

# **China National Human Development Report Special Edition**

In Pursuit of a More Sustainable Future for All: China's Historic Transformation over Four Decades of Human Development

This report is a collaboration between United Nations Development Programme (UNDP), the China Institute for Development Planning at Tsinghua University, and the State Information Center

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# Foreword 1

This Special Edition of the China National Human Development Report marks multiple anniversaries: the 70th anniversary of the founding of the People's Republic of China, the 40th anniversary of China's Reform and Opening Up, the 40th anniversary of UNDP and UN's presence in China as well as the 20th anniversary of the production of National Human Development Reports in China.

China has made extraordinary strides in human development from its founding in 1949 and especially since the beginning of the Reform and Opening Up. China's Human Development Index (HDI) value increased from 0.410 in 1978 to 0.752 in 2017. It is the only country to have moved from the low human development cat-

egory to the high human development category since UNDP first began analyzing global HDI trends in 1990.

China already had higher social indicators than the norm amongst low-income countries at the beginning of its Reform and Opening Up period due to the implementation of widespread basic health care and education. The reforms that began in 1978 resulted in rapid economic development, which further propelled the improvement of social indicators. By 2000, the era of economic scarcity was effectively over and the government shifted its focus to address scarcities in other areas incorporating social and ecological development. The goal set in 2002 of achieving an "all-round moderately prosperous"(Xiaokang)

society by 2020 is well within reach.

However, post 2020, complex challenges remain towards realizing the 2030 Agenda and the Sustainable Development Goals (SDGs), such as inequality, the rural-urban divide, regional divides and environmental degradation and pollution. Slower economic growth, the demographic challenges of an aging population and rising international tensions coupled with higher expectations from the public for a better life, are all contributing to greater complexity in navigating the next stage of China's development.

This special edition report comprehensively examines China's national and local level changes throughout the Reform and Opening Up period. It examines the reforms, which helped achieve the rapid rise in its HDI values from the earliest reforms of agricultural production, the establishment of a market based economy to the ongoing reforms in education, health and other public services. Several lessons are drawn from China's approach to reform such as the importance of allowing for local experimentation, the importance of gradual progress, and the significance of consistent guidance on reform objectives by the leadership. Case studies illustrate specific reform measures such as the establishment of the household responsibility system, the creation of township and village enterprises, the restructuring of State-owned Enterprises, as well as reforms in areas such as infrastructure in-

vestment, urbanization, housing and poverty alleviation.

The Report identifies the next steps and institutional reforms needed to further advance China's human development through improving environmental sustainability, enhancing the quality of public services, improving both the quality and sustainability of economic development and addressing economic and other types of inequality.

The concept of human development has always been about enlarging people's choices, advancing human well-being and expanding the richness of human lives. UNDP has witnessed and supported China's rapid development over the past 40 years. As the pioneering agency advancing the concept of human development, UNDP continues to expand the theoretical underpinnings of the HDI by adding other critical dimensions such as gender or multidimensional poverty. UNDP will continue to support China's strategic vision of "human-oriented development" not only through specific projects, but also by helping to inform solutions to tackle the new frontiers in its development pathway-including challenges related to an aging society, maintaining the ecological balance, decreasing inequality as well as the fourth industrial revolution, the role of artificial intelligence, etc.-from a human development perspective.

This report is collaboratively produced



by UNDP, the China Institute for Development Planning at Tsinghua University, and the State Information Center of China. It was compiled by a distinguished team of experts. I would like to extend my sincere thanks and warmest congratulations to the members of the research team for their outstanding work, and to the many colleagues in the United Nations System in China who provided valuable insights and assistance.

I would also like to take this opportunity to express my appreciation to the main financing and communication partner of

this report, Phoenix TV, together with other donors such as the Peace and Development Foundation, and National Social Science Fund of China, for their contributions to this study.

I hope that this National Human Development Report Special Edition will not only help the world to better understand the human development context and experience in China, but can also contribute to strategies and policies that will take sustainable human development in China to the next level.



Beate Trankmann  
Resident Representative  
UNDP China



# Foreword 2

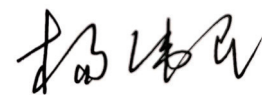
China has achieved extraordinary development since the founding of People's Republic of China 70 years ago, and the launch of the Reform and Opening Up more than 40 years ago. From the beginning of the Reform and Opening Up to date, 740 million people has been lifted out of poverty, taking up more than 70% of the total population lifted out of poverty worldwide. It is an unprecedented development achievement. In the meantime of rapidly increasing national income, significant improvement is also seen per capita years of education and life expectancy in China. At present, China has become an upper-middle-income country and has a high level of human development.

Next year, China will complete building a moderate well-off society in all respects and thus achieve its first centennial development goal. After that, the country will build up upon its momentum and embark on a new journey to building an all-round modern socialist country and march toward the second centennial goal. At the vital historical juncture of the two centennial goals, it is necessary to reflect on the significant achievements in human development made by China since the Reform and Opening Up, and summarize policy experiences that drove human development. Strategies to address challenges for continuing human development in China need to be discussed.

Development conditions in China have undergone profound changes. Firstly, the principal contradiction in Chinese society has transformed to that between the ever-growing needs of the people for a better life and unbalanced and insufficient development. Economic development will not naturally lead to human development. Balancing between the economic development, human development, and sustainable development, or the “three developments”, is the key to addressing the unbalanced and insufficient development in China. Secondly, China’s economy has been transitioning from a phase of rapid growth to a stage of high-quality development. High-quality development focuses not only on the economic sphere, but also on high-quality human and sustainable development. It is necessary to maintain stable economic growth to provide more and better agricultural, industrial, and service products. In addition, actions should be taken to promote human development,

and provide more equal public services in greater quantity and quality. Furthermore, it is important to promote sustainable development and provide more high-quality ecological products to create inviting landscape, clear water, and fresh air for the people.

China Institute for Development Planning (CIDP) at Tsinghua University is a high-end think tank following a high-level, open and forward-looking orientation. On the occasion marking the 70th anniversary of the founding of the People’s Republic of China, CIDP released China Human Development Report Special Edition partnered with the United Nations Development Programme and the State Information Center. The report not only enriches the global human development knowledge system, but also provide experience for other developing countries to advance sustainable human development.



Yang Weimin

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# Foreword 3

2019 marks the 70th anniversary of the founding of New China. Over the past 70 years, under the strong leadership of the Communist Party of China and the unremitting efforts of the people across the nation, China has created miracles in rapid economic development and long-term social stability that are rare in the world. Calculated at constant prices, China's GDP reached 90.0309 trillion yuan in 2018, an increase of 174 times over 1952, the economic aggregate ranked the second in the world, and the per capita GDP actually increased by 70 times. Over the past seven decades, the Chinese Government has always attached great importance to improving people's livelihood and developing social undertakings while accelerating economic development, and has brought enormous changes to the lives of urban and rural residents. More job opportunities have

been constantly created, the employment structure has been gradually improved, the incomes of urban and rural residents have increased significantly, and consumption has improved markedly. The quality of life has improved significantly, and the social security system has been continuously strengthened. A comprehensive safety network for people's livelihood has been established, and the poor population has declined remarkably, and a huge contribution has been made to global poverty reduction. China's Human Development Index (HDI) has increased from 0.410 in 1978 to 0.752 in 2017, and China is the only country that has leapt from the low human development group to the high human development group since HDI was measured globally by the United Nations Development Programme for the first time in 1990.

“People are the basics of the country and people consolidate the peace of the country.” People’s livelihood is the foundation of people’s happiness and social harmony. In the long-term development practice, the Chinese Government has always attached great importance to the all-round development of human beings and put the interests of the people above all else. Since the 18th CPC National Congress, in particular, the CPC Central Committee with Comrade Xi Jinping at its core has, with a commitment to a people-centred development philosophy and by responding to people’s aspiration for a better life, been committed to bettering the lives of the people and promoting the all-round development of the people. By focusing on the most pressing, most immediate issues that concern the people the most, China has ensured the coordinated efforts in education, employment, income distribution, social security and medical care, ensured that the people’s basic living needs are met while strengthening areas of weakness, and improved the basic public service systems in ensuring people’s access to childcare, education, employment, medical services, elderly care, housing, and social assistance. Adhering to the concept of contributing to and gaining from development by all, China has continuously improved the accessibility and supply efficiency of public services, and a series of major strategies and policies benefiting the

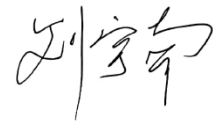
people’s livelihood have vastly improved the living standards of the people and promoted all-round social progress, laying a solid foundation for the building of a moderately prosperous society in all respects.

At present, China is in a crucial period to realize the great rejuvenation of the Chinese nation. Maintaining stable economic growth, providing high-quality public services, guaranteeing the wellbeing of the people, promoting fairness and justice, and achieving sustainable development are not only important contents to meet the needs for the people to live a better life, but also key tasks for promoting healthy, sustainable, inclusive and coordinated human development. The Fourth Plenary Session of the 19th CPC Central Committee clearly puts forward measures including upholding and improving the system of socialism with Chinese characteristics and advancing the modernization of China’s system and capacity for governance, upholding and improving the livelihood system for protecting both urban and rural residents and working to meet people’s ever-increasing needs for a better life, and promoting the wellbeing of the people and all-round human development. Facing the important missions given by the times, China is still up against some difficulties and challenges in people’s livelihood, and hard work remains to be done to promote human development. To start a new great journey, China needs to

continuously draw wisdom and strength through summing up historical experience and strengthening international reference.

On the 70th anniversary of the founding of New China, State Information Center, the United Nations Development Programme and China Institute for Development Planning at Tsinghua University have jointly prepared this Special Edition of China Human Development Report, which not only comprehensively summarizes and reviews China's experience in and contribution to

promoting human development in the past seven decades since the founding of New China, especially over the past more than 40 years of the Reform and Opening Up, but also provides a reference for China and other developing countries to continue to promote high-quality and sustainable human development in the new era. China is willing to share the experience in benefiting the people with other countries in the world and jointly create a better future for human development!



