

Trends in Private Consumption in China: The Development of Chinese High Income Class and its Global Relevance.

Manuela Marianera*

Abstract

China's middle and high income class is growing fast and will continue to expand at an even higher pace in the coming decade. China's new consumers may become a new long term source of global aggregate demand if the country succeeds in boosting consumption by increasing the share of household income to GDP. This is indeed likely to happen: increasing the role of domestic consumption is one of the key objectives of China's 12th Five Year Plan (2011-16).

This paper aims at analyzing recent trends in aggregate private consumption in China. The study focuses on the high income class who lives mainly in the cities of the Coastal provinces and has incomes comparable with developed countries. The growth of the high income class is of global importance given the weakness of Western consumers and is of high interest for Western enterprises that still have a comparative advantage in the market for high quality goods.

In the first part of the paper the importance of the Chinese high income class is quantified. Its development in the medium term is forecast using a simple method that provides a ball-park estimate of the size of this booming new class of consumers. This paragraph presents also the results of previous work quantifying the Chinese external demand potential of affordable luxury goods in the following industries: apparel and accessories, food and beverage, furniture and footwear (Par. A).

Because of the heterogeneity in Chinese income, in order to understand trends in consumption in such a vast country, in the second part of the paper we analyze income and consumption at provincial level and we distinguish between urban and rural areas. We find that Coastal provinces and urban consumers offer more growing opportunities. Disparities in China are not merely limited to GDP and consumption, but they extend to many other aspects. This paragraph presents also the striking example of disparities in the level of computerization (Par. B).

In the final part of the paper we draw the main conclusions of our study and highlight those characteristics of Chinese consumers that are most helpful in predicting their spending patterns: the age structure and the female growing purchasing power. Chinese consumers are younger than western ones and rising female labor force participation in leading positions gives more purchasing power to women, shifting spending decision towards their "preferred" sectors.

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INTRODUCTION: CONSUMPTION IN CHINA WILL GROW RAPIDLY IN THE COMING YEARS

China's middle and high income class is growing fast and is set to expand exponentially in the coming decade. China's new consumers may become a new long term source of global aggregate demand if the country succeeds in boosting consumption. This is indeed likely to happen: increasing the role of domestic consumption is one of the key objectives of China's 12th Five Year Plan starting in 2011 (Figure 1).

Figure 1. China's next five-year goals: the shift in priorities from growth to welfare improvement and socioeconomic sustainability

12th Five-Year Plan (2011-16)
Stable and relatively fast economic development.
Major progress in economic structure adjustment: Higher private consumption rate; Increased share of services sector output; Increased urbanization rate; Significant reduction in energy intensity and carbon emission as well as other major pollutant emissions; Marked improvement in ecological environment.
Rapid Increase in household income: Household income grows at the same pace as economic growth and labour wages grow in tandem with productivity growth; Raising the income of low-income earners; Expanding middle-income group; Poverty reduction.
Social development: Promoting job creation and harmonious labor relations; Adjusting income distribution (raising households' income in primary industry, reversing the widening of income gap between Building universal social security system for both urban and rural areas; Building a basic healthcare system covering all urban and rural residents.
Reform and opening-up: Marked progress in the reform of fiscal, financial, factor market pricing, monopolized sectors.

The upcoming Plan comes at the right moment, when the old export-led growth model has lost the support from the internal demand of the rest of the world, especially from the United States. American consumers, historically the main engine for demand in the world economy, will consume less in the next future. This means that export-led growth models, such as those in China, will be facing difficult moments in the years ahead.

The post crisis framework pushes Chinese leadership to endorse policies that promote the transition from an externally supported export model to an internally driven consumption model. The new pro-consumption plan should feature initiatives in three major areas: first, broaden China's income base; second, lay out measures that spur large-scale service industries in order to increase labor absorption and create better-paying jobs; third, insist on funding its social safety net to reduce households' precautionary savings.

Private consumption in China totaled \$1,762 billion in 2009, making the country the world's fourth largest consumer market after the United States, Japan and Germany. However, relative to China's population and level of economic development, its consumers have much less weight. The country's private consumption to GDP ratio (35.4%¹), is only half that of the US and less than two thirds of those of EU and Japan.

The reasons of low consumption in China are together behavioral and structural. The Chinese households have developed a strong ability to save: the average family puts away an astonishing 25% of its discretionary income, about six times the saving rate of US households and three times the rate of Japan's. China's gross domestic saving share on GDP (54%) is 5 percentage points above the average of developing Asia's (49%, China included). But this predisposition toward saving belongs from a rational response to the lack of a stable social safety net (Roach 2010). Chinese are often thought to have a deep-rooted cultural aversion toward consumption, but there are also some merely structural features that restrict consumption's share of the national income. For example, China's consumption to GDP ratio of around 35% (as opposed to more than 60% in EU and more than 70% in the US) is explained by low-income levels, especially in China's vast rural population, and by a scarcity of high paying jobs.

If the 12th Five-Year Plan succeeds in filling these deficiencies (as it seems) the Chinese middle and high income class, and with it, Chinese aggregate consumption, will be quick to develop. By 2016 (the end of the Five-Year Plan), the consumption share of the Chinese economy could rise to 45%. Similarly, the share of services on China's GDP could rise to nearly 50% (from 40%).

There are two main channels for accelerating China's transformation towards a domestic consumption-led growth economy. The first is to develop policies to reduce China's high

¹ Total private consumption differs from final household consumption expenditure (33,5% of GDP in 2009) because the first includes consumption by no profit institutions serving households.

household saving rate: these policies would involve long-term institutional changes, such as social security or health care reforms. They have to be done for their structural effects in the medium term but alone they may not be fast enough to drive the development of consumption demand in the next years. The second channel is to raise household income directly. China may use the large profits of its State Owned Enterprises (SOE) to reduce labor taxes and fees on employment. It could also accelerate banking reforms to ease access to credit by SMEs. Both these measures would increase the labor share of the economy and, as a consequence, the share of household income on GDP, allowing domestic demand to replace exports in fostering GDP growth.

A. THE BOOMING CHINESE HIGH INCOME CLASS

In 2009, average GDP per capita (in 2005 PPP dollars)² was equal to \$33,764 in the advanced economies (\$29,072 in the Euro zone, \$41,842 in the US) while the same figure was only \$6,272 in China. But China is a vast country with high inequalities in income, between rural and urban areas and among provinces. If the average GDP per capita is far from Western standards, there are however many people with incomes comparable to average Western ones. They can be found among the top earners and they are the group this study focuses on. Specifically we define “High Income class” (HI hereafter) the group of Chinese top earners that have an average per capita GDP of \$30,000³. The lack of data requires that we make a series of assumptions in order to estimate the size of this class.

The starting point is the distribution of income across the Chinese population. According to World Bank’s estimates, in 2005 (latest data available) the richest quintile of Chinese population held 47.8% of total national income, the richest decile 31.4%. Assuming that income distribution has remained the same through 2009, and that the distribution of gross national income (GNI) is the same as that of domestic income (GDP)⁴, we can estimate GDP per capita in these two top-income groups.

In 2009, the richest 20% of Chinese population, 267 million people, had a per capita GDP of \$15,000. The richest 10%, 133.5 million people, had a GDP per capita of \$20,000, still lower than the average in the advanced countries. Therefore we conclude that, in 2009, there was a percentage smaller than 10% of the Chinese population that had an average GDP per capita comparable with the Western one.

The World Bank does not provide further details on the income distribution in China. Therefore, in order to quantify the Chinese HI class we need to make some additional

² Hereafter, if not otherwise specified, all numbers are intended to be in 2005 PPP dollars.

³ Also in this case, \$30,000 has to be intended in 2005 PPP terms. We choose to use PPP because we want to look at China in the global context. Importantly, prices of non-tradable goods in China are very low and this frees resources for the purchase of tradable goods. The use of PPP allows taking into account this fact.

⁴ Here we assume that distribution of GNI is the same of GDP. We are aware that this hypothesis may not be verified but remains functional with the purpose of our study and is our solution to overcome scarcity of data available on income distribution in China.

hypotheses. We assume that the distribution of income in the richest quintile of the population maps the one in the total population. In practice, the distribution of income across quintiles is replicated within each quintile, which is across 4% of the population. For instance, since the top quintile holds 47.8% of the country GDP, we assume that the top 4% of population holds 22.8% of the country's GDP (47.8% of 47.8%).

