

INCOME LEVELS IN INDIA'S CITIES

– WHEN WILL INDIA REACH CHINA'S LEVELS? –

Yusuke Suzuki

General Planning Dept., Global Economic & Political Studies Div.
Mitsui & Co. Global Strategic Studies Institute

SUMMARY

- Mumbai's GDP per capita in 2015 was estimated to be US\$ 5,328, while Delhi's was estimated to be US\$ 4,311, which are close to that of Ho Chi Minh City and Hanoi¹. The GDP per capita of Indian cities is by no means high.
- There are nine megacities with populations of over five million scattered across the Indian subcontinent, and these cities have reasonably large populations of high-income households². For the time being, eight to ten Indian cities that have historically been regarded as Tier 1 cities and have a combined population of around 100 million should be regarded as substantial markets.
- India's demographics have growth-driving elements, and the country is steadily accumulating capital stock. While India is unlikely to catch up with China in the medium to long term, it is highly likely that it will grow to reach China's current level in the future.

INDIAN CITIES AND INCOME LEVELS

First of all, the GDP per capita of Indian cities in 2015 is shown in a map (Fig. 1). For comparison, Chinese cities and major cities of Southeast Asia are also included.

Indian cities' GDP per capita is not high

Mumbai's GDP per capita estimate is US\$ 5,328, and that of Delhi's is US\$ 4,311 (Fig. 2). While other Indian cities also exceed India's national average GDP per capita of US\$ 1,640 (US\$ 6,260 at IMF purchasing power parity), which includes rural areas, the figures for India's cities are by no means high compared to major cities in China and Southeast Asia. This reflects the fact that India's national average GDP per capita is not high.

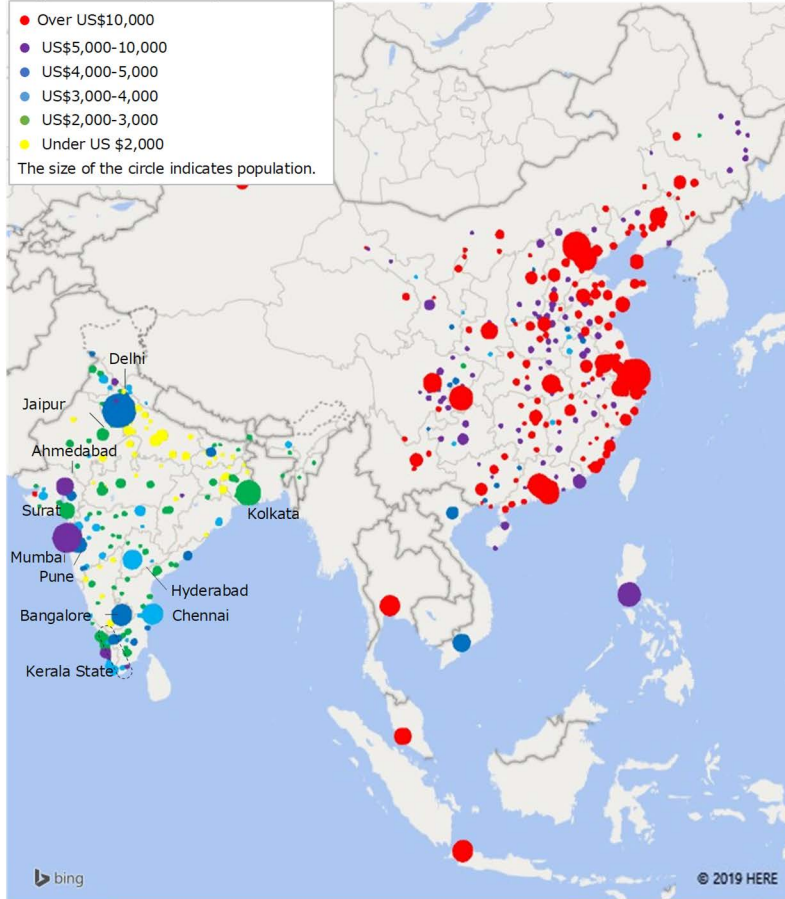
Significant population concentration in megacities, mainly six major cities

Six Indian cities have populations of over 8 million; Delhi and Mumbai top the list with populations of 25.87 million and 19.32 million, respectively, followed by Kolkata (14.42 million), Bangalore (10.14 million), Chennai (9.68 million), and Hyderabad (8.7 million). Historically, these six cities, or eight cities when Ahmedabad (7.11 million) and Pune (5.75 million) are included, have been considered Tier 1 cities. India's ninth most populous city is Surat (5.67 million), and after this a large gap opens up between Surat and tenth place Jaipur (3.43 million) and smaller cities.