Liu Yunan

Director General, State Information Center





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**T**he China Human Development Report Special Edition is the result of collaborative research efforts between the United Nations Development Programme (UNDP), the China Institute for Development Planning at Tsinghua University, and the State Information Center. In addition to scholars from these three partner agencies, experts from the Development Research Center of the State Council and Chinese Academy of Social Sciences also joined the research team. This final report is built on efforts by all experts in the team. As the official strategic media partner of UNDP, Phoenix TV Group provided its global media platform and financing to this report.

This Report is launched on the occasion of

70th anniversary of the People's Republic of China, four decades of China's Reform and Opening Up, the 40 year anniversary of the UN and UNDP in China, and two decades of Human Development Reports localized in China.

The compilation of this Report was formally kicked off in February 2018, followed by a series of research activities. A number of eminent experts contributed to the research from initial design, consultations and inputs to content, to various rounds of peer reviews of the draft report. We wish to express our heartfelt appreciation to Yang Weimin, Cheng Xiaobo, Pan Jiahua, Ge Yanfeng, Xue Lan, Song Hongyuan, Hao Fuqing, Chi Fulin, Zhou Yiren, Qiu Zeqi, Yang Yiyong and Li Yingtao for the highly

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We, the co-lead editors and joint research team, assume all responsibility for inaccuracies and errors that may exist in this report.

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# Abbreviations

APEC	Asia-Pacific Economic Cooperation
BRICS	Brazil, Russia, India, China, South Africa
CBE	Commune and Brigade Enterprise
CIDP	China Institute for Development Planning (Tsinghua University)
CNY	Chinese National Yuan
CPI	Consumer Price Index
CPC	Communist Party of China
FCVC	Fuel Cell Vehicle Congress
FDI	Foreign Direct Investment
FYP	Five-Year Plan
GDP	Gross Domestic Product
GII	Gender Inequality Index
GNI	Gross National Income
HDI	Human Development Index
LMDI	Logarithmic Mean Divisia Index
MPI	Multidimensional Poverty Index
NDRC	National Development and Reform Commission
OECD	Organization for Economic Cooperation and Development
OPHI	Oxford Poverty and Human Development Initiative
P3	Public Private Partnership
PPP	Purchasing Power Parity
PV	Photo-Voltaic
R&D	Research and Development
SASAC	State-Owned Assets Supervision and Administration Commission
SARS	Severe Acute Respiratory Syndrome
SEZ	Special Economic Zone
SOE	State-Owned Enterprises
TFP	Total Factor Productivity
TVE	Township and Village Enterprise
UN	United Nations
UNDP	United Nations Development Programme
WHO	World Health Organization
WTO	World Trade Organization
USD	United States Dollar



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# Executive Summary

China's extraordinary journey, started in 1978, is best summarized by the successful move from a "low human development country" to a "high human development country", as defined by UNDP's Human Development Index.

To appreciate China's remarkable development achievements over the last four decades, one must remember what China was like on the eve of the Reform and Opening Up era. Here are some salient characteristics of 1978 China that reflect four key recurrent perspectives presented in the report: China's successful overcoming of the full range of challenges that any poor and heavily rural developing country faces; its gradual and managed transition process; and its emergence from

autarky, to become a key player in the global economy.

1978 China was a very poor developing country. Its per capita GDP of USD 156 was the 15th lowest in the world. 82% of its population of 945 million lived in rural areas, 95% of which was poor, according to the World Bank's global poverty line for low income countries. In 1977, the year that college entrance exams were reinitiated, just 273,000 students were able to enter university.<sup>1</sup> In 1978, China's Human Development Index put China squarely in the ranks of low human development

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<sup>1</sup> Yuwen Wu, "China's class of 1977: I took an exam that changed China", *BBC News*, 14 December, 2017. Retrieved from: <https://www.bbc.com/news/world-asia-china-42135342>

countries. That said, some social indicators, such as life expectancy and literacy rates, were relatively high for a country of such low income, reflecting success in delivering low cost but inclusive basic public services even in poor rural areas.

1978 China was a centrally planned economy, with no private enterprise but with a planning apparatus that governed virtually all economic production, investment and commerce, as well as labor flows. All prices were set by the state. China experienced low levels of economic output and irrationalities and inefficiencies of the command economy model. The disincentive effects of China's egalitarianism meant that many basic daily necessities were in great shortage.

1978 China was essentially an autarkic economy. China's share of world trade in 1977 was 0.6%, and China produced 2.4% of the world's GDP. Inbound foreign direct investment (FDI) in 1982 was USD 430 million, 0.2% of GDP in that year, despite China being home to 22.4% of the world's population.<sup>1</sup>

Since 1978, China's economic growth has averaged nearly 10% per year in real terms, an unprecedented level of sustained growth for a major economy,<sup>2</sup>

and China is now an upper middle-income country with per capita GDP of USD 9,771.<sup>3</sup> The size of China's poor population has fallen by over 700 million people, a staggering number. Between 1990 and 2015 China made vital contributions to the global achievement of the Millennium Development Goals, including poverty reduction, universalization of primary education, improvements in nutrition and hygiene, reductions in maternal and infant mortality rates, and in HIV/AIDS incidence. China now graduates 8 million college students a year. China's HDI has reached 0.752, making China a "high human development country" by UNDP's classification criteria.

Although China's state-owned sector is still large in comparison with some market economies, more than 60% of China's GDP is produced by its private sector, including some firms that are now strong competitors in global markets. Almost all prices have been fully liberalized and factor markets—labor, finance and land—have made considerable progress toward liberalization. Movement restrictions are being steadily relaxed and have not prevented the increase in China's urban population from 1978's 171 million to 2018's 824 million.<sup>4</sup> Rural-urban migration

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1 World Bank, "Open data". Retrieved from: <https://data.worldbank.org/>

2 World Bank, "China overview", Oct 01, 2019. Retrieved from: <https://www.worldbank.org/en/country/china/overview>

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3 World Bank, "GDP per capita". Retrieved from: <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=CN>

4 World Bank, "Urban population". Retrieved from: <https://data.worldbank.org/indicator/SP.URB.TOTL?locations=CN>



has been one of the forces that has shaped China's development in these decades the most.

The dramatic changes in the last four decades greatly enhanced people's freedom and gave free rein to their entrepreneurial spirit and other personal dreams and ambitions. The reforms rejected egalitarianism and explicitly promoted the idea of "let some get rich first", as first stated by Deng Xiaoping, as the fastest way for China to unleash its economic potential. Early steps were taken to make clear that private profit-seeking activities were acceptable, even admirable, and small household businesses sprang up around the country.

China has now emerged as a global economic power and a source of outbound investment, development finance and assistance, a situation that would have seemed inconceivable to outside observers when China started along the Reform and Opening Up path. Today China is the largest trading country in the world and in 2018 received USD 203 billion in incoming FDI,<sup>1</sup> second only to the United States. China is now also a major source of FDI outflows, with USD 98 billion in outflows in 2018.<sup>2</sup> 147 million Chinese tourists travelled out of the country in 2018, making China

the largest source of outbound tourism in the world.<sup>3</sup>

China's progress from a low human development country to a high one is the main subject of this report, which traces and analyzes this progress over the four decades since the launch of the Reform and Opening Up. Four cross-cutting themes emerge from our analysis of China's human development achievements and the case studies presented to illustrate how reforms and Opening Up were implemented. These themes are: the specificity of China's transition model based on change and continuity; the attention to rural and agricultural development; the central role of economic growth in China's human development; and the evolution of the prevailing development concept into today's "people-centered development".

The years from 1978 are characterized by an extraordinary combination of change and continuity, of radical reforms that in a short period of time completely reversed deeply entrenched policies, dismantled institutions, led to the internal migration of hundreds of millions of people, turned a largely autarkic economy into the world's largest trading power, and so on, but all taking place within what is a strikingly stable political and policy setting. The capacity of the Chinese Communist Party-

1 World Bank, "Foreign direct investment". Retrieved from: [https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?most\\_recent\\_value\\_desc=true](https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?most_recent_value_desc=true)

2 OECD, "FDI flows" Retrieved from: <https://data.oecd.org/fdi/fdi-flows.htm>

3 Ministry of Culture and Tourism of the People's Republic of China, *2018 Tourism Market Basics*, 2019/02/13. Retrieved from: [http://www.gov.cn/xinwen/2019-02/13/content\\_5365248.htm](http://www.gov.cn/xinwen/2019-02/13/content_5365248.htm)

led state to guide the country through this period, to find the right mix of incentives, including control when needed, to get the large state bureaucracy at all levels of government to implement the new policies as they were issued has been remarkable.

**Change and continuity** touch on one of the central perspectives of this report: the unique features of China's experience as a transition economy. There are many points of similarity between China's and others' transition experiences, moving from centrally planned economies to market-based economies. But China's case stands out for the breath of the changes experienced in a continuous political framework.

China's economic transition has been dramatic. Compared to the transition states of most traditional planned economies, China started from a much lower level of economic development. China's per capita GDP of USD 156 in 1978 was less than 5% of the USSR's USD 3,230 in that year.<sup>1</sup> China's relative backwardness as of 1978 made rapid reforms easier, particularly in the critical early years. There was relatively little resistance from interest groups who thought they would be hurt by the reforms. Unlike the other transition states in which the planned economy industrial base and its workforce were the core of the

economy and society, China started the reform with a large rural population whose productive potential had been held back for two decades by 1978, and who were a dynamic force providing a major boost to the Chinese economy and reform process in its first years, setting the stage for further reforms that followed.