We focus on Chinese HI class because we believe that it will be the main engine of global consumption growth in the near future. This group of individuals has incomes comparable with Western ones and has enough purchasing power to replace lower consumption in Western markets. The growth of this new class of consumers in a vast country like China is of particular importance for Western enterprises that still have a comparative advantage in the market for high quality and luxury goods.

The main intuition of our study is that the Chinese HI class is huge and is set to grow fast, especially in the next five to ten years. In the next two sub-sections we explain how we estimate its size today, in 2015 and in 2020 (paragraph A1) and we present the main results of our study (paragraph A2).

A1. Methodology

To estimate the present and future size of China HI class, we take into account the latest World Bank data on income distribution in China (World Development Indicators 2010) that refers to 2005. The richest 10% of Chinese population held 31.4% of total national income in 2005. The richest 20% of the population held 47.8% of GNI, the fourth quintile held 22.0%, the third 14.7%, the second 9.8%, the first 5.7%.

We assume that the distribution of GNI is the same as the distribution of GDP and that both will remain unvaried through 2020. This is a strong assumption, especially given that the 12th Five-Year Plan includes measures to reduce income inequality. However, we decide to keep income distribution fixed rather than making an estimate based on the sparse available information that would likely turn out to be unreliable.

Moreover, since we do not have information on the distribution of income within quintiles (we only have data on the richest and poorest deciles), we assume that income distribution in the top quintile of the population is the same as in the total population. In practice, the distribution of income across quintiles is replicated within each quintile, that is, across the 4% of population. For instance, the top quintile holds 47.8% of the country's GDP, so that we assume that the top 4% of the population holds 22.8% of the country's GDP (47.8% of 47.8%).

To forecast the size of China HI class in 2015 and in 2020, we use Global Insight estimates for GDP and population for China.

For example, in 2009, GDP in China was \$8,372 billion and the population was 1,335 million. Hence, the GDP per capita was \$6,272 and any 20% of the population was equal to 267 million people. According to the World Bank data on income distribution, the GDP held by the richest 20% of the population was \$4,003 billion and GDP per capita of the richest 20% of the population was \$14,994. To estimate the size of the Chinese HI class in 2009, that is, the number of people among the richest 20% that have an average GDP per capita of \$30,000, we start from the GDP of this richest quintile of the population.

Assuming that within this group of top earners the distribution of income is the same provided by the World Bank for the total population, we estimate that its richest quintile (i.e. the richest 4% of the total population or 53.4 million people) held a GDP of \$1,914 billion (47.8% of \$4,003) and had a per capita GDP of \$35,884. Hence we can say that more than 53.4 million people had a per capita GDP of \$30,000. So we proceed looking at the fourth quintile within the top quintile (i.e. the fourth 4% of total population or 53.4 million people). According to our income distribution, the fourth quintile held a GDP of \$881 billion (22.0% of \$4,003) and had a per capita GDP of \$16,494. Therefore the size of Chinese HI class in 2009 was higher than 53.4 million people and lower than 106.8 million (the double of 53.4 million). In fact we calculate that in 2009 there were 76.5 million top earners in China with an average GDP per capita of \$30,000, of which 53.4 million come from the richest 4% of the population and the remaining 23.1million come from the fourth 4% of the population.

To estimate the size of Chinese HI class today and in 2015, we assume that income distribution remains unvaried and we apply the same method described above, using population and GDP forecasts by Global Insight.

In 2020, the richest 20% of China's population (284 million people) can be already considered HI class because its GDP per capita is estimated to be \$33,841, higher than \$30,000. Hence Chinese HI class in 2020 will be bigger than 284 million people. To estimate it, we apply the same method described above on the fourth quintile of the population (i.e. the second richest 20% of the population). Chinese HI class in 2020 will be made of the richest 20% of the population (284 million of people, as estimated by Global Insight) and of a part of the fourth 20% of the population (139.8 million, Figure 2).

We decide to maintain our threshold of \$30,000 unvaried through 2020 even if the average GDP per capita in advanced countries, which is our point of reference to estimate the size of the Chinese HI class, is estimated to reach \$37,885 in 2015 and \$41,477 in 2020 (Global Insight, October 2010). We prefer to make a static estimate in order to avoid making additional hypotheses based on these projections. Moreover the threshold of \$30,000 is consistent with the Euro zone average GDP per capita, which is estimated to be \$31,661 in 2015 and \$34,411 in 2020.

We are aware that our estimates are based on some strong, somewhat arbitrary assumptions but we believe that our methodology is consistent with the purpose of this study. High income class has not a unique definition. This makes it difficult to estimate at a macro level its present and future size, and therefore we choose to make simple assumptions to have just a point of reference, an average dimension that helps to understand the magnitude of the phenomenon and its relevance at a global level.

Whether or not these estimates provide the exact size of the HI class, the magnitude of the phenomenon appears huge and needs to be further investigated.

Figure 2. Estimates of the size of the Chinese High Income Class

China	2009	2010	2015	2020
Population (million of persons)	1,335	1,343	1,385	1,419
10% population (million of persons)	133.5	134.3	138.5	141.9
20% population (million of persons)	266.9	268.6	276.9	283.9
Income share held by highest 10%	31.4	31.4	31.4	31.4
Income share held by lowest 20%	5.7	5.7	5.7	5.7
Income share held by second 20%	9.8	9.8	9.8	9.8
Income share held by third 20%	14.7	14.7	14.7	14.7
Income share held by fourth 20%	22.0	22.0	22.0	22.0
Income share held by highest 20%	47.8	47.8	47.8	47.8
Real GDP (2005 PPP dollar, billions)	8,372	9,228	13,901	20,094
Real GDP per capita (2005 PPP dollars)	6,272	6,871	10,040	14,156
Real GDP of the richest 10% (2005 PPP dollar,	2,629	2,897	4,365	6,310
Real GDP of the richest 20% (2005 PPP dollar,	4,003	4,412	6,646	9,607
Real GDP of the 4th 20% (2005 PPP dollar, billions)	1,842	2,030	3,058	4,421
GDP per capita of the richest 10% (2005 PPP	19,695	21,574	31,525	44,451
GDP per capita of the richest 20% (2005 PPP	14,994	16,424	24,000	33,841
GDP per capita of the fourth 20% (2005 PPP	6,900	7,558	11,044	15,572
Estimates on the richest 20% of population and, for 2020, on the fourth 20%				
Population (richest 20%, million of persons)	2009	2010	2015	2020*
lowest 20%	53.4	53.7	55.4	56.8
second 20%	53.4	53.7	55.4	56.8
third 20%	53.4	53.7	55.4	56.8
fourth 20%	53.4	53.7	55.4	56.8
highest 20%	53.4	53.7	55.4	56.8
Total GDP PPP (2005 PPP dollar, billions)	2009	2010	2015	2020*
lowest 20%	229	253	381	253
second 20%	392	432	651	433
third 20%	587	647	974	648
fourth 20%	881	971	1,462	973
highest 20%	1,914	2,109	3,177	2,114
GDP per capita (2005 PPP dollars)	2009	2010	2015	2020*
lowest 20%	4,296	4,705	6,876	4,461
second 20%	7,347	8,048	11,760	7,630
third 20%	10,991	12,039	17,592	11,414
fourth 20%	16,494	18,066	26,400	17,129
highest 20%	35,844	39,262	57,373	37,225
Sub-Cohorts	2009	2010	2015	2020*
	Highest 20%	Highest 20%	Highest, 4th and 3rd 20%	Highest 20%
Population (million of persons)	53.4	53.7	166.1	56.8
Total GDP (2005 PPP dollar, billions)	1,914	2,109	5,614	2,114
GDP per capita (2005 PPP dollars)	35,844	39,262	33,788	37,225
	Highest and 4th 20%	Highest and 4th 20%	Highest, 4th, 3rd and 2nd	Highest and 4th 20%
Population (million of persons)	106.8	107.4	221.5	113.6
Total GDP (2005 PPP dollar, billions)	2,794	3,080	6,265	3,086
GDP per capita (2005 PPP dollars)	26,169	28,664	28,281	27,177
High Income class	2009	2010	2015	2020*
Population (million of persons)	76.5	95.4	200.7	423.7
Total GDP (2005 PPP dollar, billions)	2,295	2,863	6,020	12,710
GDP per capita (2005 PPP dollars)	30,000	30,000	30,000	30,000

* In 2020 the richest 20% of Chinese population has a per capita GDP higher than \$30,000 so we apply the same method used before on the fourth quintile of the Chinese population.