¹ Population figures in this report are based mainly on data from the United Nations and GDP per capita on estimates by the McKinsey Global Institute. For details, see the notes at the end of this report.

² Households with an income of more than US\$ 70,000 in 2015 based on purchasing power parity.

Fig. 1 GDP per capita of cities in India, China, and Southeast Asia (2015)



Source: Produced by MGSSI based on data from MGI and the United Nations

Fig. 2 A comparison of major cities of India, China, and Southeast Asia (2015)

	Delhi	Mumbai	Kolkata	Bangalore	Chennai	Hyderabad	Ahmedabad	Pune	Surat	Jaipur
Population (unit: 10,000)	2,587	1,932	1,442	1,014	968	870	711	575	567	343
GDP per capita (US\$)	4,311	5,328	2,364	4,754	3,224	3,628	5,085	4,488	2,488	2,343
	Shanghai	Beijing	Chongqing	Tianjin	Guangzhou	Jakarta	Ho Chi Minh City	Hanoi	Bankok	Kuala Lumpur
Population (unit: 10,000)	2,348	1,842	1,337	1,252	1,169	1,017	735	366	940	685
GDP per capita (US\$)	19,028	18,883	10,221	22,031	23,907	14,610	4,852	4,932	11,593	22,133

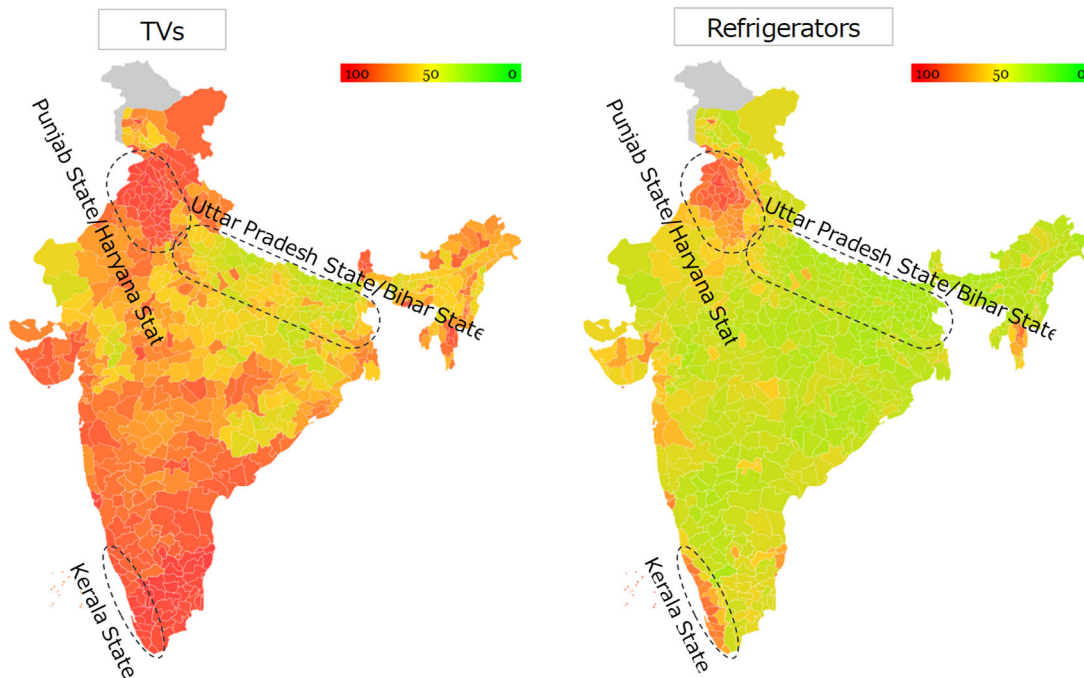
Source: Compiled by MGSSI based on data from the United Nations and MGI

No clustering or lineal assemblage of cities

Megacities, primarily Tier 1 cities, are scattered across the Indian subcontinent. Even for relatively closely located cities, such as Mumbai and Pune, there is a distance of approximately 100 km between them. Mumbai and Surat are about 190 km away from each other, and 170 km between Surat and Ahmedabad. Although there is, albeit small scale, a string of cities with relatively high income centered around Kerala State on the western side of the Indian peninsula’s southern tip, the clustering of cities around megacities has not yet been seen. The cities surrounding Delhi are still small and have low income levels.

