trends in national aggregate consumption and GDP growth from 2000 through 2019. We observe growth in aggregate consumption but do not find convincing evidence of consumption-led growth. Using micro-level household survey data from 2002, 2007, 2013 and 2018, we estimate the size of China's prosperous middle class and its contribution to aggregate consumption growth. We find that the prosperous middle class expanded rapidly but contributed less to aggregate consumption growth than expected. We discuss features of this class that diminished its contribution to consumption-led growth, including its low propensity to consume out of income and its limited expansion beyond urban subgroups. We conclude that the expansion of the prosperous middle class is necessary but not sufficient to bring about rebalancing.

## 摘要

富裕中等收入群体规模的扩大是否会促进中国向消费驱动型经济增长模式的转变？为回答此问题，我们利用从 21 世纪初开始近 20 年的宏观和微观数据进行了分析。通过利用宏观数据分析全国总消费与 GDP 的增长趋势，我们发现虽然全国总消费持续增长但并没有找到它带动 GDP 增长的有力证据。利用微观住户调查数据，我们估算了富裕中等收入群体的规模及其对总消费增长的贡献，发现虽然中等收入群体规模快速扩大，但它对总消费增长的贡献却低于预期。受制于自身的一些特征，中等收入群体还没有充分发挥其“促消费拉动经济增长”的潜力，比如，中等收入群体主要来源于范围有限的人群，其消费率比较低。我们认为，中等收入群体规模的扩大，虽然会促进“经济再平衡”但还不足够，其作用还没有充分发挥出来。

**Keywords:** China; middle class; GDP growth; rebalancing; consumption

**关键词:** 中国; 中等收入群体; GDP 增长; 再平衡; 消费

During the reform era, China's economy has been characterized by persistently high levels of investment and savings. Concerns about overly high investment and declining returns to investment have led observers inside and outside of China to call for a rebalancing of the economy (*jingji zai pingheng* 经济再平衡) and a transition to consumption-led growth (*xiaofei ladong xing jingji zengzhang* 消费拉动型经济增长). Considered key to this rebalancing is the emergence of a consumption-oriented, prosperous domestic middle class. In this paper, we document the emergence of such a middle class in China, estimate its contribution to growth in national aggregate consumption, and identify factors that affect its ability to drive consumption-led growth.

Calls for macroeconomic rebalancing through increased domestic consumption are not new. During the Hu Jintao–Wen Jiabao 胡锦涛—温家宝 period (2003–2012), official statements

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emphasized macroeconomic rebalancing and the pursuit of a “moderately prosperous society” (*xiaokang shehui* 小康社会).<sup>1</sup> Implicit in the latter notion was the emergence of a consumption-oriented middle-income class that would support growth in aggregate consumption.<sup>2</sup> Actual macroeconomic trends during the Hu–Wen period, however, went in the opposite direction: the share of investment in GDP rose to its highest historical level and the share of consumption fell to its lowest.

Attention to macroeconomic rebalancing and the pursuit of a moderately prosperous society continued into the Xi Jinping 习近平 period. These concerns featured prominently in the 12th, 13th and 14th Five-Year Plans (2011–2015, 2016–2020, 2021–2025), albeit with some modification. The 14th Five-Year Plan (2021–2025) stated that China, having achieved moderate prosperity, would now aim to achieve the higher goal of “common prosperity” (*gongtong fuyu* 共同富裕). Common prosperity involves bringing the majority of the population up to a prosperous standard of living. Official statements do not explicitly define the term “prosperous” but, as we will discuss, a reasonable interpretation is that it means standards of living similar to those of middle-class households in prosperous (high-income) countries.

The 14th Five-Year Plan also discusses “dual circulation” (*shuang xunhuan* 双循环). Dual circulation, like rebalancing, refers to a shift from investment-led to consumption-led growth. Consumption comes from two (dual) channels, international demand, i.e. exports, and domestic demand, i.e. consumption by Chinese households. Recognizing the diminished opportunities for the future expansion of China’s exports, the Plan emphasizes domestic demand.<sup>3</sup> In the reformulated narrative, then, sustained macroeconomic growth is driven largely by the growth in domestic consumption, which follows from the expansion of a broad-based, prosperous middle class.

In this paper, we investigate the conditions under which China can successfully realize this narrative. One condition is that China can substantially expand its prosperous middle class. A second condition is that expansion of this prosperous middle class brings about growth in national aggregate consumption. This second condition requires that households increase their consumption as they move up into the prosperous middle class. Our investigation is based on analysis of both macroeconomic statistics for the period 2000 through 2019 and micro-level data from four rounds (2002, 2007, 2013 and 2018) of the China Household Income Project (CHIP) household survey. Our analysis thus spans the first two decades of the 21st century and both the Hu–Wen and Xi leadership periods. We stop before the coronavirus pandemic, as those years were characterized by extraordinary economic circumstances and do not reflect long-term developments.

Several previous studies have used the macroeconomic statistics published by the National Bureau of Statistics of China (NBS) to examine the balance between investment and consumption in China.<sup>4</sup> Following these studies, we begin with an updated look at the NBS macroeconomic statistics. We find that during the period of study, national aggregate consumption in China increased substantially. We conclude, however, that despite this increase, China had not yet successfully begun the transition to consumption-led growth.

The majority of our analysis investigates the micro developments underlying these macro trends. Using household data from the CHIP survey, we examine changes in the level and distribution of household incomes, the emergence of a prosperous middle class and the consumption patterns of this middle class. These micro data allow us to examine the underpinnings of macroeconomic trends in China and critically evaluate China’s macroeconomic growth strategy.