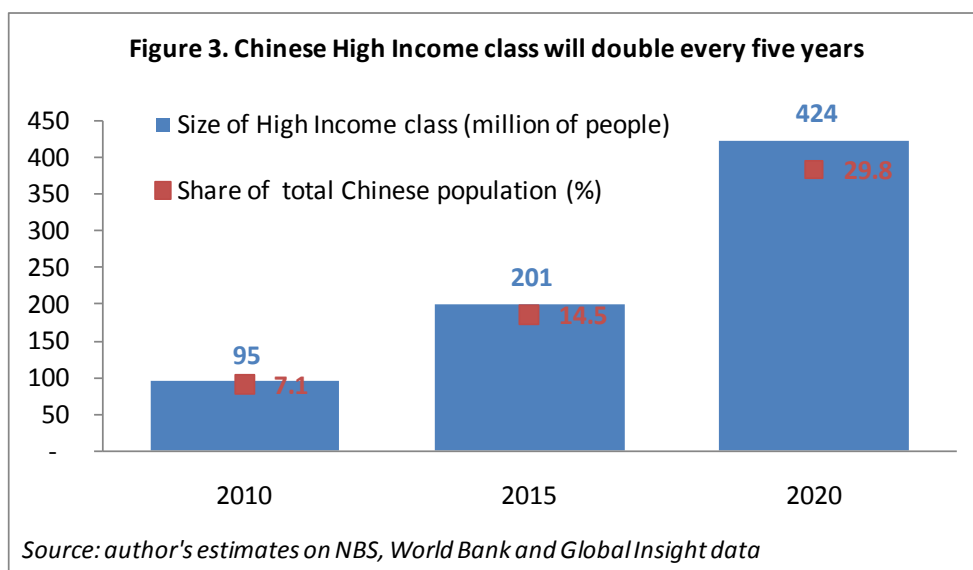
Source: Global Insight, World Bank and author's estimates.

A2. Main Findings

We estimate that today around 7% of the Chinese population has an average income of \$30,000. This corresponds to 95 million people, more than the population residing in Germany (81 million people with a per capita GDP of \$32,138 estimated in 2010 by Global Insight, October 2010).

The relevance (in terms of number of people) of the Chinese HI class in the total population and in the global context is projected to almost double each five years in the next decade.

According to our calculations, in 2015 there will be around 201 million HI Chinese, more than the double of today's, 14.5% of the total Chinese population, the size of France, Germany and Italy together, where the population in 2015 is forecast to be 206 million with a per capita GDP of \$32,738 (Global insight, October 2010). In the following five years, the Chinese HI population will double again, reaching 424 million, almost 30% of the entire country, a size comparable with the whole Western Europe, where population in 2020 is estimated by Global Insight at 421 million with a per capita GDP of \$36,088 (Figure 3).



The relevance in terms of GDP belonging to the Chinese HI class will more than double as well every five years until 2020.

Taking into account HI population and its average GDP per capita of 30,000 dollars, we compute total GDP of HI Chinese in 2010: \$2,863 billion, which accounts for 4.2% of world GDP. In 2015, thanks to growth in both income and population, the same number will more than double reaching \$6,020, or 7.1% of global GDP. In 2020 the total GDP of HI Chinese will mount to \$12,710, or 12.2% of world GDP.

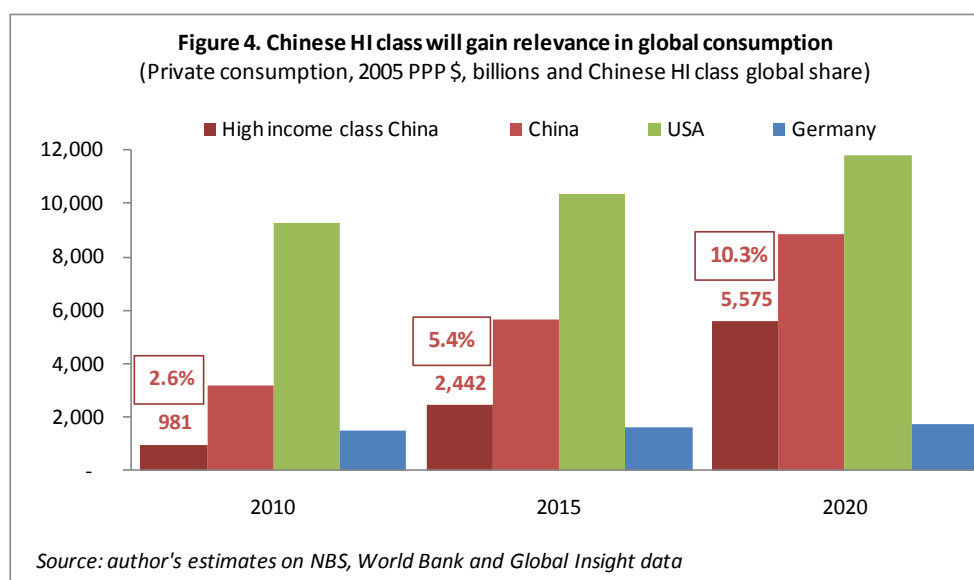
At first sight these projections may seem too optimistic. On the contrary, they are not more ambitious than what South Korea and the Asian Tigers already achieved in the 1970s and 80s or Japan did before them (Karas and Gertz 2010).

Also in terms of private consumption, the global relevance of the Chinese HI class will more than double every five years in the next decade.

Private consumption in China is estimated to reach almost 36% of GDP in nominal terms in 2010. If the country succeeds in stimulating its internal demand, we believe it could be 45% in five years, 50% in ten years. In 2009, private consumption in the whole China accounted for 8.0% of world real private consumption at PPP. We estimate that it will account for 8.7% in 2010.

We assume that HI class consumption represents 36% of its GDP in 2010, that is a fraction equal to the national share of consumption on GDP⁵ (that corresponds to 34.3% in 2005 PPP dollars). Therefore we estimate that it consumes today \$981 billion (that is \$2,863 billion, the HI class GDP, multiplied by 34.3%, the share of consumption on GDP) or 2.6% of world consumption. If in 2015 China's consumption share on GDP succeeds in growing to a given rate of 45% in nominal terms, which corresponds to 40.6% in 2005 PPP dollars, the HI class will consume \$2,442 billion or 5.4% of world consumption, more than doubling in a five-year span.

In 2020, if nominal private consumption reaches 50% of GDP, or 43.9% in real PPP terms, HI class consumption will amount to \$5,575 billion or 10.3% of global consumption, more than doubling again (Figure 4 and 5).



⁵ Since marginal propensity to consume is decreasing in income, the share of consumption on HI class GDP may be lower than 36%. As such, based on this assumption taking alone, we may be overestimating the HI class private consumption.

Figure 5. The gaining relevance of Chinese high income class

High income population in China (millions of individuals and share of total Chinese population)						
	2010		2015		2020	
High income class China	95.4	7.1%	200.7	14.5%	423.7	3.0%
Source: author's estimates						
GDP (2005 PPP \$, billions and global share)						
	2010		2015		2020	
High income class China	2,863	4%	6,020	7%	12,710	12%
China	9,228	14%	13,901	16%	20,094	19%
USA	13,215	19%	15,239	18%	17,454	17%
Germany	2,623	4%	2,868	3%	3,099	3%
World	68,260	100%	84,516	100%	103,853	100%
Source: author's estimates and Global Insight						
Private consumption (2005 PPP \$, billions and country's share of private consumption on GDP)						
	2010		2015		2020	
High income class China	981	34.3%	2,442	40.6%	5,575	43.9%
China	3,163	34.3%	5,638	40.6%	8,815	43.9%
USA	9,276	70.2%	10,353	67.9%	11,772	67.4%
Germany	1,484	56.6%	1,604	55.9%	1,731	55.8%
World	37,226	54.5%	44,822	53.0%	54,089	52.1%
High income class China/World	2.6%		5.4%		10.3%	
China/World	8.5%		12.6%		16.3%	
USA/World	24.9%		23.1%		21.8%	
Germany/World	4.0%		3.6%		3.2%	
Source: author's estimates and Global Insight						

A3. A Focus on Chinese Consumption of Affordable Luxury Goods

Being aware that the consumption capacity of China's HI class is huge and is projected to grow rapidly, we have made a first attempt to quantify it for a cluster of consumer goods. We present here the results of previous work estimating China's potential demand of "affordable luxury"⁶ goods in the following industries: apparel and accessories, food and drink, furniture and footwear⁷. This helps evaluate future developments of this part of global demand and it is also of high interest for Western enterprises that have to partially replace Western consumers.