Similar trend in the penetration of durable goods

Looking at the penetration of durable goods to confirm the distribution of income levels in India shown in Figure 1, a more or less similar trend emerges (Fig. 3). In other words, a high penetration of durable goods is seen in megacities like Delhi and Mumbai (however, it is low in Kolkata). Also, while the penetration is high on the southwestern tip of the Indian peninsula (Kerala State), it is low in the northeast of the country bordering Nepal (Uttar Pradesh State, Bihar State, etc.).

Fig. 3 Durable goods penetration rate in India by district

Source: Compiled by MGSSI based on data from the Ministry of Health and Family Welfare, using "INDIA MAP" created by S. Anand (<https://gramener.com/indiamap/>)

Of the 637 districts that make up India's 36 states and union territories from which this data was obtained³, while 47% have a relatively high TV penetration rate of over 70%, 84% have a washing machine penetration rate of below 30%, and 65% have a refrigerator penetration rate of below 30%. The penetration rate of durable goods is still low, which is consistent with the low income levels in cities.

IMPLICATIONS FOR EVALUATING THE INDIAN MARKET

The merit of a population of 1.3 billion people

When it comes to Indian cities' GDP per capita, only the megacities with the scale of Mumbai and Delhi can just about be on a par with that of Ho Chi Minh City and Hanoi in Vietnam. With its huge population of 1.3 billion, the country as a whole may seem attractive as a market, at present, however, the eight to ten cities, mainly Tier 1 cities, with populations of over five million (a total of about 100 million people) should be considered as a realistic market.

Nevertheless, given their large populations, the purchasing power of these cities is considered to be higher than major cities in Southeast Asia where income levels are comparable. For example, in the case of Mumbai and Delhi, the number of people belonging to households with a reasonably high income of US\$ 70,000 or more based on purchasing power parity was already on a par with Jakarta in Indonesia in 2015, according to estimates by MGI (McKinsey Global Institute). Moreover, other Indian cities with populations of over five million are likely to have purchasing power equal to or greater than Ho Chi Minh City and Hanoi in Vietnam, so it is by no means a small market.