Amidst these changes, China's political transition has been entirely different from that of most other transition countries, with **continuity** at its core. In almost all other countries, the leading role of the Communist Party was curtailed early in the transition process. There have been many changes in China's governance, including major restructuring of national and local governments and their relationships with each other, and a profound reshaping of the role of the state in the Chinese economy and the lives of the Chinese people. However, those changes and China's economic transition were launched and managed by the Communist Party of China (CPC), whose leading political role has been maintained. To understand how China has achieved so much remarkable progress in the last four decades one must understand that the Communist Party has played the central role in charting China's course and managing her journey.<sup>2</sup> Most Chinese scholars see

1 UN Data, "Per capita GDP at current prices—US dollars". Retrieved from: <http://data.un.org/Data.aspx?q=gdp+ussr&d=SNAAMA&f=grID%3A101%3BcurrID%3AUSD%3BpcFlag%3A1%3BcrID%3A810>

2 There are many books that describe this aspect of Chinese politics. See, for example, S. Guo, *Chinese Politics and Government: Power, Ideology and Organization* (2nd edition, Routledge, 2019).

this as an important determining factor in China's achievements: a stable political environment and continuity in policy-making that allowed the leadership to focus on development.

A second significant feature of China's policy-making during the period of reform and rapid growth is the constant recognition of the importance of China's large rural population, and the degree of attention that has been consistently paid to improving their lives, even when the highest priority in policy-making was rapid economic growth and industrialization. This allowed for a more balanced progression towards urbanization than others experienced.

For much of the developing world, economic development is equated with urbanization and industrialization. Urban industrial society is seen as modern, and rural agricultural society is seen as backward. Investment heavily focuses on urban development. While urbanization and industrialization are indeed core parts of economic development and modernization, managing those processes in ways that promote the interests of the rural population is a central human development challenge. The rural population is not the residual of development. It is a core player in it, as it still makes for a large part of the population in any developing and transitioning economy.

China's reform process materialized first in the countryside, with the actions of a small group of corn farming households in Xiaogang Village, in rural Anhui Province, one of China's poorer regions. Their implementation of what came quickly to be known as the "household responsibility system" (see Case Study 3.1) overturned two decades of highly egalitarian collectivized agricultural management, by replacing the former practice of turning over all output to the collective with a contract-based system that allowed farmers to keep or sell for their own benefit a portion of what they grew. The results were outstanding—the harvest in the first year exceeded the sum of harvests in many previous years—so much so that variations of this new system spread quickly throughout China, leading to rapid and sustained improvements in the standard of living of China's rural population. Real per capita rural household incomes grew an average of 15.2% per year from 1978-1985.<sup>1</sup>

Productivity gains, together with higher incomes, also generated a considerable surplus of rural labor, stimulating other entrepreneurial initiatives. At that time, China's policy-makers and local officials established "township and village enterprises", or TVEs (see Case Study 3.2), small-scale and labor-intensive manufacturing in rural areas, allowing

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1 National Bureau of Statistics of the P.R. China, *China Statistical Yearbook 2016* (Beijing: China Statistics Press, 2016), cited in S. Wang, G. Wu and N. Sapkota, "Poverty reduction and development", *ADB East Asia Working Paper Series #10* (Manila, Asian Development Bank, 2017).

farmers to “leave farming but not their hometowns”. TVEs became a major source of income for the rural population in the 1980s and allowed China to start a more balanced progression toward urbanization than has occurred in many developing countries. It was only in 1984, several years after the reforms had started, that China began relaxing controls on internal migration, allowing rural farmers to move in search of better income earning opportunities in cities.

China’s entire poverty alleviation effort has targeted rural poverty through a broad range of programmes emphasizing livelihoods, green production, inclusive finance, education and others. There is still a large development gap between urban and rural areas, as discussed in Chapter IV. A dualistic society and economy have been a consistent phenomenon in China and is far from being resolved. At the same time, this urban-rural gap is typical of developing countries, and a case can be made that China has done more than most to address it. This may seem paradoxical, but provincial HDI data (Chapter I) show the greatest HDI gains have taken place in the areas that were furthest behind at the start of the reforms, suggesting that the outcomes have been favorable and highly inclusive.

The third cross-cutting theme that emerges from our analysis is the central role of economic growth in China’s human development. Economic growth has been

the driving force behind much of the remarkable human development progress that is presented here. Comparing China with the other 124 countries included in the HDI database, we see that the impressive improvement in China’s HDI ranking from 1980-2000 was entirely due to increases in China’s per capita Gross National Income. The health and education indicators improved over this period, but no more so than in other developing countries. This relatively poor performance in health and education development was mainly concentrated in rural, underdeveloped areas and low-income families who had relatively weaker capacity to move upwards on their own. However, it was also partly due to the relatively higher ranking of these sub-indices to start with.

The government’s emphasis on economic construction and growth was reasonable from all perspectives, including human development, particularly at the beginning of the reform era. Rapid economic growth to end shortages and reduce poverty was the highest priority and was also enabled by the human capital foundation that had been laid in the earlier era. This growth made direct contributions to human development achievements, through real improvements in the wellbeing of hundreds of millions of Chinese people.

Indirect contributions were also significant. Although it took a number of years for government to create and build up new rural public services to replace the

collective units of the pre-reform era, the rapid increase in rural household income led to marked improvements in nutrition, in household capacity to purchase medicines and cultural and educational materials. Furthermore, even while government budgets prioritized growth-enhancing investments in infrastructure and industry over social services at a later stage, in absolute terms the increase in government spending on public services was large, simply because the available fiscal resources grew so much. Another indirect contribution of the Opening Up period was the access to a new and broad range of advanced ideas, products and technologies that promoted the wellbeing of China's people, often coming from abroad, particularly at the beginning of this period. At the same time, their possible disruptive impacts on uncompetitive Chinese producers and their workforce was also recognized and effectively managed, all supporting general human development.

Furthermore, from a human development perspective, it was the inclusiveness of this growth that was most important. As mentioned above, much of the first wave of growth was centered in rural areas, where poverty had been rife, both through agricultural reform and through the promotion of small-scale rural industry. The successful innovation in local development has provided much useful experience for China's overall reform and the expansion

of fiscal revenue has also provided the economic foundation for the state's macro-level controls.

Last but not least is the evolution of China's development concept to today's "people-centred development". Despite the significant and positive human development achievements, the overriding emphasis on growth in the first two decades of the reform era had some negative effects on human development as well. It became increasingly clear that economic growth alone does not necessarily or naturally bring about social development, fairness and justice and social cohesion.

Responding to the incentives created by central policy, many government officials, particularly local government around the country, developed a view of development as centered around economic growth. Education and health were frequently regarded as areas with a slow return on investment. The costs of environmental damage were seen as far off into the future. After China's World Trade Organization (WTO) accession in December 2001, the problems with China's growth model relying on low-cost competitive export-oriented manufacturing became even more apparent: growth based on resource waste, environmental pollution and ecological destruction, plus chronic low wages for workers, leading to weak domestic demand.

By 2002, China's development strategy began to shift to a more balanced approach. As a set of new policies were prepared to address these new challenges, the Communist Party of China leadership also formulated modifications in their development concept to justify and support new policies. Rooting such strategic shifts in a conceptual framework has proven to be an important mean for the CPC to educate and mobilize all levels of the large Party and government bureaucracy about the rapidly evolving policy environment, and alert them to possible changes in their work. As the development concept has evolved, the assessment indicators by which performance of central and local government officials are evaluated, have also changed significantly, from an overriding priority on GDP growth to a broader set of evaluation criteria.

Broadly put, China's development concept has gone through three phases. In the first phase, between 1978 and 2002, economic construction and growth were the overriding priorities, as described above. At the time, social development was included in policy-making, but it was to be driven by economic development, often based on the same market-based approaches that were being introduced into the economy. Environmental issues were at times discussed but remained a very low priority.

The second phase (2002-2012) moved to a "people-centred, all-round, coordinated

and sustainable development concept".<sup>1</sup> This was by no means a reversal of the prioritization of economic construction. However, it reflected an explicit recognition that social fairness and justice and environmental sustainability would not occur automatically as a result of growth and required specific measures for their attainment. Many important social initiatives were launched at this time in education, health care, social assistance and others aimed at redressing some of the inequalities and constraints that had emerged during rapid growth. Poverty alleviation efforts to address population groups who had not benefited fully from two decades of growth were expanded.

Since 2012, President Xi introduced a key new concept that is being experimented with across the country: "New Development Concepts". Economic growth remains a key goal, but the new concept explicitly calls for a growth model that is sustainable, balanced and coordinated, and recognizes that the double-digit growth rates of the early reform decades are no longer attainable or desirable. It encompasses environmental sustainability, personal consumption rather than investment as the key driver of growth, increases in productivity through innovation and education rather

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1 The "people-centred, all-round, coordinated and sustainable development" concept, often referred to as "Scientific Development" was presented by President Hu Jintao at the Third Plenary Session of the 16th Central Committee in 2003.



than mobilization of more and more inputs, upgrading to new sectors, and a strong emphasis on ensuring access for all Chinese citizens to good quality public services. More than ever before the concept explicitly places human development enhancing change, i.e. concrete improvements in people's lives, at the center of its agenda, rather than growth for growth's sake.

For instance, with the goal of achieving the all-round Xiaokang Society by 2020 (see Box 2.1), the elimination of all extreme rural poverty by 2020 was made a key national goal, through a large programme of targeted poverty alleviation that has been aimed not only at lifting poor households out of poverty, but at deeper transformation of conditions in the poorest areas of rural China.