In six years, Chinese imports of "affordable luxury" products are projected to grow by 57.4% at constant prices⁸, reaching 11,1 billion dollars, from 7,1 billion in 2009. China is today, among "the new markets"⁹, the fourth largest importer of affordable luxury goods

⁶ For "affordable luxury" here we mean medium and high quality consumer goods in the following sectors: apparel and accessories, food and drink, furniture and footwear. These products are largely imported by China. A detailed definition is given in the study cited below.

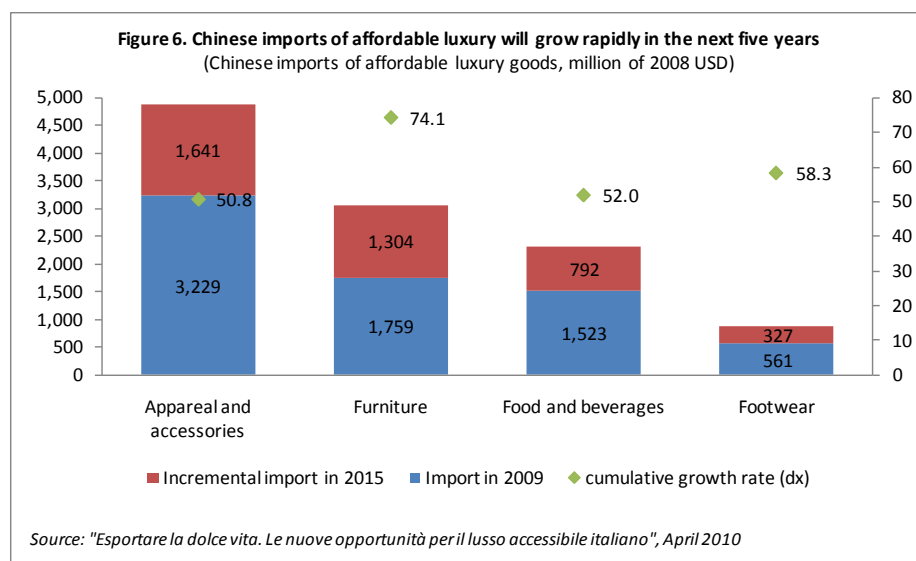
⁷ VV.AA., "Esportare la *dolce vita*. Le nuove opportunità per il lusso accessibile italiano", Confindustria, Prometeia, Sace, April 2010.

⁸ In this paragraph all numbers and growth rates are intended in constant (2008) prices.

⁹ For "new markets" here we mean 30 selected emerging markets: Algeria, Argentina, Brazil, Bulgaria, China, Croatia, Chile, Colombia, Czech Rep., Egypt, Hungary, India, Indonesia, Kazakhstan, Libya,

after Russia, the United Arab Emirates (UAE) and Poland and it will keep its ranking in 2015. Rates of growth of imports of affordable luxury goods differ among the four sectors (Figure 6). The highest growth rate of Chinese import will be in Furniture (74.1% in six years) and China, from being the largest fifth importer of affordable luxury furniture (after Russia, UAE, Mexico and Poland) will become the third in 2015, after Russia and UAE. In Footwear, Chinese import classified as affordable luxury will reach 888 million dollars in 2015, a cumulative growth of 58.3% in six years. China will maintain until 2015 its ranking position as the fifth largest importer, among new markets, of affordable luxury footwear (after Russia, UAE, Poland and Ukraine). In the Food and beverage sector, we forecast for 2015 an additional Chinese import of 792 million dollars, which takes the total import to 2,315 millions, with a cumulative growth in six years of 52.0%. China will keep its ranking position as the fourth largest importer, among new markets, of affordable luxury food and drinks (after Russia, Poland and Mexico). Apparel and accessories are the symbols of affordable luxury goods and import demand is already large in new markets. Nonetheless, in sixth years cumulative growth of Chinese imports will be 50.8%. China will remain the fourth largest importer of affordable luxury apparel and accessories, after Russia, UAE and Poland.

In the study summarized above imports are taken as a proxy of a country's absorption capacity. Hence, the forecasts for 2015 do not take into account the possibility that in the next five years Chinese consumers could find substitutes for these imported goods inside their country. We believe that the substitution of Western affordable luxury goods is not likely to happen in the next five years (while it may in a longer period). For Chinese consumers the value of international brands in these segments is very high and we think that Chinese brands, even with comparable quality levels, will need more than five years to substitute international brands to a great degree.

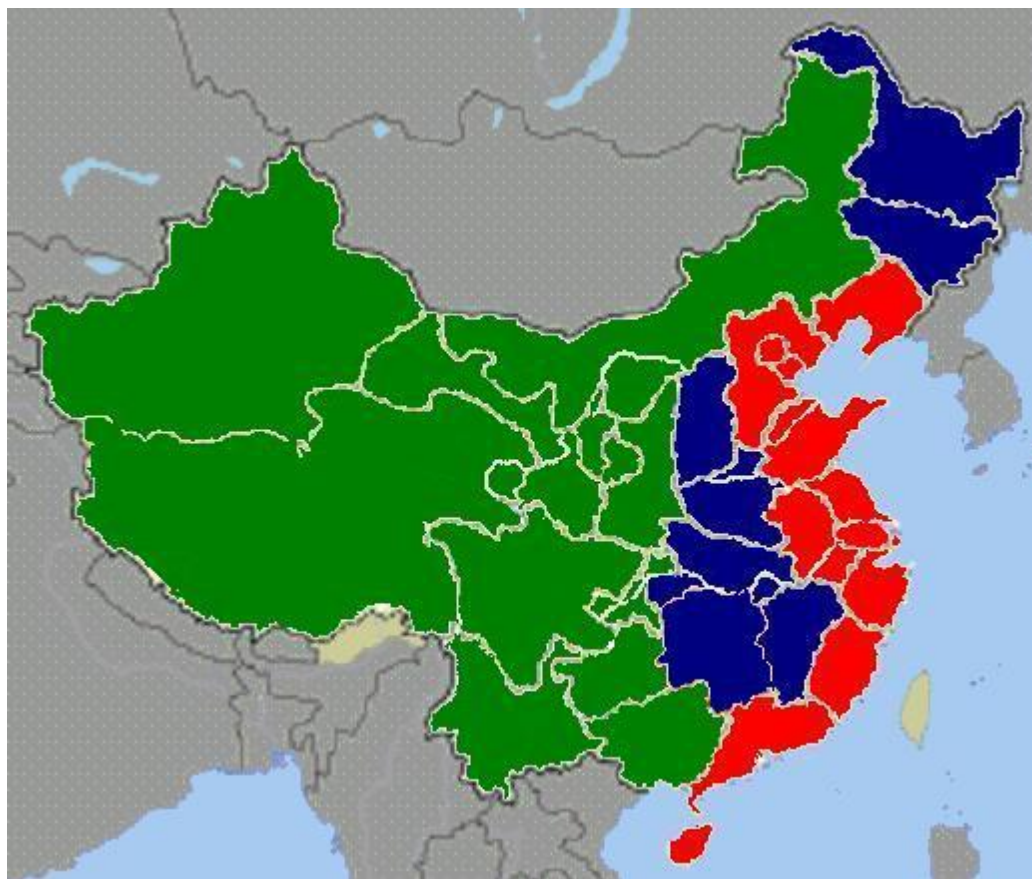


Malaysia, Mexico, Morocco, Peru, Poland, Romania, Russia, Saudi Arabia, Slovak Rep., Turkey, Tunisia, Thailand, Ukraine, United Arab Emirates, Vietnam.

B. ONE COUNTRY, MANY ECONOMIES: DIFFERENCES AMONG CHINA'S PROVINCES AND BETWEEN URBAN AND RURAL AREAS

To further examine the developments described above, we dig two layers deeper. Income (and consequently consumption) disparities among provinces and between urban and rural areas in China are huge.

At the broadest level, China consists of three economies: the Eastern area, which accounts for 58% of national GDP and consists of eleven provinces (Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan); the Central area, 24% of the national economy and eight provinces (Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei and Hunan); and the Western area, 18% of national GDP and twelve provinces (Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang).



- Eastern area (11): Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan.
- Central area (8): Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei and Hunan.
- Western area (12): Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang.

In 2009, average nominal GDP per capita in the Eastern region was \$5,868, in Central and Western regions it was respectively \$2,978 (about 51% of the Eastern level) and \$2,658 (45% of the Eastern level). Geographical disparities in income levels becomes more pronounced when the comparison is made at the provincial level: the highest level of nominal GDP per capita (Shanghai) was 7.6 times the lowest (Guizhou).