Our analysis of the micro-level data shows the rapid growth of a prosperous middle class, especially after 2007. By 2018, this middle class was large in absolute size but still a minority of the Chinese population. Consequently, there was substantial room for its further expansion.

1 Hu 2012; International Monetary Fund 2007; Lardy 2007; McNally 2013.

2 Lu 2010.

3 Herrero 2021.

4 See, e.g., Lardy 2019; Zhang, Longmei 2016.

Nevertheless, the characteristics of this prosperous middle class – overwhelmingly urban, relatively well educated and relying disproportionately on income from formal jobs – point to challenges in realizing further expansion. In addition, we find that prosperous middle-class households were not consumption oriented. Although these households had higher absolute levels of consumption than lower-income households, they spent a relatively low share of their income on consumption.

Using the micro-level data, we estimate the main contributors to growth in aggregate consumption between 2013 through 2018. First, we look at the contributions of the prosperous middle class versus the lower-income class to aggregate consumption growth. Expansion of the prosperous middle class did contribute to growth in aggregate consumption, but less than expected. Second, we look at the contributions of growth in household incomes versus changes in the share of income spent on consumption, i.e. the average propensity to consume out of income (APC). Here, our finding is unequivocal. During these years, the average propensity to consume changed little, so that growth in aggregate consumption was almost entirely from increases in household incomes. Based on these estimates, we conclude that the expansion of a prosperous middle class is necessary but not sufficient to ensure China's transition to consumption-led growth.

### The Macroeconomic Picture

The prominent role of investment and secondary role of consumption in China's growth is evident in macroeconomic statistics published by the NBS. These statistics, despite certain limitations, provide a picture of major trends in the economy and set the stage for our analysis of the household survey data.<sup>5</sup> Here, we examine the statistics for gross capital formation, a measure of nationwide investment, and aggregate household consumption, which measures private consumption by households.<sup>6</sup>

Figure 1 shows the shares in GDP of gross capital formation and aggregate household consumption from 2000 to 2019. In 2000, gross capital formation accounted for an already high 34 per cent of GDP. By 2003, its share had risen above 40 per cent; it then rose further to a peak of 48 per cent in 2010. Thereafter, it declined but remained well above 40 per cent.

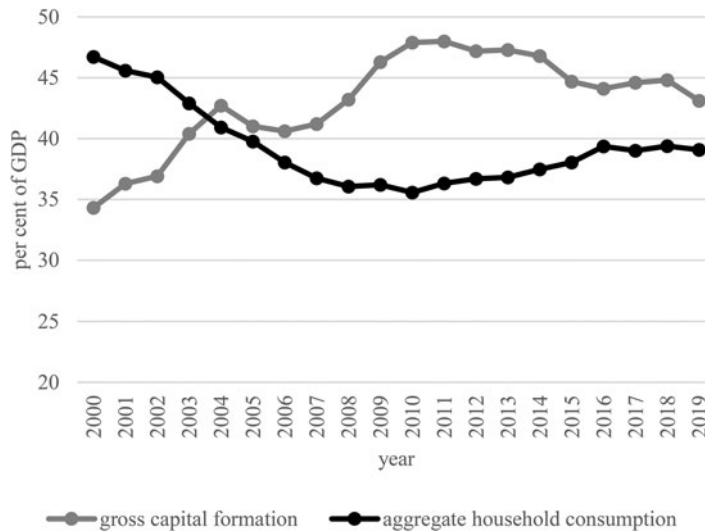
These shares are extremely high by international standards. The shares of gross capital formation in middle and upper-middle income countries range from 15 to 30 per cent.<sup>7</sup> During periods of rapid economic growth, the share can go higher but rarely reaches 40 per cent. During South Korea's economic take-off, for example, the share of gross capital formation in GDP peaked in 1991 at 39 per cent. During more recent periods of rapid growth in Vietnam and India, the shares of gross capital formation peaked at 35 per cent.

Accompanying China's high shares of gross capital formation were low shares of aggregate household consumption. In the early 2000s, the GDP share of household consumption declined, falling to an extremely low 36 per cent in 2010. During this time, then, China moved away from rather than towards its stated aim of rebalancing. Thereafter, consumption's share recovered but after 2016 stalled below 40 per cent. By comparison, the share of household consumption in

5 Of relevance here, aggregate household consumption is thought to be understated in these statistics (Lardy 2012; Zhang, Jun, and Zhu 2013; 2015).

6 The NBS publishes statistics on China's GDP by expenditure approach, which consists of three components: gross capital formation, final consumption and net exports. Gross capital formation is a measure of aggregate investment that includes new fixed-asset purchases plus changes in inventories. Final consumption is the sum of aggregate household consumption and government consumption. Aggregate household consumption includes household expenditures on goods and services plus some imputed consumption, e.g. the imputed value of in-kind income that households receive from employers and of some goods and services self-produced and consumed by households (e.g. agricultural products). Government consumption includes government expenditures on public goods and services and on goods and services provided to households for free or at reduced prices.

7 Comparative statistics for the shares of gross capital formation and household consumption in GDP are from the World Bank, <https://data.worldbank.org/>. Accessed 1 April 2023.



**Figure 1.** Gross Capital Formation and Aggregate Household Consumption: Shares of GDP (%)

Source: NBS 2021.

Notes: Expenditure GDP is the sum of gross capital formation, aggregate household consumption, government consumption and net exports. This figure shows the first two of these components.

other upper-middle income countries is generally above 65 per cent and rarely drops below 50 per cent.