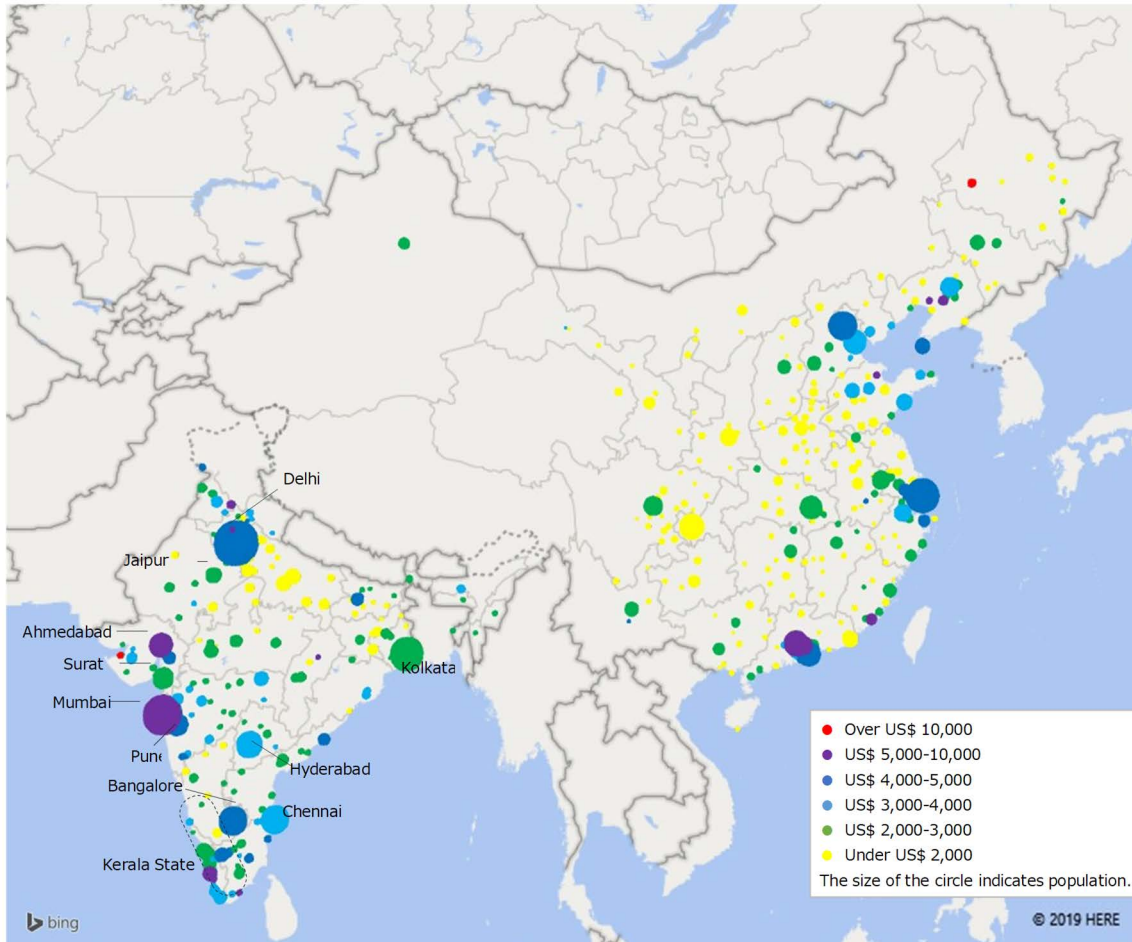
A comparison with China

In 2015, GDP per capita reached US\$ 19,028 in Shanghai and US\$ 18,883 in Beijing. Several Chinese cities already have a GDP per capita in excess of US\$ 10,000, and at the present time, there is a massive gap between income levels in Indian and Chinese cities.

³ Not including the Andaman and Nicobar Islands Union Territory. Based on the National Family Health Survey (NFHS) conducted by the Indian Ministry of Health and Family Welfare in 2015-16.

So, this report will instead take the GDP per capita of Indian cities in 2015, and consider at what point in the past that of Chinese cities was close to it. First, if we compare the national average GDP per capita of the two countries, not limited to the cities alone, while it depends on the indicators being compared, India's level in 2015 was roughly equivalent to China's level between 2005 and 2007⁴. Next, if we compare the average GDP per capita by urban population, India's 2015 level was roughly equivalent to the level in China during the first half of the 2000s. Based on these figures, the GDP per capita of Indian cities in 2015 alongside that of Chinese cities in 2002 are shown in a map (Figure 4), using the same method employed in Figure 1.

Fig. 4 GDP per capita of cities in India (2015) and China (2002)



Source: Produced by MGSSI based on data from MGI, the United Nations, and the National Bureau of Statistics of China

Will India grow?

Needless to say, there is generally a strong correlation between the income level of a country and the income levels of cities in that country. India's real GDP grew at an annual rate of 7.3% over the 15-year period from 2000 to 2015, and GDP per capita rose from US\$ 463 to US\$ 1,640. While India's performance pales in comparison to that of China, which achieved a growth rate of 9.7% and an increase in GDP per capita from US\$ 959 to US\$ 8,167 over the same period, there is no doubt that India achieved a reasonable level of growth. Furthermore, considering the potential for medium- to long-term growth in the future, given the demographic and capital stock⁵ trends described below, it seems unlikely that India's growth will deteriorate compared to the 15-year period from 2000.

⁴ According to IMF data, China's GDP per capita in 2005 was higher than India's national average GDP per capita in 2015, and also became higher at least by 2007 even taking into price differential. A comparison of the average GDP per capita of the ten most populous cities based on data from MGI and the National Bureau of Statistics of China shows that China surpassed India's 2015 level in 2003, and similar results were obtained for the 11th to 30th and 30th to 50th most populous cities.

⁵ The sum of social infrastructure such as road facilities, and electricity, gas, and water facilities, and private capital such as machinery and equipment, factories, and office buildings. It consists of accumulated investment (gross fixed capital formation) and indicates the total production capacity.