Regional income disparity in China is larger than that across US states or across the countries in the Eurozone. The coefficient of variation (COV, a normalized measure of dispersion of a distribution) of provincial GDP per capita in China is 0.64. This is much higher than the state GDP per capita COV in the United States (0.39) and even higher than the country GDP per capita COV in the Eurozone (0.49, Wang and Zhang 2009).

In the richest provinces, private household (HH) consumption as a share of GDP is on average lower than elsewhere. Here households have more left to save at the end of the month while in rural (and poorer) provinces consumption represents a larger share of GDP. Consumption as a share of GDP varies from 31.8% in the East to 35.1% and 38.4% in Central and Western China respectively. In the Coastal provinces¹⁰ consumption on GDP varies from 37.4% in Shanghai and 37.1% in Guangdong to less than 30% in Tianjin, Jiangsu and Hebei; in Guizhou, the province with the lowest GDP per capita, HH consumption reaches 49% of GDP (while it is high compared to the country's average, it is small compared with the already very low GDP per capita). In spite of the smaller HH consumption share on GDP, the absolute level of aggregate consumption in Coastal provinces remains far bigger than the one in the rest of the country. Coastal households consume 60% of the whole country consumption (Figure 7).

In light of these geographical disparities, the HI class is larger in Eastern China. We estimate that today 73.0% of HI Chinese live in the Eastern part of the country, 13.3% in the Centre and 13.6% in the West¹¹.

In the East, the areas with the largest HI class are the provinces of Guangdong (13.0% of national HI population), Jiangsu (11.6%) and Shandong (9.9%) and the two municipalities of Shanghai (9.3%) and Beijing (6.4%). In these areas we estimate that the richest group of the population has already an average per capita GDP of \$30,000 or more: in Shanghai and Beijing the richest 20% of the population, or more than 7 million people, holds a per capita income higher than \$40,000 while in the provinces of Guangdong, Jiangsu and Shandong the richest 10%, or almost 27 million people, has a per capita income higher than \$30,000 (Figure 8).

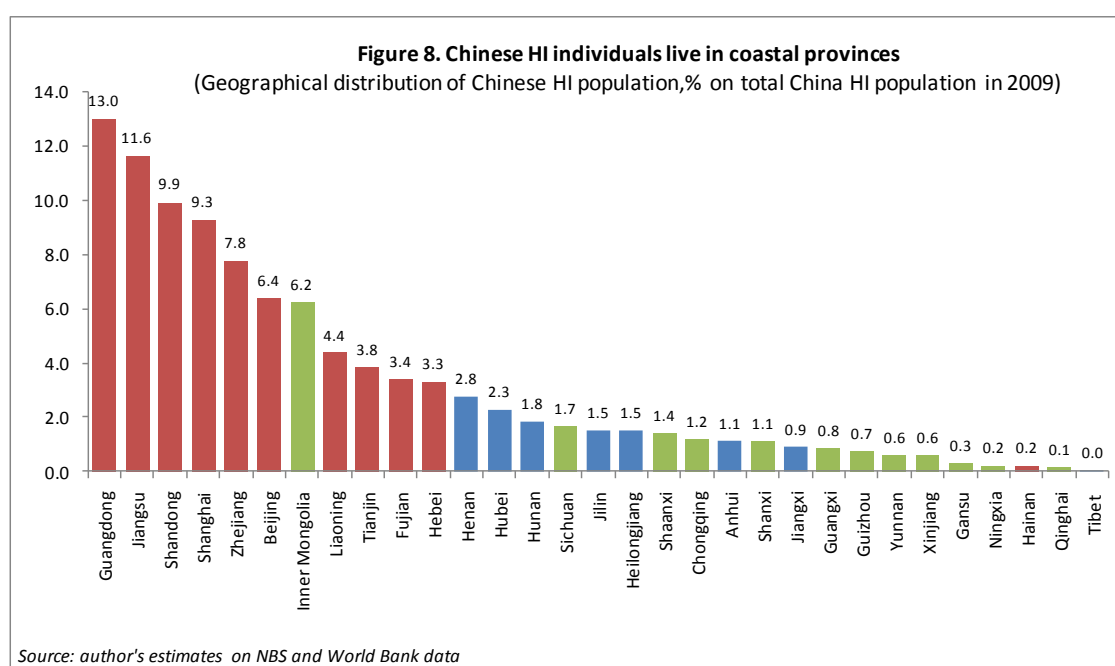
¹⁰ In this paper "coastal" is used as synonymous for "eastern".

¹¹ We use the same method described in section A.

Figure 7. High disparities among Chinese provinces (2009)

Province / Municipality	Area	Population	Urban population	Urbanization rate	HH Consumption on nominal GDP	GDP per capita		Imports	
	Kmq	million persons	million persons	%	%	USD	2005 PPP USD	USD billion	
EAST	Shanghai	7,037	19.2	17.0	88.6	37.4	11,569	19,159	135.8
	Beijing	16,808	17.6	14.9	85.0	31.4	10,318	17,088	166.0
	Tianjin	11,920	12.3	9.6	78.0	24.2	9,164	15,177	34.0
	Jiangsu	102,600	77.3	43.0	55.6	26.8	6,553	10,853	139.6
	Zhejiang	101,800	51.8	30.0	57.9	35.4	6,538	10,828	54.6
	Guangdong	177,900	96.4	61.1	63.4	37.1	6,029	9,985	252.0
	Shandong	156,700	94.7	45.8	48.3	29.2	5,257	8,706	59.0
	Liaoning	145,900	43.2	26.1	60.4	30.8	5,161	8,547	29.4
	Fujian	121,400	36.3	18.6	51.4	32.4	4,956	8,208	26.3
	Hebei	187,700	70.3	30.2	43.0	29.3	3,600	5,962	13.9
Hainan	33,920	8.6	4.2	49.1	34.8	2,820	4,670	3.5	
CENTRE	Jilin	187,400	27.4	14.6	53.3	31.7	3,895	6,451	8.6
	Hubei	185,900	57.2	26.3	46.0	34.4	3,321	5,500	7.2
	Shaanxi	205,800	37.7	16.4	43.5	32.6	3,176	5,260	4.4
	Heilongjiang	460,000	38.3	21.2	55.5	34.5	3,288	5,445	6.1
	Henan	167,000	94.9	35.8	37.7	32.1	3,017	4,996	6.1
	Hunan	211,800	64.1	27.7	43.2	38.8	2,992	4,955	4.6
	Jiangxi	166,900	44.3	19.1	43.2	35.9	2,539	4,205	5.2
	Anhui	139,400	61.3	25.8	42.1	41.6	2,403	3,980	6.6
	Inner Mongolia	1,183,000	24.2	12.9	53.4	24.0	5,900	9,770	4.4
WEST	Chongqing	82,300	28.6	14.7	51.6	36.2	3,357	5,559	3.4
	Shanxi	156,800	34.3	15.8	46.0	31.8	3,152	5,220	5.7
	Ningxia	66,000	6.3	2.9	46.1	36.1	3,189	5,282	0.5
	Xinjiang	1,660,001	21.6	8.6	39.9	30.0	2,921	4,837	3.0
	Qinghai	721,000	5.6	2.3	41.8	33.4	2,849	4,719	0.3
	Sichuan	485,000	81.9	31.7	38.7	39.6	2,539	4,206	10.1
	Guangxi	236,700	48.6	19.0	39.2	43.0	2,350	3,892	5.8
	Tibet	1,228,400	2.9	0.7	23.8	26.6	2,240	3,710	0.0
	Yunan	394,100	45.7	15.5	34.0	43.8	1,983	3,284	3.5
	Gansu	454,000	26.4	8.6	32.7	41.1	1,885	3,122	3.0
	Guizhou	176,100	38.0	11.4	29.9	48.9	1,510	2,500	0.9
East	1,063,685	527.6	300.5	57.0	31.8	5,913	9,793	914.1	
Centre	1,724,200	425.1	187.0	44.0	35.1	3,011	4,986	48.8	
West	6,843,401	363.9	144.2	39.6	38.4	2,671	4,424	40.6	
TOT	9,631,286	1316.6	631.6	48.0	33.5	3,746	6,757	1,003.5	
East % TOT	11.0	40.1	47.6	47.6	59.8	157.9	144.9	91.1	
Center % TOT	17.9	32.3	29.6	29.6	25.0	80.4	73.8	4.9	
West % TOT	71.1	27.6	22.8	22.8	15.2	71.3	65.5	4.0	

Source: author's calculations on China National Bureau of Statistics and World Bank data



In Central China, the areas with the largest HI class are the provinces of Henan (2.8% of national HI population), Hubei (2.3%) and Hunan (1.8%), the closest provinces to the Eastern region. In Hubei the richest 4% of the population is estimated to have a per capita GDP of \$31,432, in Henan and Hunan the richest 2% of the population has an average per capita income higher than \$37,000. In the three provinces the richest 10% of the population is estimated to have a GDP per capita higher than \$15,000 in 2010.