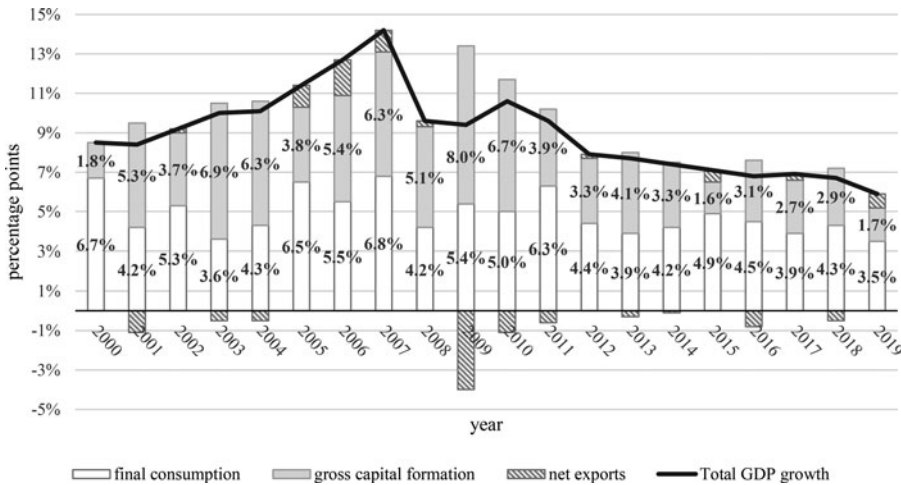
The trends in Figure 1 are, to some extent, a reflection of short-term factors arising from China's response to the global financial crisis. From 2008 through 2010, China implemented a large public stimulus programme that emphasized infrastructure investment.<sup>8</sup> After 2010, as the crisis receded, the stimulus programme wound down. Accordingly, the share of gross capital formation in GDP declined and that of household consumption rose.

Trends after 2010 appear consistent with rebalancing, but several considerations suggest otherwise. First, if China were truly rebalancing, then the share of investment in GDP should have fallen further to below its already high level prior to the global financial crisis. This did not happen. Investment's share remained elevated (Figure 1). Second, rebalancing would involve a sustained rise in household consumption's share of GDP. The statistics do not show this. The share of consumption recovered from the lows during the global financial crisis but stalled after 2016 at a level noticeably lower than prior to the global financial crisis (Figure 1).

Our discussion so far has examined changes in the composition of China's GDP. Macroeconomic statistics for growth in GDP tell a similar story. Figure 2 shows NBS estimates of China's GDP growth along with a decomposition of that growth between the contributions of growth in consumption and growth in gross capital formation. For completeness, we also show the contribution of changes in net exports, which during this period was relatively small. The contributions of growth in these three components of GDP add up to growth in overall GDP.

The solid line in the figure represents the rate of GDP growth, perhaps the single most important macroeconomic variable. It rose to a high of over 14 per cent in 2007, dropped to a still high 9–10 per cent during the global financial crisis, and thereafter dropped further to 6–7 per cent. The vertical bars show the contributions of growth of each of the three components of GDP to overall growth in GDP in each year. The contribution of consumption is shown in white, gross capital formation in grey and net exports are striped.

<sup>8</sup> Naughton 2009; Wong 2011.



**Figure 2.** China's GDP Growth and the Contributions of Growth in Aggregate Consumption, Gross Capital Formation and Net Exports (percentage points)

Source: NBS 2021, table 3-14.

Notes: Labels show percentage point values for the contributions of final consumption and gross capital formation. The NBS estimates these contributions by calculating the change in each component of GDP and dividing by the change in total GDP.

So, for example, in 2004, growth in consumption contributed 4.3 percentage points of GDP growth, growth in gross capital formation contributed 6.3 percentage points and growth in net exports (which was negative) contributed -0.5 percentage points. The three contributions add up to overall GDP growth of 10.1 per cent.

Figure 2 shows that in most years from 2000 to 2010, gross capital formation was the largest contributor to GDP growth. After 2010, consumption became the largest contributor. This reversal might lead one to conclude that China was transitioning to consumption-led growth; however, the reversal mainly reflects the drop in the contribution of investment that occurred during the winding down of China's stimulus response to the global financial crisis. After 2010, consumption's contribution to GDP growth did not increase. Indeed, after 2011, its percentage point contribution was lower than it had been in the early 2000s.

We conclude from these macroeconomic trends that as of 2019, China had not yet successfully begun to rebalance towards consumption-led growth. The apparent increase in the importance of consumption to GDP growth was simply the result of weakening on the investment side, e.g. the wind down of the stimulus programme and diminishing returns to investment. Consumption had yet to play a leading role in driving macroeconomic growth. Analysis of the micro-level data, to which we now turn, shows that these lacklustre trends in consumption occurred despite the concurrent rapid expansion of China's prosperous middle class.

### The Microeconomic Survey Data and Definition of Prosperous Middle Class

For our micro-level analysis, we use household data from the 2002, 2007, 2013 and 2018 rounds of the CHIP survey. Here, we describe key features of these survey data. Details are provided in the [supplementary online appendix](#).

The CHIP surveys comprise large, nationwide samples spanning the eastern, central and western regions of China and encompassing urban, rural and migrant households. With the application of population sampling weights, estimates obtained using these data should be representative at the national and sectoral (urban-rural-migrant) levels.

The CHIP datasets were designed for the purpose of analysing changes over time in household income and income distribution. They contain detailed information on household income and consumption expenditures. Much of the income and expenditure information in the CHIP datasets was provided by the NBS, which collected the data using real-time diaries as part of its annual household income and expenditure surveys.

The income and consumption variables that we use in our analysis are comprehensive and comprise a wide range of items including cash and in-kind components. For income, we use the variable disposable household income; for consumption, we use household consumption expenditures. Both variables are based on the NBS income and consumption expenditure variables and follow the NBS definitions, with a few adjustments to make measurement of household income consistent across time – from 2002 through 2018 – and across space – domestically within China and between China and the EU (see the supplementary appendix for details).