The road to full sustainable development is still long and tortuous. China continues to face a broad array of challenges, some of which are likely to become binding constraints in its efforts to foster higher-quality, fairer and more sustainable human development. Inequality is still a great concern, despite multiple initiatives—not only for China, but at the global level too. Recent studies show that although income inequality seems to have plateaued, China's wealth distribution has been widening since the beginning of the new century. Furthermore, income inequality and wealth inequality have become more interrelated and mutually enforced. Large inter-regional

and urban-rural development gaps are a reality. The coastal provinces and cities of the Eastern region, who were best positioned to take advantage of new trade and investment opportunities, developed most rapidly, while the inland provinces of Central and Western China lagged behind. Northeast China, the heavy industrial base during China's command economy era, also faced large obstacles. Urban-rural gaps had also widened steadily, particularly in the first stages of Opening Up. After the initial surge of growth in rural incomes at the start of the Reform and Opening Up era, the opportunity for sustained strong growth in rural areas, particularly in poorer regions, began to diminish.

The report focuses on challenges in income distribution, in public service provision in the face of ever rising popular expectations and social demands, in establishing new drivers of economic growth consistent with China's current phase of development and, finally, environmental challenges.

With China's industrial restructuring, seeking more sustainable growth drivers and higher degrees of efficiency—key tests themselves—and the advent of a new round of scientific and industrial revolutions, people employed in traditional industries will be hugely affected in terms of job opportunities and income. This, coupled with China's slower economic growth, in line with the new government's priorities, puts issues around income redistribution at the center of the stage. It is not only

a matter of raising personal income as a share of national income, but also how to redistribute it among the population to reduce inequalities and foster human development at all levels of society.

Despite significant achievements, inequality still hampers China's public service system, characterized by different levels of efficiency, structural contradictions, inadequate quantity and quality. Furthermore, the unbalanced allocation of resources has exacerbated urban-rural, inter-regional, and inter-group differences in public services. These imbalances are hindering the efforts to deliver equitable public services and they are starting to become binding constraints for further human development. Finally, in terms of poverty eradication, China's government continues to face the challenge of integrating poverty alleviation into the social protection system and normalizing it.

Then, there is environmental impact of rapid growth and its consequences on human development. The report addresses the consequences of how China has undergone changes in 40 years that took a century or longer in most countries. The pace of emergence of environmental problems, and the extent of their adverse long-term impact, are both extraordinary. At the same time, the recognition of the problems, and the pace with which China has embraced a new development concept that has made environmental sustainability

a core goal, have also occurred remarkably quickly. This is key to address the environmental challenge, a challenge that is indeed becoming a binding constraint to human and economic development not only for China itself, but for the whole region and, possibly for the world.

In the 1980s and 1990s, the main engine of China's rapid economic growth was the manufacturing industry, based on a generally extensive, rather than intensive model. Environmental pollution and ecological damage were impacting GDP, and the national environmental situation was severe. Losses from environmental pollution accounted for 7.7% of China's GDP in 1995 and up to 9.7% of GDP in 1999.<sup>1</sup> China's land is heavily affected by acid rain. Organic pollution was common in major rivers, the main lakes were seriously eutrophicated and coastal waters were heavily polluted.

In 2003, energy conservation and emission reductions were included in the national five-year economic and social development plans as binding indicators<sup>2</sup> for the first time, including anticipatory quantitative targets covering forest coverage, greening rates of urban built-up

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1 K. Zhang, Zongguo Wen & Liying Peng, "Environmental policies in China: evolution, features and evaluation", *China Population, Resources and Environment*, vol. 17, No. 2 (2007).

2 Plans include "binding targets" which must be met by the involved government organizations, and "anticipatory" targets which are guidelines for their activities but not strictly enforced.



areas, and the reduction of total pollutant emissions. All Five-year Plans since then have included six binding indicators and two anticipatory indicators. During this period the government also accelerated the improvement of its ecological and environmental monitoring system. In November 2009, in anticipation of climate change mitigation negotiations in Copenhagen, the State Council of China announced a target of lowering the economy's carbon intensity by 40–45% by 2020 (from the 2005 level), and called for the goal to be integrated into medium- and long-term domestic policy plans.

With these steps, overall environmental deterioration slowed, and the number of environmental incidents dropped sharply. However, raw coal today still accounts for nearly 60% of energy consumption, a considerable gap between China and countries with higher energy efficiency. In 2013, for instance, China's carbon dioxide emissions amounted to 10.3 billion tons, three times that of 2000.<sup>1</sup>

2012 was a turning point in the government's environmental vision, as the broader development framework of the "New Development Concepts", centred on high quality and people-centred development, instead of rapid growth, came into effect. For the first time,

the priority placed on environmental protection grew large enough that the government showed clear readiness to slow growth to support environmental sustainability. The government now has an environmental protection strategy that puts prevention first, combines prevention with governance and saves resources through technological innovation and supply-side structural reform, including, among others, adopting a strict protection system of arable land and water resources, setting obligatory targets for energy conservation and emissions reduction and developing and applying new energy and renewable resources. Indeed, the CPC and the government have made the reduction of pollution a core goal alongside eliminating extreme rural poverty, the two "great battles" that it aims to win in the coming years as part of the achievement of the all-round "Xiaokang Society" goal.

The report concludes with a series of recommendations that aid China in addressing these challenges. After the remarkable progress of the last 41 years, the expectations of the Chinese for further progress are higher than ever. Overcoming the gap between China's current development conditions and the people's ever-growing needs for a better life is the key challenge that the Chinese leadership is facing. These recommendations are rooted in China's own new development circumstances and vision, and its economic, social and human development

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1 World Bank, "CO<sub>2</sub> emissions- China (kt)". Retrieved from: <https://data.worldbank.org/indicator/EN.ATM.CO2E.KT?locations=CN>

priorities. They also align with the global 2030 Sustainable Development Agenda, and the concept of human development as it is currently viewed around the globe today. Finally, they contribute to setting the goals towards full human development, on the basis of which policy instruments to achieve such goals can be formulated and calibrated. Our recommendations are:

**1. Create a greener, more harmonious and sustainable environment.**

Strengthen pollution prevention and control and incorporate them into robust systems that protect the environment and promote sustainable ecological development, including the containment of global climate change. In particular, key will be to strengthen government systems, from prevention to control, not relying on top-down interventions but on clear definition of roles, responsibilities and authorities at all levels of government, to identify and address environmental problems as they arise. Clean alternative sources, such as hydro power, wind power, and photovoltaic power, should be further developed. A mix of regulatory and pricing policies and measures should be designed to align demand and supply of an increasingly clean energy resource. Popular awareness of environmental protection should be enhanced.

**2. Ensure the provision of adequate, balanced, and high-quality public services,** through broadening and accelerating the transition from being

quantity-centred to quality-centred, from being scale-oriented to structure-oriented, and from measuring coverage rates to measuring quality and reliability of the service. Establish a system offering diverse health care for the elderly to meet their wide range of demands and coordinated and integrated government systems under which government is accountable for the delivery of high-quality services to all Chinese people, assuring the necessary public finances to deliver them.

**3. Build a normalized, long-term, and diversified poverty reduction mechanism.**

We suggest strengthening educational poverty alleviation and enhancing endogenous impetus to reduce poverty. The government should shift the focus of its work from helping poor households get by to helping build their capacity to function independently. Furthermore, impoverished populations should be brought into social protection systems and the government should enhance support to rural residents, raise the relief standard, and ensure that relief payments are provided on time; there is a need for harmonizing medical insurance systems for urban and rural residents; and a poverty alleviation mechanism for the whole society needs to be established, encouraging enterprises to participate in poverty alleviation to lift the poor out of poverty.

**4. Achieve high-quality, sustainable, and dynamic economic development.**

We recommend expanding the offering of diverse and high-quality goods and services to meet various consumer demands by bringing into full play the government, the market, and the private sector. Household income and spending power should be lifted via tax reform and the social protection system aiming at a fair redistribution of income across the population. This should be coupled with a reform to remove certain market distortions against freer consumption.

**5. Improve government capacity for governance in social livelihood.**

This would require pursuing people-

centred development, fully leveraging the dominant role of local governments in public services linked to people's livelihoods; building a scientific performance indicator system that is not GDP-oriented, highlighting economic vitality, innovation efficiency, improvement of people's well-being and sustainable development; stressing application of the "market mechanism", while balancing technical rationality and value rationality, tackling moral and ethical risks together with legal and regulatory risks, and enabling digital innovation to bring more benefits to the whole society.



# Introduction

2019 marks the 70th anniversary of People's Republic of China, and 40th year anniversary of the United Nations and the United Nations Development Programme (UN and UNDP) presence and partnership in China. This report, a joint effort between Chinese think tanks, scholars and UNDP, reflects on the remarkable changes that have taken place. It takes stock not only of the economic achievements often and widely reported, but, more importantly of the wider range of sustainable human development progress achieved by China. The sheer size of the country, coupled with the successful outcomes recorded in this period, produces an important set of lessons and valuable experiences that, adapted to local contexts, can be applied in other

developing countries on their path towards sustainable human development.

40 years ago marked a dramatic turning point for China's development, as the country sharply reversed decades-old policy orientation and priorities and launched a process of political and economic reform, opening up to the outside world. This process, which continues to this day, has underpinned outstanding development achievements that have captured the world's attention.

China's growth, poverty reduction, increases in life expectancy to the same level as some advanced economies, the vast improvements in its education system which now produces some of the world's most

promising young scientists, and which has basically universalized nine years of free education, are all extraordinary steps forward. Interpreted by the Human Development Index (HDI), a useful yardstick for drawing intertemporal and cross-country comparisons in human development progress, China's advances have been uniquely impressive. China is the only country in the world that progressed from a "low human development country" in 1990 to a "high human development country" today.

A cornerstone of China's success story has been the role of an overarching and constantly evolving development concept, an unusual feature of China's development governance. In China, which has been experiencing extraordinarily rapid cycles of change, challenges and resolution followed by the emergence of new challenges, the state and its development vision have played a strikingly effective role in managing the transformation process.