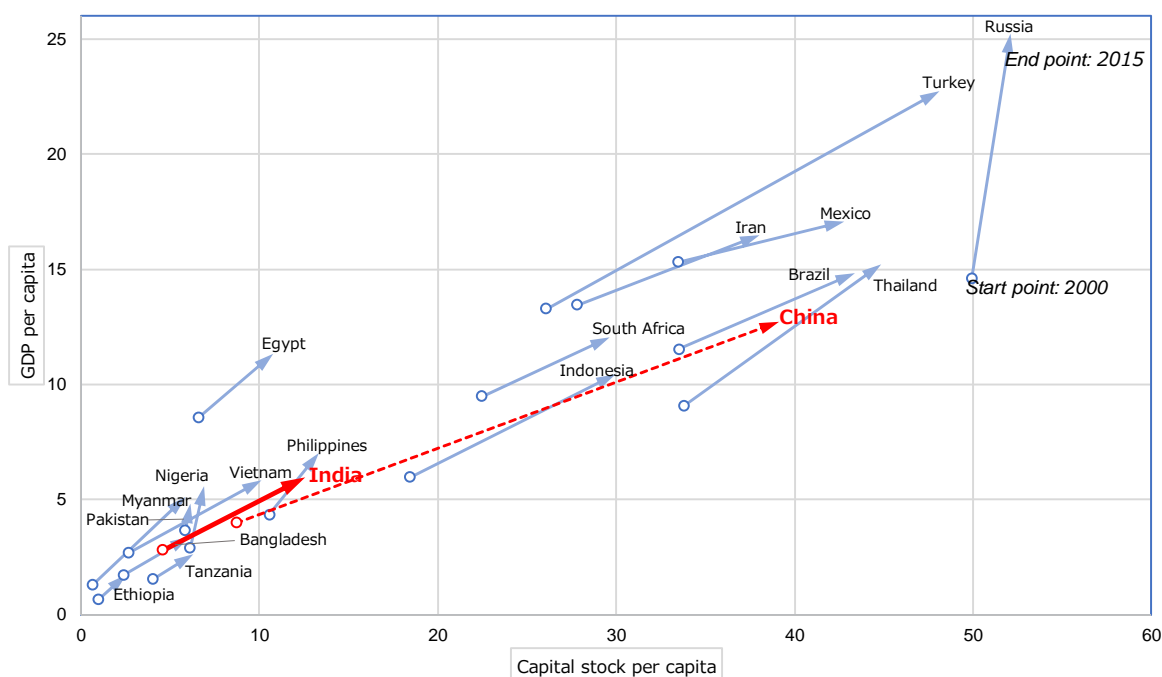
Demographics provide an impetus to growth

India's working-age population (age 15-64) grew by 34.4% between 2000 and 2015, exceeding China's increase of 16.2%. For nine consecutive years from 2009, the number of births exceeded 20 million, and the working-age population is highly likely to continue increasing. In addition, the country's total fertility rate⁶ fell from 3.2 in 2000 to 2.2 in 2017. Although the working-age population is growing, the dependency ratio will decline as the birthrate falls, which means that the current situation that is driving economic growth is likely to continue for the time being⁷.

Accumulating capital stock is essential

There is a close relationship between capital stock, which is the total productive capacity, and GDP. According to IMF estimates of the capital stock of 164 countries worldwide, the higher a country's capital stock per capita, the higher its GDP per capita (Fig. 5). Out of 42 countries with a population of more than 30 million, India ranks 30th in terms of the size of its capital stock per capita. While this is by no means high, India's capital stock per capita increased 2.7-fold in the 15 years up to 2015, and the country's ranking has improved from 33rd place in 2000.

Fig. 5 Relationship between capital stock per capita and GDP per capita



Note: The unit is 1,000 real international dollars (based on 2011 purchasing power parity). This graph includes 26 countries with populations of over 50 million and a GDP per capita of less than 26,000 real international dollars in 2015. India is shown by the solid red line, China by the dotted red line. The start point (white circle) is 2000, and the end point (arrow head) is 2015.

A certain amount of progress has been made in the development of social infrastructure. In 2015/16, 87% of India's districts had an electricity penetration rate of 70% or more, while in the three-year period from 2015/16 to 2018/19 more new national highways were built than in the preceding five years. The growth rate of investment (gross fixed capital formation), which determines the level of capital stock, was 9.2% per annum over the three-year period from fiscal years 2015 to 2018, surpassing the 5.5% per annum growth seen in the five years up to fiscal year 2015. If demographic changes lead to an increase in the savings rate, and progress in the development of social infrastructure provides an impetus, capital stock can be expected to continue increasing steadily going forward.

⁶ The average number of children a woman gives birth to in her lifetime.

⁷ The UN's World Population Prospects estimates that India's working age population will continue to increase until 2049, and the dependency ratio will continue to decline until 2035.

Still, big differences between India and China

China's growth has been driven by investment and has been accompanied by voracious consumption of resources. In the 15 years up to 2015, apparent steel consumption per capita increased 4.7-fold and cement production increased 3.3-fold, while capital stock grew 4.5-fold. Meanwhile, India's apparent steel consumption per capita in 2015 was only 14% that of China, cement production was only 12% of China's, and its capital stock was 32% that of China⁸.