Our definition of the prosperous middle class is based on the discussions of “common prosperity” in official documents and speeches. Such sources do not explicitly define the term “prosperity” but say that China should make solid progress towards common prosperity by 2035 and achieve common prosperity by 2050. Given these timelines, a reasonable interpretation is that “prosperity” refers to the living standards of middle-class households in high-income countries. The household income targets set by Zhejiang province, which is designated as a demonstration zone for China’s common prosperity programme, are consistent with this interpretation. In 2021, Zhejiang announced a target of achieving levels of household income per capita equal to those in developed countries by 2035, at which time it would “basically achieve common prosperity.”<sup>9</sup>

We use this interpretation as the basis for our definition of China’s prosperous middle class. Specifically, we define the prosperous middle class as comprising individuals living in households that have disposable income per person that is neither poor nor rich by European Union (EU) standards. We use the EU as our yardstick because it encompasses a large population spanning multiple developed countries, and because the household income statistics needed for such analysis are published by the European Commission.

Our income cut-offs for determining which households belong to the prosperous middle class are set so that the dividing line between the lower-income class and prosperous middle class equals the EU poverty line, which is 60 per cent of the EU median household income per person. We follow other studies and set the dividing line between the prosperous middle and upper-income classes at 200 per cent of median income per person.<sup>10</sup> In our analysis, then, we classify members of Chinese households with income between 0.6 and 2 times EU median income per person as belonging to the prosperous middle class.

This definition uses a single criterion to define class: household income per person. Other approaches are possible, and the literature contains a wide range of definitions based on other criteria such as the composition of income, occupation, education and ownership of assets.<sup>11</sup> For our purposes – the analysis of household consumption levels – income is an appropriate and straightforward criterion, and one that is strongly correlated with many of the other variables typically used to identify the middle class.

When calculating the size of the prosperous middle class over multiple years, we had the choice of using fixed goalposts, that is, cut-offs for all years based on the median income in a single reference year, or moving goalposts, that is, cut-offs for each year based on the median income in that

9 Discussion of Zhejiang province’s demonstration programme for achieving common prosperity and its targets under that plan have been described in provincial government and national newspaper reports. See, e.g., <https://www.globaltimes.cn/page/202108/1232960.shtml> and [http://qzzhou.chinadaily.com.cn/2021-06/30/c\\_638380.htm](http://qzzhou.chinadaily.com.cn/2021-06/30/c_638380.htm). Both accessed 2 April 2023.

10 Gustafsson, Sicular and Yang 2020; Kharas 2010; Pew Research Center 2012; 2015; 2016.

11 Goodman 2014; Li 2010; Lu 2010; Weeden and Grusky 2005.

**Table 1.** The Size of China's Prosperous Middle Class and Composition of China's Population by Income Class (millions, %)

Year	Size of Prosperous Middle Class (mil)	Population shares (%)		
		Lower income	Prosperous middle	Upper income
2002	10.1	99.2	0.8	0.0
2007	86.5	93.4	6.6	0.0
2013	148.3	88.9	10.8	0.3
2018	292.3	78.3	20.8	0.9

Source: Authors' estimates using the CHIP data and cut offs in Appendix Table 1 in the supplementary appendix.

year. We use fixed goalposts so that changes over time in the size of the prosperous middle class are the result of changes in real incomes, not changes in the cut-offs.

Further details about the cut-offs as well as their US dollar and Chinese yuan values are given in the supplementary appendix. Here, we will mention that, based on these cut-offs, households in China's prosperous middle class are relatively well off. Such households are firmly into the upper half of China's income distribution. Our cut-off between the lower-income class and the prosperous middle class is 67 per cent higher than China's 2018 national median income, and also 20 per cent higher than urban median income. In relation to incomes in other countries, our cut-off between the lower-income and prosperous middle classes is similar to the median incomes of Portugal, the Czech Republic and Estonia.

### The Expansion of China's Prosperous Middle Class

As stated in the introduction, one condition underlying the official consumption-led growth narrative is that China can substantially expand its prosperous middle class. A second condition is that this prosperous middle class is consumption oriented. In this section, we present estimates of past growth in China's prosperous middle class and discuss the potential for its future expansion. The following section examines whether this class is consumption oriented.

Table 1 reports estimates of the size of China's prosperous middle class obtained by applying our income cut-offs for the prosperous middle class to the distribution of household income in each year of the CHIP data. One can see that China's prosperous middle class grew dramatically from 10 million in 2002 to nearly 300 million in 2018. Growth of the prosperous middle class was especially rapid after 2013.

Table 1 also shows the shares of the different income classes in China's population. In 2002, China's prosperous middle class constituted less than 1 per cent of China's population. In 2007, it was still relatively small, below 10 per cent of the population. By 2013, the middle-class share exceeded 10 per cent, and between 2013 and 2018, the share nearly doubled to over 20 per cent.

The expansion of the prosperous middle class reflected income growth among lower-income households, which allowed a segment of lower-income households to cross over into the prosperous middle class. Not surprisingly, then, expansion of the prosperous middle class was accompanied by shrinkage of the lower-income class (Table 1). Despite this shrinkage, the lower-income class remained by far the largest population group, accounting for 78 per cent of China's population in 2018. The upper-income class, like the prosperous middle class, also grew rapidly, but by our estimates remained below 1 per cent of the population.<sup>12</sup>

12 We acknowledge that high-income households are likely underrepresented in the CHIP survey data, especially in more recent years. Consequently, our estimates of the size of the upper-income class are probably understated. Adjustments for this understatement, however, would not substantially alter our basic conclusions about the prosperous middle class.