In Western China, the area with the largest HI class is the biggest Chinese province, that is Inner Mongolia (6.2% of national HI population), followed by Sichuan (1.7%) and Shaanxi (1.4%). In Inner Mongolia, the richest 8% of the population is estimated to have a per capita GDP of \$40,763, in Sichuan and Shaanxi the richest 2% and 4% of the population holds an average per capita income higher than \$30,000.

The regional income disparity reflects several fundamental structural factors that affect China's development.

First, openness to external trade tends to be much higher in the Eastern region than in Central and Western areas. These provinces, being more exposed to external demand, have benefited the most from the growing demand from abroad of Chinese goods in the last 10 to 15 years thanks, in the first place, to their geographical location (next to the sea, where, through ports, it is easier to have contact with other countries and to boost trade). Measured by exports as a percentage of GDP, the Eastern provinces of Guangdong, Jiangsu and Zhejiang are 15-25 times more exposed to foreign demand than the Central and Western provinces of Qinghai, Gansu, Inner Mongolia and Henan. If we take into account imports as a percentage of GDP, the Eastern region, with a share of 30.1%, is six times more open than the Centre and West, with 3.9% and 4.2%. Also in this case disparities among provinces are large: in Beijing, Shanghai and Guangdong imports are respectively 95%, 62% and 44% of GDP, while in Henan and Hunan (in the Centre) and Qinghai, Tibet and Guizhou (in the West) imports are less than 3% of provincial GDP.

Second, urbanization¹² tends to be much higher in the Eastern area than in the Central and Western areas (thanks mainly to the export-led growth). Provinces with the highest urbanization such as Guangdong, Liaoning, Zhejiang and Jiangsu and municipalities such as Shanghai, Beijing and Tianjin are concentrated in the Eastern area, while provinces with the lowest urbanization such as Yunnan, Gansu, Tibet and Guizhou are in the Western

¹² In interpreting urban statistics it should be noted that there is no widely accepted international definition of urban area. This analysis is based on the definition of urban areas by the Chinese National Bureau of Statistics (NBS). This definition is relatively broad, including for example cities at or above the prefecture level as well as districts under the jurisdiction of cities. This means that urban areas include many smaller cities and towns that are likely to be quite different in character than major city centres, and also includes agricultural areas that are under the administration of cities. The NBS definition however largely excludes migrant workers who maintain a rural household "status". Some observers argue that this definition inflates the rate of urbanization, and all the other statistics that characterize urban China. Yet we are of the view that this definition is the most suitable option for this study, given that our data main source is the NBS.

area. People living in urban areas represent 57.2% of total population in the Coastal region, while they are only 44.0% and 39.6% in the Centre and West. The highest urbanization rate in Shanghai, 88.6%, is three times higher than the lowest in Tibet and Guizhou (23.8% and 29.9%).

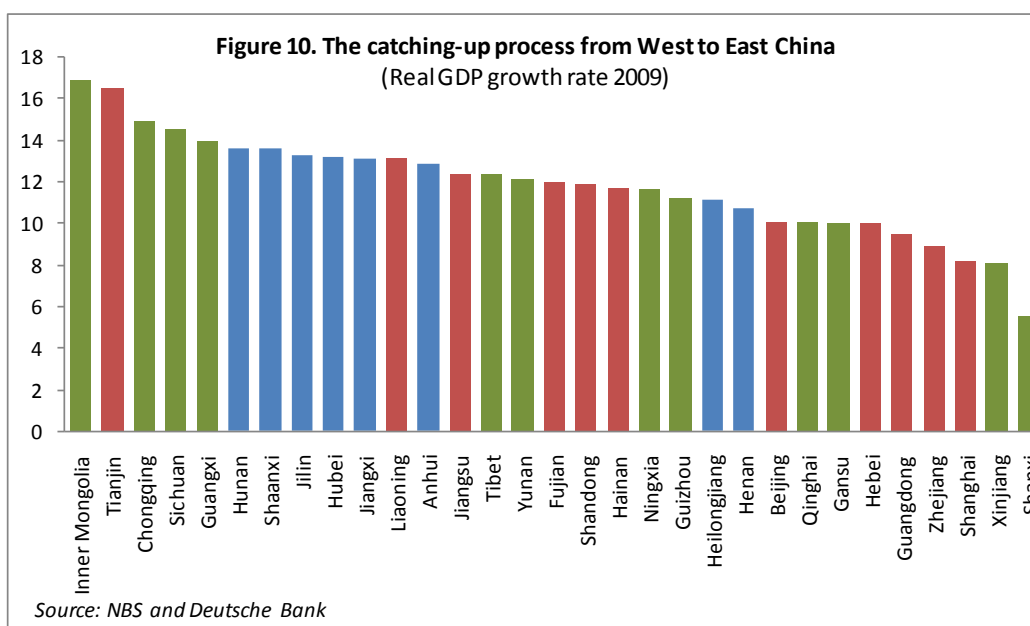
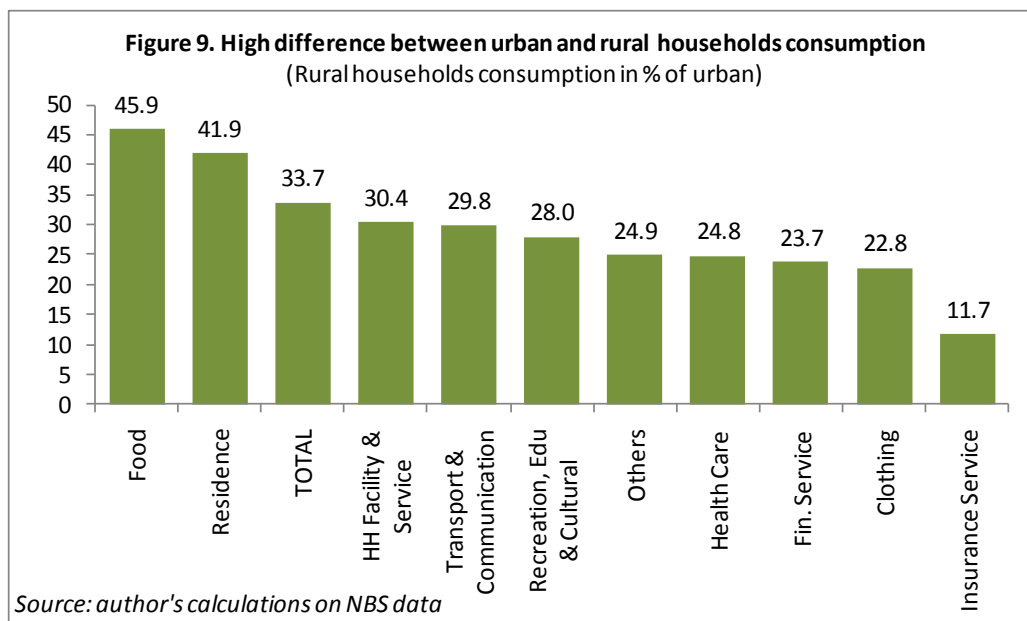
Compared with many countries that are at a similar stage of economic development, China's level of urbanization is still quite low, particularly considering its level of industrialization¹³. China's urbanization rate has progressed over the past decade, at an average annual pace of 1%, and stood at 48% in 2009. If this pace of growth were to be maintained over the next decade, China's urbanization rate would reach 59% in 2020. If, for example, the average pace were to accelerate to 1.5% per year, which is likely given that urbanization is now a high policy priority, the urbanization rate will reach 60% by 2020. This implies that around 15 million rural residents would be urbanized per year.

The income and consumption gap between urban and rural areas is considerable: urban household consumption per capita was more than three times that of the rural area in 2009 (i.e., RMB 14,944 versus RMB 4,128). Within each region, the gap between urban and rural living standards also varies substantially. A general observation is that the lower the urbanization rate, the larger the gap between urban and rural living standards. The largest urban-rural gap is reflected in the consumption of clothing where rural residents spend less than one fourth than urban residents. This is not a surprise, as urban residents are usually more fashion-sensitive. The smallest urban-rural gap is on food (46%) and housing-related consumption, where rural residents spend 42% of the amount that urban residents spend (Figure 9).