As time elapsed and China confronted new challenges, China's development concept, embedded in the "Xiaokang Society" vision and goals, has come to have many common points with the UNDP human development concept. The "Xiaokang Society", or "moderately prosperous/well-off society" has been used by the Chinese government throughout the 40 years of the Reform and Opening Up to capture in a vivid way, rooted in China's traditional culture, the development goals toward which China has been striving. Initially

linked explicitly to targeted growth in income, over time the phrase has evolved. In its currently most widely used form, "an all-round Xiaokang society",<sup>1</sup> it summarizes the Chinese Government's broader goals of modernization and elimination of poverty by 2020.

It is a "people-centred" concept, one that sees the ultimate purpose of development as advancing the comprehensive wellbeing of all Chinese people, rooted in increased capabilities and expanded opportunities. This vision has economic, social and environmental sustainability at its core. Achieving this new vision and sustaining and expanding the remarkable human development progress that China has achieved, will inevitably be a process full of further challenges. The inertia of China's imbalanced development, impacted by growth-oriented development in the initial decades of the Reform and Opening Up, are still not fully eliminated. Development transformation will not happen overnight. Managing the shifting balance between economic growth and social and environmental sustainability will be a challenge for a long time to come.

A key consequence of this imbalanced development has been rising inequality.

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1 Xi Jinping, "Secure a decisive victory in building a moderately prosperous society in all respects and strive for the great success of socialism with Chinese characteristics for a new era", *Report to the 19th National Congress of the Communist Party of China*, 18 October, 2017. Retrieved from: [http://www.xinhuanet.com/english/download/Xi\\_Jinping's\\_report\\_at\\_19th\\_CPC\\_National\\_Congress.pdf](http://www.xinhuanet.com/english/download/Xi_Jinping's_report_at_19th_CPC_National_Congress.pdf)

However, China's internal development gaps have one important feature that sets them apart from those in many other countries. Over the last four decades, key indicators of wellbeing have risen dramatically for virtually the entire Chinese population. The inequality that has emerged is the result of differences in the speed by which they have risen, but does not reflect decline, or even stagnation, for large portions of the population while others have improved. Today's poorest are better off than the poorest in 1978. The massive reduction in the poverty headcount since then measured by any consistent inflation-adjusted measure, and the substantial increase in life expectancy are both evidence of the broad-based improvements in welfare that China has undergone.

Moreover, inequality is a global challenge, not specific to China. Countries at all stages of development, including many of the most advanced ones, are confronting the urgent need to understand the causes and consequences of inequality in income and in other dimensions of human development, such as access to good quality education and health care, and protection from environmental harm. The 2030 Sustainable Development Agenda emphasizes leaving no one behind, in explicit recognition of the need to address inequalities. The process by which inequality has moved to the centre of the global policy agenda has been gradual

and is by no means complete. In China it is possible to trace a clear and quite rapid path by which this occurred.

This report presents noteworthy aspects of the progress in human development that has been made and the path that China took to achieve it. It also highlights a number of emerging challenges that China will face ahead. Daunting as some of them are, China's success in overcoming so many obstacles during the past few decades bodes well for further progress. Before the in-depth discussion of China's achievements in its economic and human development process, it is important to clarify what "human development" is and how we assess it.

Human development, as defined by UNDP, is a process by which people's capabilities and opportunities are expanded, and their well-being is improved. The human development concept was developed in the 1980s. Prior to that time economic growth and income were widely perceived as the most important criteria for assessing a society's progress. UNDP argued that development must be understood as a broader and richer process than economic growth alone: it is only when people have the capabilities to take advantage of emerging opportunities that development is meaningful.

The concept of capabilities is therefore central to the human development approach. Capabilities are the capacity, the

tools, that people require to pursue the life that they value. Three fundamental capabilities are: good health, access to knowledge, and a decent material standard of living. Other capabilities include safety from violence and environmental hazard, societal respect, and the ability to participate in the decisions that affect one's life. At all phases of the policy-making process, people must be seen not as mere beneficiaries of state actions, but as empowered agents who are able to pursue and realize goals that they themselves consider worthwhile and important.

Quoting the former Administrator of UNDP, William Draper, in the foreword to the first Human Development Report (HDR) in 1990, the central message is that:

While growth in national production (GDP) is absolutely necessary to meet all essential human objectives, what is important is to study how this growth translates—or fails to translate, into human development in various societies. [...And] what were the policies that led to such results? In this line of enquiry lie promising seeds of a much better link between economic growth and human development, which is by no means automatic.

This report has five chapters and it is structured as follows.

Chapter 1 presents quantitative progress

that illustrate the improvement in China's Human Development over these decades, at national, regional, provincial and city/prefectural levels. A detailed analysis of HDI trends in China, including retrospective calculations of HDI back to the start of the reform era, is presented to determine how improvements in income, health and education contributed to increases in the HDI during different phases of the reform era. The decomposition is done at national and sub-national levels. The main indicator used is the HDI, but more specifically the Gender Inequality Index (GII), the Inequality-adjusted HDI (IHDI), the Multidimensional Poverty Index (MPI) and others are also calculated in China for the first time at the sub-national level, and are used to deepen the analysis. Trends in inter-regional gaps are also examined.

Chapter 2 presents a detailed analysis of China's reform process and the logic that guided the process. It looks at some important features such as China's choice of a more gradual, managed transition to a market-based economy, including price liberalization, whether it was a top-down or bottom-up process, the role of local governments, the evolving role of planning as China transitioned into a largely market-based economy, and many others.

Chapter 3 presents thematic human development experiences from sector perspectives and local levels, supported by case studies from the local level, to add concrete details to the analysis of Chapter 2.



These include key moments in China's human development; the rural and agricultural reforms that launched the era, state owned enterprise reform, urbanization, China's poverty alleviation experience, and several others.

Chapter 4 presents an analysis of key remaining and emerging human development challenges, including environmental,

public service delivery, remaining internal development gaps, need for further changes in the nature and role of government, and the need for a new growth model that is consistent with economic, environmental and social sustainability.

Chapter 5 concludes with recommendations based on the challenges identified in the earlier Chapter 4.



# Chapter 1





# Chapter 1

## Tracing Four Decades of Human Development

Over the past 40 years, human development in China has undergone sustained and rapid growth. China's Human Development Index (HDI) increased from 0.410 in 1978 to 0.752 in 2017. Since the first Human Development Report was issued in 1990, China is the only country in the world that has risen from the low human development group to the high human development group.<sup>1</sup> This chapter analyzes China's transition from low human development to high human development over this period, based on sustained improvement in all three components of China's Human Development Index, i.e. per

capita gross national income (GNI), life expectancy and the education index. We examine in detail the evolution of the HDI in different phases of China's Reform and Opening Up era, including national-level data as well as disaggregated analyzes at the regional and provincial levels. The changing contributions of the three HDI components are also traced, to shed light on the evolution of policy and national strategic priorities during the last 40 years.

These data provide the background for the analysis that follows in later chapters of this report, where we look at the institutions, the policies and the other factors that underlay this remarkable human development history. They also provide useful background for understanding the

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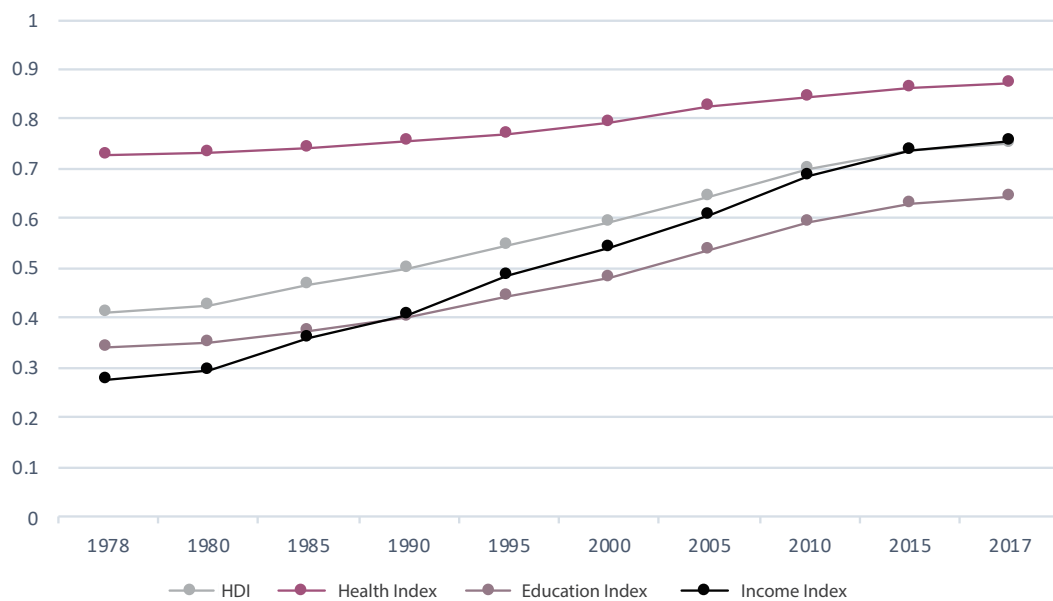
<sup>1</sup> The research team's calculations, as UNDP did not compile official HDI data until 1990. See Appendix 2 for more details.

challenges that have been overcome, and that in some cases are still present as China looks to build on its progress and continue to develop in the coming decades.

### 1.1 Evolution of China's human development during the Reform and Opening Up

The following chart shows the rapid, sustained rise in China's HDI over the 40 years since the Reform and Opening Up era started in December, 1978. While the per capita income line has seen the most dramatic increase, the improvements in the health and education indices are also striking and impressive. Some of the

key features of the last 40 years of development can be seen at a glance. China's health index was relatively high even at the start of the reform era, and continued to grow steadily throughout the period. It is still the highest of the three HDI component indexes. China's education index was at a much lower level than its health index at the start, and has also grown steadily, with sharp increases beginning in 1990, but is now the lowest of the three. China's income index was extremely low in 1978, but has risen very rapidly throughout the 40 years. All in all, this is a picture of remarkable and balanced growth in the three HDI components.