**Table 2.** Contributions of Different Population Groups to the Expansion of the Prosperous Middle Class (%)

Group	2002 to 2013	2013 to 2018
Born with urban <i>hukou</i>	64%	32%
Born with rural <i>hukou</i>	36%	68%
Of which: migrant	16%	25%
<i>hukou</i> converters	13%	35%
rural stayers	8%	8%

Source: Authors' estimates using the CHIP data.

Notes: Calculated as the change in the size of each subgroup of the prosperous middle class divided by the change in the overall size of the prosperous middle class. The subgroup "born with rural *hukou*" is the sum of migrants, *hukou* converters and rural stayers: migrants are individuals with rural *hukou* who live in urban areas; *hukou* converters are individuals born with rural *hukou* who have obtained urban *hukou*; rural stayers are individuals with rural *hukou* who reside in rural areas. Urban *hukou* includes both non-agricultural (*feinong*) and citizen (*jumin*) *hukou*. Numbers may not add up exactly due to rounding.

The expansion of China's prosperous middle class was almost entirely an urban phenomenon. Except in 2002 when its share of the population was as yet trivial, over 90 per cent of the prosperous middle class resided in urban areas. Furthermore, expansion of the prosperous middle class was initially concentrated among long-term formal urban residents. From 2002 through 2013, nearly two-thirds of its expansion was from individuals born with urban household registration or *hukou* 户口 (Table 2).

After 2013, the expansion increasingly encompassed migrants with rural *hukou* who lived in urban areas and individuals born with rural *hukou* who had obtained urban *hukou* (*hukou* converters). From 2013 to 2018, migrants with rural *hukou* accounted for 25 per cent and *hukou* converters for 35 per cent of the expansion. Notable, however, is that the overwhelming majority of the migrant and *hukou* converter populations remained in the lower-income class. Also notable is that throughout this period, the contribution of rural-born individuals who stayed in rural areas to the expansion of the prosperous middle class was small, only 8 per cent.

The growing importance of migrants and *hukou* converters in the expansion of China's prosperous middle class to some extent simply reflects changes in the structure of China's population. China's rural population has been declining since the 1990s. In 2010, China passed the turning point from having a majority rural to having a majority urban population. This demographic transformation followed policy reforms that reduced barriers to migration, promoted urbanization and reformed the *hukou* system.

As the substantial majority of China's population is still in the lower-income class, the potential for further expansion of China's prosperous middle class is considerable. Whether this potential can be realized depends on whether lower-income class households experience income growth. In the context of China's "new normal" and expectations of slower GDP growth going forward, achieving growth in household incomes will be more challenging than previously.

Achieving sufficient income growth for lower-income class rural households will be especially challenging. The figures in Table 2 suggest that rural-stayer households have faced high barriers to joining the prosperous middle class. Our data shows that in 2018, half (49 per cent) of the lower-income class was rural, but less than 10 per cent of the prosperous middle class was rural.

Migration provides a pathway for rural households to improve their incomes and potentially join the prosperous middle class. China's policymakers recognize the link between urbanization and consumption growth, as reflected in policy documents such as the New-Type Urbanization Plan (2014) and the 14th Five-Year Plan. In addition, the potential for expansion of the prosperous middle class exists within urban areas, as most of the urban population – two-thirds in 2018 – is still in the lower-income class.



**Table 3.** Average Household Consumption Expenditures, Income and Propensity to Consume out of Income (2018)

	Lower Income	Prosperous Middle	Upper Income	All
<b>a. Consumption expenditures (yuan)</b>	43,060	88,707	158,710	54,889
<b>b. Income (yuan)</b>	57,514	162,213	491,996	86,325
<b>c. Average household propensity to consume out of income (APC, %)</b>	85.0%	57.2%	36.5%	77.9%

Source: Authors' estimates using the CHIP data.

Notes: All values are per household, not per person. The APC is the per cent of income spent on consumption. We estimate the APC for each class by first dividing consumption expenditures by income for each household and then taking the average of the household APCs within each class. Richer households spend a lower percentage of their income on consumption than do poorer households, thus, the average class APCs calculated are higher than the ratio obtained by dividing average class consumption (row a) by average class income (row b).

Nevertheless, even in urban areas lower-income class households may have difficulty graduating into the prosperous middle class. One challenge has to do with access to good employment. In 2018, wage and salary earnings were the main source of income for 64 per cent of prosperous middle-class households. For another 17 per cent, the main source of income was pensions. Thus, 81 per cent of China's prosperous middle-class households relied mainly on income from current or past employment. Furthermore, 54 per cent of middle-class households contained one or more members employed by a Party or government unit, state-owned enterprise or quasi-public institution (*shiyew danwei* 事业单位). China's prosperous middle class is thus a salaried or wage-earning class with a majority benefiting from well-paid formal employment.

A related challenge has to do with education. In 2018, the average education for adults in the prosperous middle class was 11.1 years, compared to 8.5 years for the lower-income class. In other words, many members of China's prosperous middle class had completed senior high school, while members of the lower-income class had, on average, not completed junior high school.