To conclude, HI class is more widespread in the Eastern areas, especially in urban centers. Therefore East China as a whole can already be considered today as a developed country for its level of per capita income. Moreover, we can imagine China's development in the next five-ten years by looking at its provinces that have been experiencing in recent years the same path that East China's provinces experienced at the beginning of 2000s. There is indeed a catching-up process of Central and Western provinces toward Eastern ones. While today half of urban consumers and three-quarters of

¹³ According to the general pattern identified by Chenery and his associates in their book "Patterns of Development", there is a strong correlation between urbanization and GDP per capita. However, China seems an exception. By end-2008, China's GDP per capita reached \$3,266. According to the general standard in the Patterns of Development, Chinese urban population as a percentage of its total population would be about 56-58%. But China was still largely a rural country with only 46% urban by the end of 2009. The relative under-urbanization reflects prevalence of barriers impeding rural-urban migration in China, including in particular the household registration system, or "hukou". This household registration system started operation in 1955. With the reforms beginning in late 1978, the State restrictions on mobility were gradually relaxed, which immediately led tens of millions of peasants to flood into coastal cities for salaried jobs. Today, because of their job insecurity and low payment plus urban bureaucracy, most migrants are still unable to register with the local governments as urban residents. Without an urban residency under the hukou system, migrants are subject to various forms of discrimination in cities in terms of job opportunities and access to schooling, health care, housing, and so on.

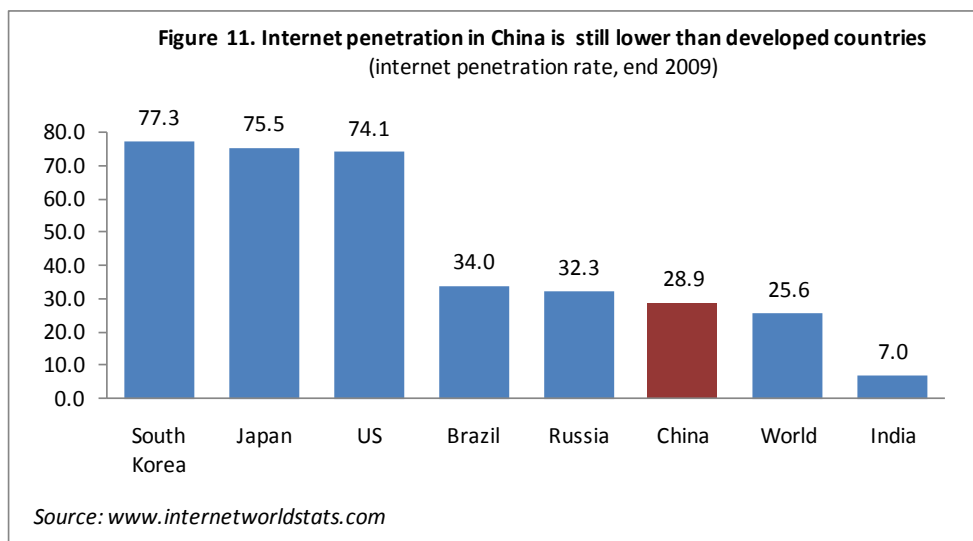
HI individuals live in coastal regions (and the same may be in five years), in the medium period, second tier cities and Central regions will gain relevance as the process of catching up consolidates within the framework of the Governmental policies of the 11th and 12th Five-Year Plan. This process can be already seen in provincial GDP real growth rates (Figure 10): in 2009, Inner Mongolia grew at the fastest pace (16.9%) followed by Chongqing (14.9%), Sichuan (14.5%) and Guangxi (13.9%) in Western China; Central areas as Hunan, Shaanxi, Jilin and Hubei grew more than 13% and only Tianjin Municipality and Liaoning in the East had comparable growth rates (16.5% and 13.1%).



B1. A Focus on Disparities in the Level of Computerization in China

Disparities among provinces and between urban and rural areas are not merely limited to GDP and consumption, but they extend to many other aspects. The level of computerization is a striking example. This aspect is relevant because computerization reduces physical distances among consumers and between consumers and products; improves product awareness, communication and access to market, especially in a vast country like China. Here, a faster development of computerization may lead also to a quicker growth in consumption.

The number of “net citizens”¹⁴ in the whole China has reached 420 million in June 2010, with an increase of 36 million compared to the end of 2009, when China overtook the United States in the number of internet users. In 2008, 19% of world internet users were in China, today that percentage is likely to be much higher. The internet penetration rate¹⁵ surged to 31.8% from 28.9% at the end of 2009, an increase of 2.9 percentage points in six months. China's penetration rate has been rising steadily and is higher than the world average. However, compared with developed countries, it is still low: as of December 2009 (latest data available), the penetration rate for the United States, Japan, and Korea was respectively 74.1%, 75.5% and 77.3%. (Figure 11).



According to the internet penetration rate at the end of 2009, we can divide the country into three groups. The first group has an internet penetration rate higher than the average (28.9%) and includes mainly Coastal provinces and municipalities: Beijing, Shanghai,

¹⁴ We follow the definition by China Internet Network Information Centre (CNNIC): “Net citizen” is a Chinese citizen older than 5 who has used the internet in the first half year. All data and definitions on computerization, if not otherwise specified, derive from CNNIC’s Statistical Report on Internet development in China, December 2009 and July 2010.

¹⁵ We follow the definition by Internet World Stats: “Internet Penetration Rate” corresponds to the percentage of the total population of a given country or region that uses the Internet.

Guangdong, Tianjin, Zhejiang, Fujian, Liaoning, Jiangsu, Shanxi and Shandong. In the second group the internet penetration rate is below the national average, but higher than the global average (25.6%) and includes: Hainan, Chongqing, Qinghai, Xinjiang, Jilin, Shanxi, Hebei and Hubei. The third group includes provinces where internet development level is lagging behind and network penetration is below the global average: Heilongjiang, Inner Mongolia, Ningxia, Hunan, Guangxi, Henan, Gansu, Sichuan, Yunnan, Tibet, Jiangxi, Anhui and Guizhou. These provinces though have the fastest growth rates of internet users: Gansu, Henan, Yunnan are ranked in the top three, with growth rates of 63.6%, 56.4% and 54.0%, respectively in 2009 (Figure 12).

Figure 12. Internet penetration varies among provinces (end-2009)