**Figure 1.1 Changes in China's Human Development Index and its component indicators 1978-2017**

Source: The data for the period from 1990 to 2017 were obtained from UNDP, Human Development Data (1990-2017)<sup>1</sup> and the data before 1990 were calculated by the research team using UNDP's latest calculation method.

1 Retrieved from: <http://hdr.undp.org/en/data>

Over the past 40 years, China's gross domestic product (GDP) has risen from the 15th largest in the world in 1978 (CNY 367.9 billion) to the second largest in 2017 (CNY 82.7 trillion). According to the World Bank, China's per capita GDP has risen from CNY 2,369 in 1978 to CNY 56,382 in 2017 (in constant terms), with an average annual growth rate of 8.5%. China has grown from a low-income country into an upper-middle income country. During this time, the living standards of the Chinese people have steadily improved. From 1978 to 2017, the real per capita disposable income of urban residents has increased from CNY 343 to CNY 5,290, and the real per capita income of rural residents has increased from CNY 134 to CNY 2,804.<sup>1</sup> The average annual growth rate of per capita income of the whole country has exceeded 7%.<sup>2</sup> In the past 40 years, more than 700 million people in China have risen out of poverty.

In the past 40 years, the health status of the Chinese population has steadily improved from an already high starting point. In the first 30 years after the found-

ing of the People's Republic of China in 1949, medical and healthcare services in China have made impressive progress. The average life expectancy increased from 35 years in 1949 to 67.8 years in 1978, far exceeding the average level of developing countries at that time. Since the Reform and Opening Up began, health indicators have continued to improve. The average life expectancy has risen further to 77 years in 2018. The infant mortality rate has dropped from 34.7‰ in 1981 to 6.8‰ in 2017, and the maternal mortality rate has dropped from 88.9/100,000 in 1990 to 19.6/100,000 in 2017.<sup>3</sup> A basic medical insurance system covering urban and rural residents has been established. As of 2017, the number of people covered by the basic medical insurance system nationwide reached 1.35 billion, and the coverage has been above 95% for many years.<sup>4</sup> At present, the main health indicators of Chinese residents are generally better than the average level of upper-middle income countries.

In the past 40 years, the education levels of the Chinese population have improved greatly. Average schooling years have increased from 3.4 years in 1978 to 7.7 years

1 In 2013, China's National Bureau of Statistics changed its statistical method in measuring income and expenditure for urban and rural residents. For rural residents, per capita net income is reported before 2013, and per capita disposable income is reported after 2013. The income reported here is in real terms, adjusted for inflation using the consumer price index for rural and urban households separately.

2 Information Office of the State Council, The White Paper: The Right to Development: China's Philosophy, Practice and Contribution (December 2016). Retrieved from: [http://www.xinhuanet.com/politics/2016-12/01/c\\_1120029207.htm](http://www.xinhuanet.com/politics/2016-12/01/c_1120029207.htm)

3 National Health and Family Planning Commission, The 2017 Statistical Communiqué on the Development of Health Services in China (June 2018). Retrieved from: <http://www.nhfpc.gov.cn/guihuaxxs/s10743/201806/44e3cdf11fa4c7f928c879d435b6a18.shtml>

4 Xu Wenting, Tan Zhuozhao, "40 years, China's medical care is marching forward", Health. people.cn, 6 March, 2018. Retrieved from: <http://health.people.com.cn/n1/2018/0306/c14739-29850149.html>

in 2017, and the expected years of education have increased from 8.2 years in 1978 to 14 years in 2017.<sup>1</sup> As of 2011, China fully achieved the goal of universalizing nine-year compulsory education. Another key goal, eradicating illiteracy among the 15- to 50-year-old population,<sup>2</sup> was also achieved, with the illiteracy rate in that group falling from 80% in 1949 to 1.08%.<sup>3</sup> By 2017, the three-year gross enrolment rate of pre-school education had increased from 50.9% in 2009 to 79.6%, the gross enrolment rate of senior middle schools had increased from less than 50% in 2000 to 88.3%, and the gross enrolment rate of higher education has increased from roughly 10% in 2000 to 45.7%, all surpassing the averages of the world's upper-middle income countries. The consolidation rate of nine-year compulsory education had reached 93.8%,<sup>4</sup> and the popularity has exceeded the average level of the world's high-income countries.<sup>5</sup>

1 1978 and 2017 data estimated by the research team.

2 This is the precise working definition of the phrase “qingzhuangnian”, or “young and middle-aged adults”, that is used in the Chinese text.

3 Gong Sen, Ge Yanfeng, et al, Report on Human Development in China 2016: Promoting Inclusive Development through Social Innovation (Beijing, China Translation & Publishing House, August 2016).

4 Innovation (Beijing, China Translation & Publishing House, August 2016). “Consolidation rate” is a term used in Chinese education, referring to the proportion of students who complete the phase of education being assessed.

5 Ministry of Education of the People's Republic of China, The 2017 Statistical Communiqué on Education Development in China (July 2018). Retrieved from: [http://www.moe.gov.cn/jyb\\_sjzl/sjzl\\_fztjgb/201807/t20180719\\_343508.html](http://www.moe.gov.cn/jyb_sjzl/sjzl_fztjgb/201807/t20180719_343508.html)

Looking beyond the three components of the HDI, notable progress has been achieved in a number of other dimensions of human development. One such example is improvements in China's Gender Inequality Index (GII). The GII, introduced by UNDP in 2010, captures “gender inequalities in three important aspects of human development—reproductive health, measured by maternal mortality ratio and adolescent birth rates; empowerment, measured by proportion of parliamentary seats occupied by females and proportion of adult females and males aged 25 years and older with at least some secondary education; and economic status, expressed as labour market participation and measured by labor force participation rate of female and male populations aged 15 years and older.”<sup>6</sup> For a long time, the Chinese government has made gender equality an important national policy goal, in order to promote social development and to protect women's development rights. In 1990, China established the National Working Committee on Children and Women under the State Council, which is specifically responsible for promoting gender equality and the development of women and children. Over the past 40 years of the Reform and Opening Up, women's economic status has improved significantly as women have shared in the overall gains of the whole

6 UNDP, “Gender Inequality Index”. Retrieved from: <http://hdr.undp.org/en/content/gender-inequality-index-gii>



society. The number of poor women has decreased drastically, the level of poverty among women has continuously reduced, the number of women employed has continued to rise, and women's participation in social insurance programmes has improved steadily. Over the past 40 years, the educational level of women has

been rising, and gender disparity in education has narrowed. The Sixth National Population Census in 2010 found that the mean years of schooling among women over 6 years old was 8.4 years, an increase of 1.3 years compared with that in 2000, and the gap with men is 0.2 years smaller than it was in 2000.

### Box 1.1 The Human Development Index<sup>1</sup>

The Human Development Index (HDI) was created to provide a practical means for applying the concept that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. The HDI can offer insights into national policy choices, asking how two countries with the same level of GNI per capita can end up with different human development outcomes. These contrasts can stimulate debate about government policy priorities.

The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.

The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita. The HDI uses the logarithm of income, to reflect the diminishing importance of income with increasing GNI. The scores for the three HDI dimension indices are then aggregated into a composite index using the geometric mean.

The HDI simplifies and captures only part of what human development entails. It does not reflect on inequalities, poverty, human security, empowerment, etc. The Human Development Report Office offers other composite indices including the Gender Development Index, the Inequality-weighted HDI and the Multidimensional Poverty Index as broader proxies on some of the key issues of human development, inequality, gender disparity and poverty.

A fuller picture of a country's level of human development requires analysis of other indicators and information.

<sup>1</sup> See: <http://hdr.undp.org/en/content/human-development-index-hdi>

Over the past 40 years, women's health has also improved significantly. In 2010, women's average life expectancy reached 77.4 years, an increase of 4.1 years from 2000. Improvements in the maternal mortality rate has already been noted above. China met the targets of the UN Millennium Development Goals ahead of schedule, and was listed by the World Health Organization as one of the 10 countries with high performance in women's and children's health.

In addition, the proportion of Chinese women involved in decision-making and management has risen, albeit slowly and to a level still considerably lower than that of men. The proportion of women deputies at the First Session of the 12th National People's Congress in 2013 was 23.4%, 2.4 percentage points higher than that of 20 years previously; the proportion of women deputies at the First Session of the 12th CPPCC National Committee in 2013 was 17.8%, up by 4.1 percentage points than 20 years before that. In 2018, the proportion of women deputies in the 13th National People's Congress increased to 24.9% while that of the 13th CPPCC National Committee increased to 20.5%.

China's GII dropped from 0.255 in 2000 to 0.152 in 2017, lower than that in most developing countries and some developed countries. However, compared with most developed countries such as Switzerland, China's GII is still much too high. In particular, as seen from wage differences,

both the absolute gap and the relative gap in wages between genders in China are continually expanding, which needs attention. According to the Survey of Women's Social Status in China, among China's urban employed population in 1990, the average wage of women was about 77.5% of that of men, and in 2010 the proportion fell to 65.8%. Employment discrimination against women continues to be a challenge, particularly for women of child-bearing age. To help address this issue, in February 2019, the Government released a new Circular on Further Regulating Recruitment Activities to Promote Equal Employment for Women.

Since 2010, UNDP's Global Human Development Report has included a measure of non-income poverty around the world, with the addition of the Multidimensional Poverty Index (MPI). The MPI was developed by the Oxford Poverty and Human Development Initiative (OPHI) and Human Development Report Office of UNDP. It consists of ten indicators covering health, education and living standards which are the three dimensions common to the Human Development Index (HDI). Unlike the HDI, the MPI contains more than one indicator for each dimension, thus it provides a more detailed and comprehensive way of measuring poverty. The ten indicators included in the MPI are: nutrition, child mortality, years of schooling, school attendance, cooking fuel, sanitation, drinking water, housing, electricity and assets.