These differences in employment and education reflect potential barriers to upward mobility for the lower-income class. Employment has been shrinking in the manufacturing and construction sectors, which in the past provided opportunities for upward mobility for low-income class workers with lower levels of education. Now, such workers are increasingly employed in the informal service sector, which is characterized by low wages and job insecurity.<sup>13</sup>

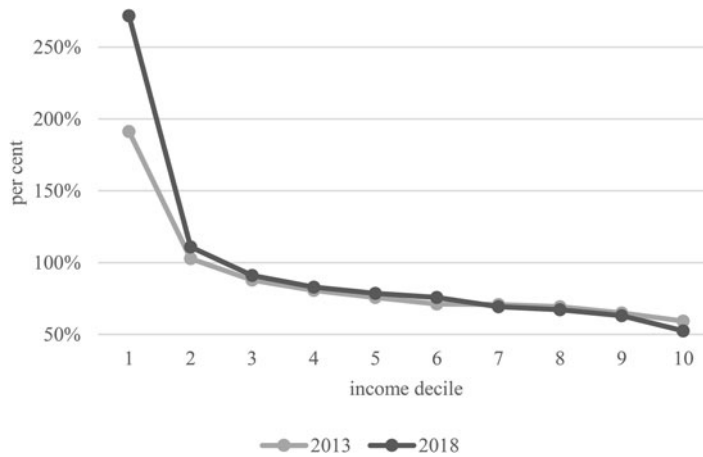
### Consumption Levels of Prosperous Middle-class Households

Are China's prosperous middle-class households consumption oriented? Do they have higher levels of consumption than households in the lower-income class, so that movement of households into this class will increase aggregate consumption? As shown in Table 3, in absolute terms China's prosperous middle-class households do spend more on consumption than lower-income households – in 2018, about 46,000 yuan more.

This 46,000-yuan consumption gap reflects the difference in consumption expenditures between an average lower-class household and an average middle-class household. The expansion of the prosperous middle class, however, is likely to consist of movement from the top of the lower-income class into the bottom of the prosperous middle class. In 2018, the gap in average consumption between the top third of the lower class and of the bottom third of the prosperous middle class was significantly smaller, at 31,000 yuan per year.<sup>14</sup>

<sup>13</sup> See Rozelle et al. 2020.

<sup>14</sup> In 2018, the average consumption of the top third of the lower class was 52,931 yuan per year; it was 83,984 yuan per year for the bottom third of the prosperous middle class (authors' estimates using the CHIP data).



**Figure 3.** Household APC by Income Decile (%)

*Source:* Authors' estimates using the CHIP data.

*Notes:* The household average propensity to consume out of income (APC) is the per cent of household income spent on consumption. We calculate the average household APC by income decile by first calculating each household's APC and then taking the average of the APCs for all households in the relevant income decile.

A metric often used for analysing consumption is the average propensity to consume out of income (APC). The APC is equal to the share of household income spent on consumption. Thus, a high APC indicates that households consume much (and save little) of their income. In 2018, the APC of households in China's prosperous middle class was 57 per cent (Table 3). This APC is extremely low by international standards. Most countries in the EU have APCs of above 90 per cent.<sup>15</sup>

The APC of China's lower-income households was 85 per cent, substantially higher than that of prosperous middle-class households. The large difference between the APCs of China's lower-income and prosperous middle classes is not new and has widened over time. By our estimates, the APC of the prosperous middle class remained stable from 2013 to 2018, while the APC of the lower-income class rose from 77 per cent in 2013 to 85 per cent in 2018.

The difference between the APCs of the prosperous middle and lower-income classes reflects the underlying relationship between income and consumption across the distribution of income in China. As has been shown elsewhere, in China the share of savings increases and the share of consumption declines with household income.<sup>16</sup> We find this pattern in the CHIP data. Figure 3 shows the APC by income decile, from the poorest 10 per cent to the richest 10 per cent group in the income distribution, for the years 2013 and 2018. Both APC curves are downward sloping.

The APC of the poorest decile at the far left of the graph is above 100 per cent, meaning that consumption expenditures of the poorest households exceeded their income. The APC of the second poorest decile is about one, meaning that on average households in this group consumed all and saved none of their income. Thereafter, the APC declines progressively to about 50 per cent for the top decile, meaning that the richest households consumed about half and saved about half of their income. As discussed in the next section, these patterns in the APC influence growth in aggregate consumption.

15 The lowest APC in the EU in 2018 was 84% (Sweden). The EU APCs reported here are equal to one minus the net household savings rates reported by the OECD. See <https://data.oecd.org/hha/household-savings.htm#indicator-chart>. Accessed 9 April 2022.

16 See, e.g., Zhang, Longmei, et al. 2018.

**Table 4.** Decomposition of the Increase in National Aggregate Consumption by the Change in Population versus the Change in Average Household Consumption, 2013–2018 (%)

	Contributions
<i>Step 1: Decomposition of the increase in aggregate household consumption</i>	
i. Contribution of the change in the national population of households	6.5%
ii. Contribution of the change in national average household consumption	93.5%
<i>Step 2: Decomposition of the increase in national average household consumption</i>	
iia. Contribution of the change in average household consumption:	
• within the lower-income class	53.9%
• within the prosperous middle class	9.0%
• within the upper-income class	–1.3%
iib. Contribution of the movement of households from:	
• lower income to prosperous middle	34.4%
• prosperous middle to upper income	4.0%

Source: Authors' estimates using the CHIP data.

Notes: We assume that the movement of households from the lower-income class to the prosperous middle class equals the change in the population share of lower-income class households (-10.5 percentage points); similarly, we assume that the movement of households from the prosperous middle to the upper-income class equals the change in the population share of upper-income class households (+0.6 percentage points). All estimates are calculated in constant 2018 prices and deflated using the NBS national consumer price index. For additional details, see the text and Appendix Table 2 in the supplementary appendix.