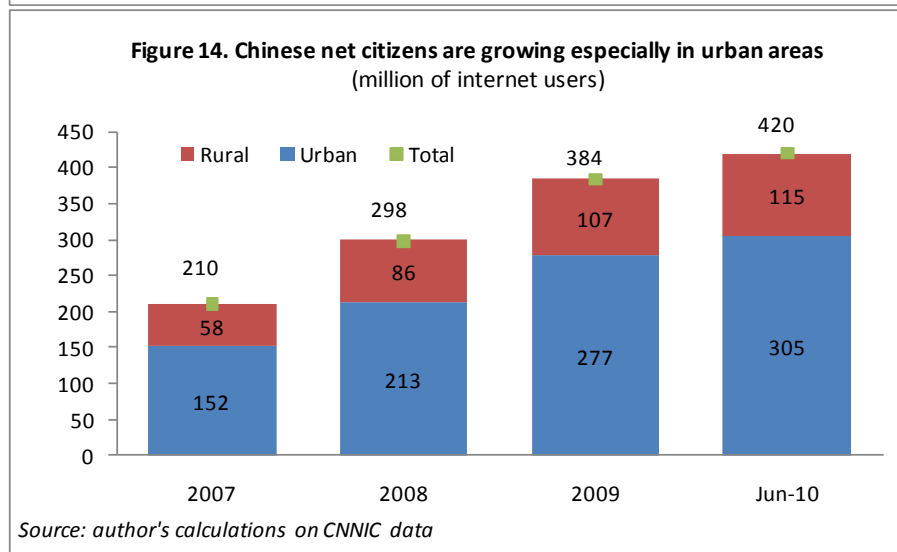
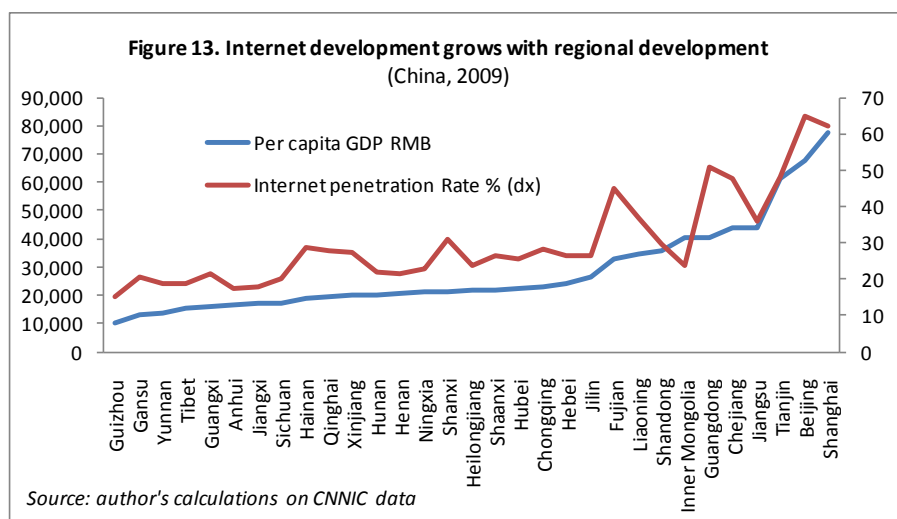
Province	Internet Users (millions)	Penetration Rate (%)	Growth Rate of internet users (%, 2009/2008)	Penetration (ranking)	Growth Rate of internet users (ranking)
Beijing	11.0	65.1	12.6	1	28
Shanghai	11.7	62.0	5.5	2	30
Guangdong	48.6	50.9	6.7	3	29
Tianjin	5.6	48.0	16.3	4	24
Chejiang	24.5	47.9	16.3	5	25
Fujian	16.3	45.2	18.1	6	23
Liaoning	16.0	37.0	40.2	7	10
Jiangsu	27.7	36.0	32.7	8	17
Shanxi	10.6	31.2	29.9	9	19
Shandong	27.7	29.4	39.6	10	12
Hainan	2.4	28.6	13.0	11	26
Chongqing	8.0	28.3	34.3	12	16
Qinghai	1.5	27.7	18.5	13	22
Xinjiang	6.3	27.5	1.4	14	31
Jilin	7.3	26.6	39.6	15	13
Shaanxi	10.0	26.5	25.9	16	21
Hebei	18.4	26.4	38.1	17	15
Hubei	14.7	25.7	39.9	18	11
Heilongjiang	9.1	23.9	47.1	19	7
Inner Mongolia	5.8	23.8	49.4	20	4
Ningxia	1.4	22.8	38.2	21	14
Hunan	14.1	22.0	40.7	22	8
Guangxi	10.3	21.4	40.3	23	9
Henan	20.1	21.3	56.4	24	2
Gansu	5.4	20.4	63.6	25	1
Sichuan	16.4	20.1	48.2	26	5
Yunnan	8.4	18.6	54.0	27	3
Tibet	0.5	18.6	12.8	28	27
Jiangxi	7.9	18.0	29.5	29	20
Anhui	10.7	17.4	47.9	30	6
Guizhou	5.7	15.1	32.3	31	18
CHINA (Dec. 2009)	384.1	28.9	28.9	-	-
China**	420.0	31.6	-	>58*	1*
USA**	239.9	77.3	-	16*	2*
Japan**	99.1	78.2	-	19*	3*
India**	81.0	6.9	-	>58*	4*
Brazil**	75.9	37.8	-	>58*	5*
Germany**	65.1	79.1	-	20*	6*

* World ranking. ** June 2010.

Source: author's calculation on CNNIC data, June 2010 and Dec. 2009 and Internet World Stats

Internet use is positively correlated with the level of regional economic development¹⁶: the more developed the regional economy, the wider its internet diffusion (Figure 13). The internet penetration rate can serve as a regional economic development indicator: the Eastern provinces are in geographically strategic locations and have a stronger technical capability, they play a leading role in GDP growth, per capita GDP in 2009 was RMB 40,066 and internet penetration rate was 40.0%. Of course this creates a virtuous circle. Central and Western regions' economic development and technical management levels lag behind the Eastern region; per capita GDP in 2009 was RMB 19,327 and internet penetration rate was 22.2%.

This is also confirmed by the fact that rural net citizens grow slower than urban ones: the population of urban net citizens reached 305 million in June 2010 (from 277 at end-2009), 72.6% of all net citizens; the number of rural net citizens reached 115 million (from 107), 27.4% of total (Figure 14). The increase rate in the first half of 2010 was 7.7%, lower than that of urban net citizens' (10.0%).



¹⁶ Provincial internet penetration and per capita GDP correlation analysis found that Pearson correlation coefficient reached 0.92 (P <.001).

CONCLUSIVE REMARKS AND HIGHLIGHTS ON ISSUES PREDICTING SPENDING PATTERNS

The main scope of our study was to estimate the size of the High Income class in China because we believe that its development is crucial to understand changes in global demand in the medium term. This is a class of individuals that have incomes comparable with Western ones and can partially replace them in the global consumption.

We make a ball-park estimate of the present and future size of the Chinese high income class. The present size is projected to double each five years through 2020. Whether or not those estimates give the exact dimension of the HI class, the size of the phenomenon is huge and needs to be further investigated. An example of the global effects of the growing Chinese HI class is given by our estimates of Chinese imports of affordable luxury goods: in six years they will grow by almost 60% at constant prices.

Because of the heterogeneity in Chinese income, we analyze income and consumption at the provincial level and we distinguish between urban and rural areas. We estimate the present distribution of the HI class among Chinese provinces and make few remarks on the disparities in income and consumption between urban and rural areas. Disparities in China are not merely limited to GDP and consumption, but they extend to many other aspects. The level of computerization is a salient example.

Given their global relevance in the next future, here we highlight those characteristics of Chinese consumers that we believe will have a major impact on their future spending decisions.

First, Chinese consumers are younger than Western ones: the median age in China is 34.1 years. While it is higher than that in many emerging countries (in India is 25.3), it is lower than in the youngest Western countries like the US and France (36.7 and 39.4) and much lower than in other Western countries like Germany and Italy (43.8 and 43.3). The Chinese young population, though, is huge: in 2009 there were around 460 million people aged between 20 and 44 years (almost 40% of total population), the category of consumers who spend more. Moreover, according to Hurun Wealth Report 2010, the average age of China's wealthiest¹⁷ is 42 years, 12 years younger than their counterparts outside of China. The age structure affects consumers in various ways, which are widely investigated in the economic literature. We find of special interest, for future developments of Chinese consumption, the higher sensibility shown to environmental issues and the tendency, for young Chinese consumers, to buy energy-saving and other eco-friendly products (LEK Survey 2010, among others).

Another macro trend that will increasingly affect consumption decisions derives from the growing female labor force participation in leading positions. This is providing more

¹⁷ Persons who hold more than RMB 10 million.

purchasing power to women. The combined impact of growing gender equality, the emerging middle and HI class and women's spending priorities will shift spending patterns towards sectors such as food, healthcare, education, childcare, apparel, consumer durables and financial services (Goldman Sachs 2008). Today there are 524 million economically active women in China who are over 15; in 2015 there will be 551 million, 27 million more, and in 2020, 566 million, according to the latest ILO projections. Chinese women's earned income in 2010 is estimated to be 68% of men's, from 66% in 2006, while women's wage for similar work is 70% of men's, also improving from 61% in 2006. Every 100 people (men and women), there are 17 women legislators, senior officials and managers today in China (from 12 in 2006) and 52 women professional and technical workers (from 45 in 2006). There are also 21 women, out of 100 people, in Parliament and 12 in ministerial positions, from 20 and 6 in 2006¹⁸. This is also a consequence of developments in education: in China, girls now fare as well as boys in primary and secondary school enrollment (from 87% of boys in 1991) and also at the university level women have made dramatic gains since the early 1990s, from twice as many men as women to near parity today. This happened while the share of females in the labor force has remained roughly stable over the last 20 years: it was 44.6% in 2009 (economically active population over 15 years old) not far from the correspondent female population rate, 48.8%.

The factors mentioned above are likely to play a large role in the medium term.

In the longer period other issues will become relevant, especially those connected with the age structure. For instance, the average age of Chinese consumers is projected to grow and an older population will have a different consumption propensity. Also the age dependency ratio will be higher, at least in urban households, and this will affect income distribution and growth and consumer decisions. On the contrary, in the longer term, female purchasing power will continue to strengthen and computerization will shrink distances among world consumers and between enterprises and consumers.

¹⁸ These data derive from: World Economic Forum, "The Global Gender Gap Report 2010" by R. Hausmann, L.D. Tyson, Saadia Zahidi, 2010.

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