However, it is unlikely that India's growth will be accompanied by the voracious consumption of resources seen in China. There are three main reasons for this view. First, the industrial structures are different. In India, the share of GDP accounted for by the manufacturing sector, which uses large amounts of resources, is 16%, much lower than in China, where it is 30%⁹. Secondly, there is the matter of government policy. As an example, one reason for the sharp rise in concrete-built houses in China is the government's push to build complex housings in cities and surrounding areas. In India, meanwhile, floor area ratio regulations are preventing the construction of high-rise buildings. The third reason is the international environment changes. The increasing attention being paid to SDGs (Sustainable Development Goals), most conspicuously climate change, is working to curb the consumption of resources. The rise in global trade friction is also likely to reduce the inflow of direct investment premised on exportation to third countries.

Challenges in macroeconomic policy

Although it is easy to overlook, there are big differences between India and China in the exchange rate trends. The Indian rupee fell from 45.7 rupees per dollar in 2000 to 47.9 rupees in 2011, and then dropped to 65.5 rupees in 2015, whereas, the Chinese yuan rose from 8.3 yuan per dollar in 2000 to 6.2 yuan in 2015, and it has hardly ever dropped at all since being devalued in 1994. General government finances and a negative current account balance have contributed to the rupee's decline, and of course, if the currency continues to decline, India's dollar-denominated GDP per capita will be proportionately lower, and foreign companies will see a reduction in their income from direct investment.

Thus, in India's case, despite the challenges it faces, for the time being, the trends in population and capital stock, which are the two main factors determining medium to long-term economic growth, are likely to stimulate growth to the same extent as seen hitherto, or slightly faster¹⁰, and it is highly likely that, in the future, India will achieve a real GDP on a par with that enjoyed by China today. As the Indian economy grows, the income level in cities is expected to grow as well. Nevertheless, assuming a future annual growth rate of 5%, for example, it would take 18 years for India's real GDP to reach China's current level. Moreover, unless the Chinese economy collapses, it is unlikely that income levels in India will catch up with those in China in the foreseeable future.

⁸ China's apparent steel consumption per capita increased from 107 tons in 2000 to 498 tons in 2015, and cement production per capita grew from 518 tons to 1,710 tons. Over the same period, India's apparent steel consumption per capita increased from 29 tons to 68 tons and cement production per capita from 98 tons to 210 tons.

⁹ Based on the assumption that the Indian economy will grow at an annual rate of 6.4% until 2030, the Energy Information Administration (IEA), which is part of the US Department of Energy, estimates that energy consumption in India, which stood at 35QBtu in 2018, will increase to 56QBtu under a scenario in which the current production structure is maintained, and to 72QBtu under a scenario in which the manufacturing industry expands.

¹⁰ According to an analysis by the US Conference Board, the labor force and capital stock contributed 4.5% of India's 6.9% annual growth between 2000 and 2007, and 4.7% of the 7.2% annual growth between 2010 and 2017.

– Notes on the data used and the cities referred to in this report –

There is no internationally agreed definition of a city, and the manner in which a particular city (Urban Agglomeration) and the bounds of a particular city are defined differs by country and by data source.

In this report, population figures are taken from the UN's *World Urbanization Prospects*, and GDP per capita is based on data from the McKinsey Global Institute's (MGI) *Urban World*. The analysis is mainly based on 2015 data as data available from MGI is 2015. The data on cities is based on 172 Indian cities and 252 Chinese cities for which data is available both in *World Urbanization Prospects* and *Urban World*. In addition, historical GDP per capita for Chinese cities has been calculated based on GDP per capita in 2015 using the annual statistics published by the National Bureau of Statistics of China.

In principle, the GDP per capita of cities is denominated in nominal US dollars (based on the market exchange rate). However, due to data limitations, high-income households are defined as those with an income of more than US\$ 70,000 based on purchasing power parity.

Any use, reproduction, copying or redistribution of this report, in whole or in part, is prohibited without the prior consent of Mitsui & Co. Global Strategic Studies Institute (MGSSI). This report was created based on information and data obtained from sources believed to be reliable; however, MGSSI does not guarantee the accuracy, reliability, or completeness of such information or data. Opinions contained in this report represent those of the author and cannot in any way be considered as representing the unified opinion of MGSSI and the Mitsui & Co. group. MGSSI and the Mitsui & Co. group will not be liable for any damages or losses, whether direct or indirect, that may result from the use of this report. The information in this report is subject to change without prior notice.