### The Contribution of the Expansion of the Prosperous Middle Class to Growth in Aggregate Consumption

Is the expansion of China's prosperous middle class associated with growth in aggregate consumption, thus contributing to consumption-led GDP growth? If so, by how much? We answer these questions using the 2013 and 2018 CHIP data. First, we estimate the increase in China's aggregate household consumption between the two years.<sup>17</sup> Then, we conduct a two-step decomposition of this increase. The two-step decomposition reveals that the majority of growth in aggregate consumption during this period was contributed not by the prosperous middle class but by the lower-income class

The first step decomposes the increase in aggregate household consumption between the contributions of (i) growth in China's population of households and (ii) the increase in national average household consumption. By definition, the sum of contribution (i) and contribution (ii) equals the increase in aggregate consumption. This step of the decomposition is for China as a whole and does not differentiate among the income classes.

The second step decomposes the increase in national average household consumption (ii) between the contributions of the different income classes. Specifically, we decompose the increase in national average household consumption between (iia) the growth in average household consumption within income classes and (iib) the movement of households between the different income classes. By definition, the sum of these two contributions equals the increase in national average household consumption (ii).<sup>18</sup>

Table 4 shows the results of these decompositions. The estimates for step one show that from 2013 to 2018, the increase in aggregate consumption in China was mainly owing to growth in national average household consumption. Growth in the population of households contributed

17 Aggregate household consumption in each year is equal to the population-weighted sum of household consumption expenditures over all households in the CHIP sample. After adjusting for inflation, growth from 2013 to 2018 in aggregate consumption so measured was 42%. Macroeconomic statistics on aggregate household consumption published by the NBS show a slightly larger increase of 45%.

18 The supplementary appendix contains additional details about the decomposition calculations.

**Table 5.** Contribution of the Expansion of the Prosperous Middle Class to the Increase in Aggregate Household Consumption under Different Assumptions, 2013–2018 (%)

Assumption	Contribution
Mover households had average lower-income consumption before, and average middle-class consumption after, moving	32.2%
Mover households had average consumption of the top third of the lower-income class before, and average consumption of the bottom third of the prosperous middle class after, moving	21.9%

Source: Authors' estimates using the CHIP data.

Notes: The contributions are expressed as percentages of the increase in national aggregate consumption. See the text and Appendix Table 2 in the supplementary appendix for additional details.

less than 7 per cent of the increase. This result reflects the minimal increase (only 2.3 per cent) in China's population of households between these two years. Growth in national average household consumption, which rose 39 per cent in real terms, contributed 93.5 per cent of the increase in national aggregate consumption.

The estimates for the second step of the decomposition show that the largest share – 54 per cent – of the increase in national average household consumption was contributed by consumption growth within the lower-income class. The second largest contribution – 34 per cent – was contributed by the movement of households from the lower-income class into the prosperous middle class. All other contributions were small, together comprising roughly 10 per cent of the increase in national average household consumption.

The estimates in Table 4 take us only part way to answering the central question of this paper: how much of the growth in aggregate consumption was owing to the expansion of the prosperous middle class? To obtain the answer to this question, we must multiply 34.4% by (ii). The result is shown in the first row of Table 5: from 2013 to 2018, the expansion of the prosperous middle class contributed 32 per cent of the increase in aggregate household consumption.

This estimate assumes that when households move from the lower-income to the prosperous middle class, their consumption increases by the difference between average lower-income class and average prosperous middle-class consumption. Such would be the case if the mover households were randomly selected from the lower-income class, and if their post-move consumption levels were randomly assigned from within the middle-class consumption distribution.

A more realistic scenario is that the households that moved up into the prosperous middle class were relatively well-off lower-income households, and that after moving they were below-average members of the prosperous middle class. We therefore provide a second estimate using the difference in average household consumption between the bottom third of the prosperous middle class and the top third of the lower-income class. That is, we assume that the expansion of the prosperous middle class was the result of movement of households from the top third of the lower-income class into the bottom third of the prosperous middle class. The result is shown in the second row of Table 5. Under this scenario, the expansion of the prosperous middle class contributed 22 per cent of the increase in aggregate consumption.

We conclude, then, that from 2013 to 2018, the expansion of China's prosperous middle class contributed at most a third, and more likely about a fifth, of the growth in aggregate consumption. This contribution was considerably smaller than the contribution of rising consumption within the lower-income class.

### A Second Decomposition: Growth in Income versus Change in the Average Propensity to Consume

Growth in aggregate consumption can occur because of rising household incomes or because of an increase in the share of income that households spend on consumption. In order to understand the

**Table 6.** Contribution to the Increase in Aggregate Consumption of Growth in Aggregate Household Income versus Change in the Aggregate APC, 2013–2018 (%)

	% Increase	Contribution to the increase in aggregate consumption
Aggregate household income	40.7%	97.8%
Aggregate APC	0.8%	2.2%

Source: Authors' estimates using the CHIP data.

Notes: All estimates are calculated in constant 2018 prices; 2013 values are converted into 2018 prices using the NBS national consumer price index. See the text for additional discussion.

importance of income growth versus change in consumption behaviour, we conduct a second decomposition. Here, we decompose the increase in aggregate consumption from 2013 to 2018 between the contributions of household income growth versus change in the aggregate APC.<sup>19</sup>

As shown in Table 6, from 2013 to 2018, almost all of the increase in aggregate consumption was the result of growth in household incomes. Changes in the aggregate APC contributed a mere 2 per cent. This result arises because during this period the APC barely changed.

The minimal change in China's aggregate APC from 2013 to 2018 masks changes within and between the different income classes. Between these two years, the APC of the lower-income class increased while the APCs of the middle- and upper-income classes declined. Concurrently, households shifted from lower-income classes with higher APCs into higher-income classes with lower APCs.