**Figure 1.2 Gender Inequality Indexes of China and selected other countries**

Source: UNDP, Human Development Data (1990-2017).

MPI is important because it recognizes the fact that poverty is not only an issue of lack of income and consumption, but a multifaceted phenomenon. MPI captures deprivations across all 10 indicators and if a person is deprived in at least one third of the weighted indicators, (s)he is considered multidimensionally poor. The overall MPI not only allows us to identify poor people from a multi-dimensional perspective, but also provides information on how people are poor.

In using MPI as a tool to measure poverty, both the incidence and the intensity are relevant. Incidence is the percentage of people who are identified as multidimensionally poor and intensity is the average share of indicators in which poor people are deprived. MPI is the product of the incidence and intensity.

According to the MPI published in 2019, multidimensional poverty in China has declined significantly since 2000, with the multidimensional poverty rate falling from 12.5% to 3.9% and the intensity of poverty decreasing from 44.9% to 41.3%. As of 2014, China's MPI is higher than Thailand's but lower than most developing countries in Asia including India, Indonesia and Vietnam. Compared to Brazil, China has the same MPI, but with a marginally higher poverty rate and lower poverty intensity.

In terms of the contribution of each dimension to multidimensional poverty in China, education contributes the most, followed by health and living standards. Education accounts for 39% and health accounts for 35% while living standards take up 25%. If we extend the contribution analysis to the indicator level, the

indicators contributing most to poverty are nutrition and years of schooling. Thus, improving the nutrition status and years of schooling remain two challenges for China

in terms of tackling multidimensional poverty. Chapter IV of this report will provide a more in-depth analysis of multidimensional poverty in China.

**Table 1.1 Multidimensional poverty in China and selected other countries**

Region	Year	(MPI) Multidimensional Poverty Index	Multidimensional Poverty Incidence (%)	Intensity of Multidimensional Poverty (%)
China	2002	0.056	12.5	44.9
	2012	0.023	5.2	43.3
	2014	0.016	3.9	41.3
Brazil	2014	0.021	5.3	40.6
	2015	0.016	3.8	42.5
South Africa	2016	0.025	6.3	39.8
India	2005/2006	0.283	53.7	52.7
	2011/2012	0.191	41.3	46.3
	2015/2016	0.123	27.9	43.9
Thailand	2005/2006	0.006	1.6	38.5
	2012	0.003	0.9	36.7
	2015/2016	0.003	0.8	39.1
Vietnam	2013/2014	0.019	4.9	39.5
Indonesia	2012	0.028	7.0	40.3
Philippines	2017	0.024	5.8	41.8
Mexico	2016	0.025	6.3	39.2

Source: Human Development Reports 2010-2016 and Global Multidimensional Poverty Index 2019.<sup>1</sup>

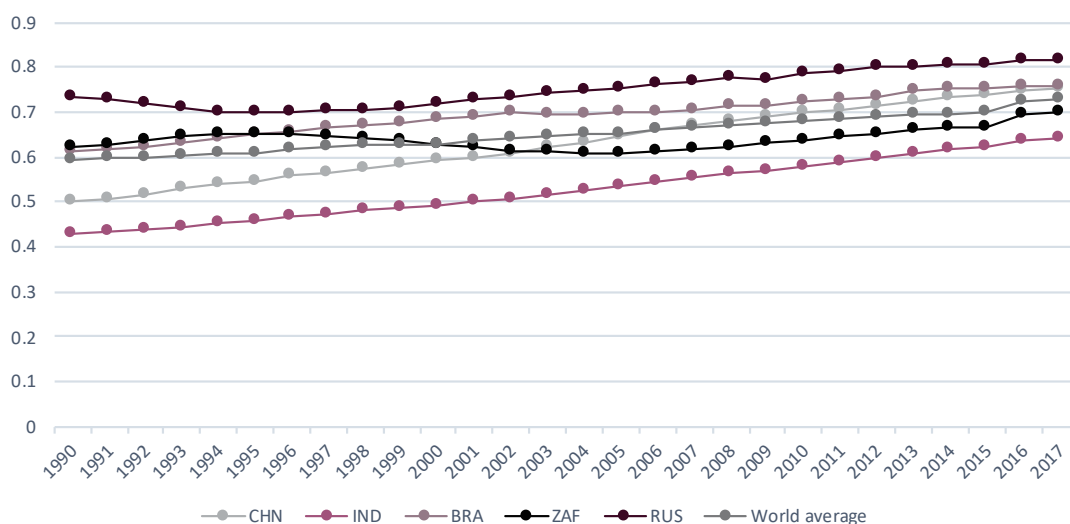
1 UNDP, Human Development Report 2010. The Real Wealth of Nations: Pathways to Human Development (UNDP, New York, 2010); J. Klugman, Human Development Report 2011: Sustainability and Equity: A Better Future for All (UNDP, New York, 2011); K. Malik, Human Development Report 2013. The Rise of The South: Human Progress in a Diverse World (UNDP, New York, 2013); K. Malik, Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience (UNDP, New York, 2014); S. Jähāna, Human Development Report 2015: Work for Human Development (UNDP, New York, 2015); UNDP Human Development Report 2016: Human Development for Everyone (New York, 2016); UNDP, Oxford Poverty and Human Development Initiative, Global Multidimensional Poverty Index 2019: Illuminating Inequalities (New York, 2019).

### 1.1.2 China's HDI progress in international perspective

Between 1990, the first year for which global data were prepared by UNDP, and 2017, China's HDI increased from 0.499 to 0.752, an average annual increase of 1.58%, which is roughly 2.4 times the world average growth rate (0.65%) over the same period. China's global HDI ranking improved significantly, from 103rd (out of 144 countries) in 1990 to 86th out of 188 countries in 2017.

China's growth in HDI compares well with the other BRICS<sup>1</sup> nations. In 2003, China's HDI, already higher than India's, surpassed that of South Africa, and as of 2017, China's ranking was extremely close to Brazil's, which ranked second among the BRICS. China's HDI is still significantly lower than Russia's, largely because of Russia's higher per capita income, but the gap has shrunk greatly since 1990.

Compared to the more advanced economies of the Asia-Pacific Economic



**Figure 1.3 Changes in Human Development Indexes of BRICS countries and the world average**

Source: UNDP, Human Development Data (1990-2017).

<sup>1</sup> "BRICS" refers to Brazil, Russia, India, China and South Africa, the world's largest emerging economies, members of the G-20. The term builds on a grouping first identified by Goldman Sachs in 2003, with South Africa joining in 2010. Since 2009 the BRICS nations have formed a more formal structure, with annual summits held in one of the member countries.

Cooperation (APEC), China's HDI is still relatively low. Among the 20 APEC members, China's rank improved from 18th in 1990 to 15th in 2017, surpass-

ing Indonesia, the Philippines and Peru during that period, but still far below that of developed economies such as Australia and Singapore.

**Table 1.2 Changes in Human Development Indexes of APEC members**

Name of APEC Member	1990		2000		2010		2017	
	HDI	World Ranking	HDI	World Ranking	HDI	World Ranking	HDI	World Ranking
Australia	0.87	1	0.90	2	0.93	3	0.94	3
Hong Kong SAR, China	0.78	19	0.83	23	0.90	15	0.93	7
Singapore	0.72	38	0.82	27	0.91	5	0.93	9
Canada	0.85	3	0.87	9	0.90	11	0.93	12
United States	0.86	2	0.88	4	0.91	7	0.92	13
New Zealand	0.82	7	0.87	8	0.90	13	0.92	16
Japan	0.81	9	0.86	15	0.88	18	0.91	19
Korea	0.73	34	0.82	27	0.88	18	0.90	22
Brunei	0.78	17	0.82	29	0.85	31	0.85	39
Chile	0.70	48	0.76	44	0.82	40	0.84	44
Russia	0.73	32	0.72	55	0.79	54	0.82	49
Malaysia	0.64	65	0.73	53	0.77	60	0.80	57
Mexico	0.65	62	0.70	64	0.75	72	0.77	74
Thailand	0.57	90	0.65	89	0.72	91	0.76	83
China [1]	0.50	103	0.59	108	0.70	101	0.75	86
Peru	0.61	78	0.68	74	0.72	90	0.75	89
Philippines	0.59	83	0.62	97	0.67	109	0.70	113
Vietnam	0.48	108	0.58	112	0.66	117	0.69	116
Indonesia	0.53	100	0.60	103	0.66	116	0.69	116
Papua New Guinea	0.36	127	0.42	144	0.49	155	0.54	153

Source: UNDP, Human Development Data (1990-2017)

Note [1]: Mainland of China, does not include Hong Kong SAR, Macao SAR and Taiwan province of China.