## Conclusions

In this paper, we have employed macroeconomic statistics and micro-level survey data to examine China's transition to consumption-led growth. Based on our analysis of the macroeconomic statistics, we conclude that although consumption's share of GDP increased after 2010, as of 2019 China had not yet made a substantial transition to consumption-led growth.

With the micro-level survey data, we have investigated the relationship between common prosperity and growth in aggregate consumption. We began by defining and estimating the size of China's prosperous middle class. The prosperous middle class is defined as comprising members of Chinese households that have disposable income per person that is neither poor nor rich by EU standards. We find that from 2002 to 2018, this class expanded rapidly, and by 2018, constituted a sizeable minority – 21 per cent – of China's population. Most of the expansion took place in urban areas and disproportionately involved individuals with higher levels of education and in households with income from formal sector employment.

We find that the level of consumption expenditures of China's prosperous middle-class households was higher than that of lower-income class households; however, their average propensity to consume out of income was substantially lower than that of lower-income households. The low propensity to consume of the prosperous middle-class households dampened the contribution of this group to growth in aggregate consumption.

Using the survey data, we then estimated the growth in China's aggregate household consumption and the contribution of China's prosperous middle class to that growth. We found that from 2013 to 2018, national aggregate household consumption grew by as much as 42 per cent. The expansion of the prosperous middle class contributed less than one-third of this growth. Consumption growth within the prosperous middle class contributed another 9 per cent. Overall,

19 In this decomposition, the APC equals the ratio of aggregate household consumption to aggregate household income, i.e. the aggregate APC. The aggregate APC is different from the average of individual household APCs discussed previously. The aggregate APC is smaller than the average household APC because richer households consume a smaller proportion of their incomes.

then, between these two years the prosperous middle class contributed at most 40 per cent and more likely about 30 per cent of the growth in aggregate consumption.

The largest contributions to aggregate consumption growth (more than half) came from the lower-income class. The large contribution of the lower-income class was the combined result of its large population, substantial income growth and relatively high average propensity to consume.

Our findings hold some lessons for China's macroeconomic rebalancing. First, efforts to rebalance should not overlook the lower-income class. Owing to the current large population and relatively high propensity to consume of lower-income households, income growth for this class continues to have the biggest impact on aggregate consumption. Policies that promote income growth for lower-income households are thus important for consumption-led growth.

Second, the recent rapid expansion of China's prosperous middle class may be difficult to sustain in the longer term. Its expansion through 2018 disproportionately involved a relatively easy to reach urban, educated population with good formal employment. Ongoing future expansion of the prosperous middle class will require finding ways to promote income growth for the rural and less-educated segments of the population, and for the many workers who are employed outside the formal and public sectors.

Third, the low propensity to consume of China's prosperous middle class significantly limits its ability to be an engine for aggregate consumption growth. Rebalancing requires measures that enable these households to consume a higher share of their income. Several studies have examined the reasons for low consumption rates in China and have found these to include household demand for precautionary savings in the face of income uncertainty, credit constraints and inadequate health and pension insurance.<sup>20</sup> Results from such studies point to the need for improvements in pension and social welfare programmes, broader access to low cost, good quality education, and financial sector reforms that improve access to credit and insurance and that provide better savings and investment opportunities for households.

Our analysis is based on data through 2019, before the coronavirus pandemic struck. During the pandemic years, China's economic performance was, on balance, weak and the average propensity to consume out of income dropped markedly. At the time of this writing (mid-2023), China's economy was experiencing a fragile post-pandemic recovery characterized by sluggish growth in household income and concerning levels of unemployment, especially among youth.<sup>21</sup> If such trends continue, they could put the brakes on the expansion of the prosperous middle class. Furthermore, despite some improvement in the average propensity to consume, in mid-2023 it remained below pre-pandemic levels. A full recovery in the APC would require, among other things, a strengthening of consumer confidence and recovery of the residential housing market.<sup>22</sup>

Consumption-led growth faces not only short-term challenges but also several long-term challenges. China's population is aging rapidly. Population aging is associated with the drawing down of savings accumulated for retirement and thus higher APCs, but it also can mean slower growth in household incomes. Another challenge is urbanization. China's urban households spend more than rural households on consumption, but the average propensity to consume out of income is markedly lower in urban than rural areas; furthermore, the propensity to consume of newer urban residents such as recent migrants is lower than that of longer-term, formal urban residents.<sup>23</sup> Consequently, urbanization may not bring about the desired boost to aggregate consumption.

20 See Cai 2022; Chamon, Liu and Prasad 2013; Chen 2018; Dreger, Wang and Zhang 2015; Zhang, Longmei, et al. 2018.

21 See "China economic update." World Bank, June 2023, <https://thedocs.worldbank.org/en/doc/a9fcfb131b5dc335abe8d283998fd9f6-0070012023/original/CEU-June-2023-EN.pdf>. Accessed 15 July 2023.

22 The persistently weak housing market contributes to ongoing household uncertainty regarding both the economy and the value of owned housing, the major component of household wealth, with negative consequences for consumers' willingness to spend.

23 Dreger, Wang and Zhang 2015.

These considerations point to the importance of developing effective measures to increase the propensity to consume – for example, reforms in social welfare policies, of the *hukou* system and of the financial and housing markets. China's successful, sustained transition to consumption-led growth will require economic reforms that enable households to rebalance between consumption and saving at the micro level.

**Acknowledgements.** The authors would like to thank members of the China Household Income Project for ongoing support and advice. Financial support from the Faculty of Social Science, the University of Western Ontario, is gratefully acknowledged.

**Competing interests.** None

**Supplementary material.** To view supplementary material for this article, please visit <https://doi.org/10.1017/S0305741023001261>

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