## 1.2 The four stages of human development in China since 1978

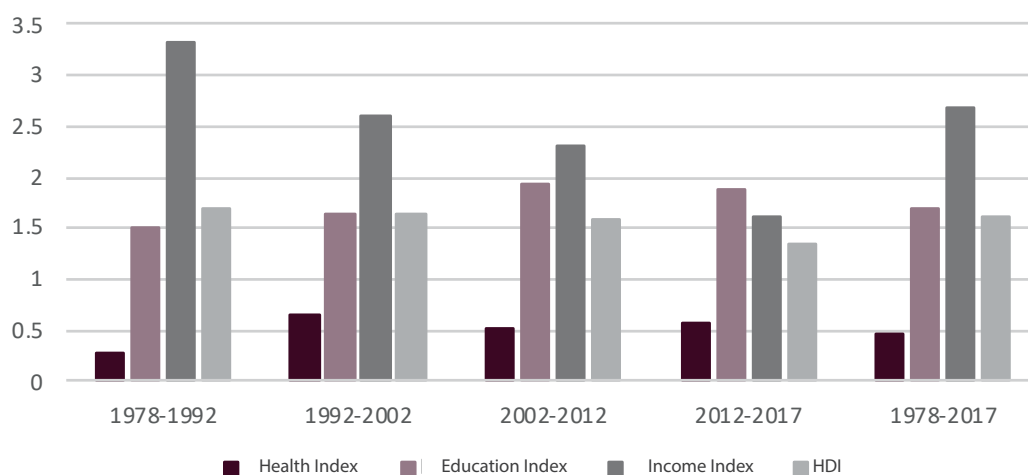
The evolution of human development in China has gone through four distinct phases during the Reform and Opening Up era. China's HDI rose steadily throughout these decades, but the contributions of the HDI's components has shifted over time, and the initial dominant influence of income growth broadened to include notable impacts from improvements in the education and health indices as well. The following is a simple analysis of these four stages in China's human development progress.

### 1.2.1 Start-up stage: rapid growth in human development (1978-1992)

In 1978, China was one of the poorest countries in the world, with a per capita

GDP of \$156.4, 23% lower than India's, less than one third that of the Philippines and 43% that of Indonesia's. However, China's life expectancy had already reached 65.9 years, while India's (52.8), the Philippines' (61.8) and Indonesia's (58.7) were all substantially lower, despite their higher per capita income. China's economic growth had seriously lagged behind the progress that had been achieved in health care and other social sectors.

In December, 1978, the 3rd Plenary Session of the 11th Central Committee of the Communist Party of China (CPC), breaking from the practices that had shaped policy-making during the ten years of the Cultural Revolution, decided to shift the focus of the Party to economic development, which was a landmark event marking the start of China's Reform and Opening Up. In 1979, the economic reform process started with the piloting



**Figure 1.4 Annual growth rates in the Human Development Index of China and its component indicators in different stages**

of the household responsibility system in rural areas, linking peasant income to their output and giving them the incentive to produce more for the first time in many years. This led to an extraordinarily rapid increase in rural incomes. In the mid-1980s, the reform focus turned to urban areas, where restructuring of the economic system was accelerated, with a focus on reforming state-owned enterprises and the fiscal system and allowing the development of the non-public economy. At the same time, reforms also started in various social fields such as science and technology, education, culture, and medical care (See case studies in Chapter 3 for more details on these reforms and their impact on incomes and human development).

As a result, during this period living standards improved considerably. From 1978 to 1992, China's nominal per capita GDP increased from CNY 385 (USD 229) to CNY 2,334 (USD 423).<sup>1</sup> The per capita income index used for HDI computation rose rapidly as a result, from 0.277 to 0.437, with an average annual growth rate of 3.3%. In the same period, average life expectancy increased from 67.5 years to 69.3 years, average schooling years increased from 3.4 years to 5.2 years, and

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1 Per capita GDP converted to US dollars using the historical exchange rate obtained from the World Bank. World Bank, "World Development Indicators. Official exchange rate (LCU per US\$, period average)—China". Retrieved from: <https://data.worldbank.org/indicator/PA.NUS.FCRF?end=1992&locations=CN&start=1978&view=chart>

the expected number of schooling years increased from 8.2 years to 8.9 years. Remarkable achievements were made in core social spheres. These improvements were reflected in an increase in China's HDI which increased from 0.410 in 1978 to 0.519 in 1992.

### **1.2.2 China joins the middle human development group (1992-2002)**

At the beginning of 1992, in one of the most important moments in China's recent history, Deng Xiaoping made an inspection tour of Shenzhen, Shanghai and other southern regions and delivered important speeches stressing the need to speed up the pace of the Reform and Opening Up. The result was a reinvigoration of the Reform and Opening Up process and the launch of a number of important new initiatives. At the end of 1992, the 14th National Communist Party Congress stated that the goal of restructuring of the economic system was to establish a socialist market economic system. This was the first time in the history of the Party that the direction of economic system restructuring was put forward, marking the entry of China's Reform and Opening Up into a stage of building the basic framework of the new system. After that, the central government introduced a series of supporting reforms in areas such as fiscal policy, taxation, finance, and foreign exchange, including the establishment of the State Economic



and Trade Commission in 1993 to promote the reform of state-owned enterprises, and the reform of the tax-sharing system in 1994. In addition, the strategy of rejuvenating the country through science and education was formulated in 1995. Science, technology and education were placed in an important position in economic and social development, and emphasis was placed on the promotion of economic development through scientific and technological progress and improvement of the qualification of workers. In 1999, China began to promote higher education reform, and the Ministry of Education issued the Action Plan for Education Rejuvenation for the 21st Century, and formulated the goal of expanding the scale of higher education. Thus, higher education in China gradually shifted from elite education to mass education.

From 1992 to 2002, China's national economy continued to grow rapidly. Nominal per capita GDP increased from CNY 2,334 (USD 423) to CNY 9,506 (USD 1,149).<sup>1</sup> GDP exceeded CNY 10 trillion in nominal terms for the first time in 2000, and reached CNY 12 trillion in 2012.<sup>2</sup> The HDI per capita income component index grew at an average annual rate of 2.6%. Although this was slower than in the previous period,

1 Per capita GDP converted to US dollars using the historical exchange rate obtained from the World Bank, *ibid.*

2 National Bureau of Statistics of China, *China Statistical Yearbook 2017* (China Statistics Press, 2017).

the growth rate was still relatively fast and was still the primary driving factor for the growth in China's HDI during these years. After 1992, further improvements in education were implemented. In 2000, the population coverage rate of nine-year compulsory education reached 85%, and the illiteracy rate of the 15-50 group fell below 5%. The goals of basically universalizing nine-year compulsory education and basically eliminating the illiteracy of 15-50 year-olds were achieved as scheduled. In 2002, the gross enrolment rate in senior middle schools reached 42.8%, and enrolment in higher education advanced rapidly.<sup>3</sup> The annual growth rate of the HDI's education index reached 1.60%, an increase of a full 0.1 percentage point over the previous period. In 1996, China's HDI rose to 0.556, making China a medium human development country. By 2002, the index had further increased to 0.610.

### 1.2.3 Attaining high human development (2002-2012)

China's rapid economic and social development continued after the start of the new millennium. In 2001, China officially joined the World Trade Organization, which marked a new stage of development in Opening Up. Foreign trade continued to grow, and China's

3 Ministry of Education of China, *The 2002 Statistical Communiqué on Education Development in China*, 13 May, 2003. Retrieved from: [http://www.moe.gov.cn/s78/A03/ghs\\_left/s182/moe\\_633/tnull\\_1553.html](http://www.moe.gov.cn/s78/A03/ghs_left/s182/moe_633/tnull_1553.html)

manufacturing sector went global. The 16th Party Congress held in 2002 set the objective of building a Xiaokang society (See Box 2.1) in an all-round way by the year 2020, raising the Xiaokang society goal to a new and much more ambitious level. Following this decision, development in various economic and social undertakings accelerated. The sudden outbreak of severe acute respiratory syndrome (SARS) in 2003 had a profound impact on the development of China's medical system and health sector policy. Using this event as an opportunity, the Chinese government began to increase investment in public services and explore further reforms to the health system. In 2005, the Regulations on Agricultural Taxes were abolished, which marked the termination of a type of tax that had existed for more than 2,000 years in China. This greatly reduced the burden on farmers. Despite this, China experienced a widening urban-rural development gap during this period, as urban areas were in general better positioned to take advantage of the new growth opportunities created by continued Opening Up (see Figure 1.5). In order to start the process of bridging this gap, the central government proposed a new high priority rural policy goal, the building of a new socialist countryside. The hosting of the 2008 Summer Olympics in Beijing, and the 2010 World Expo in Shanghai further promoted China's Opening Up and development.

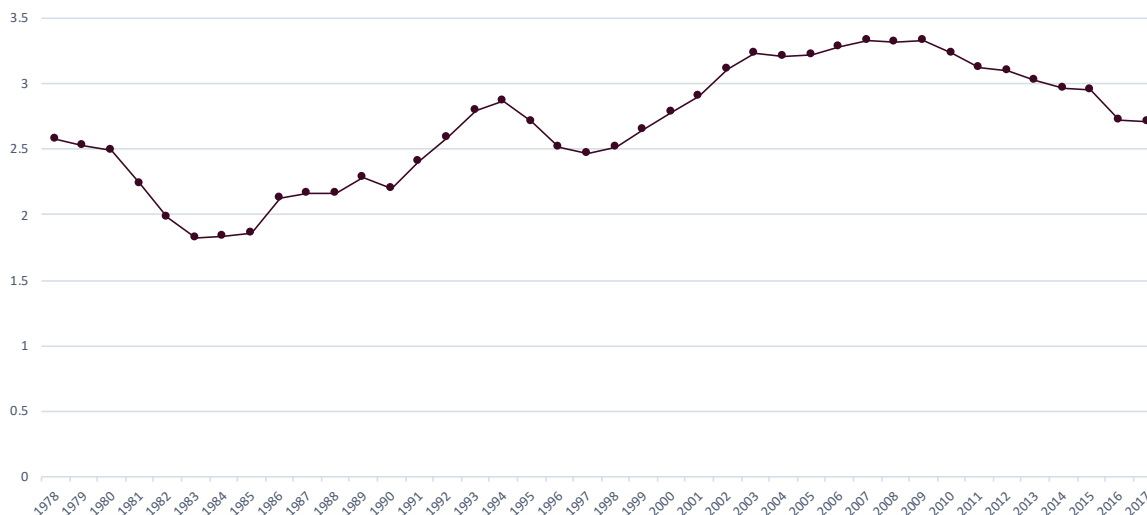
During this period, China's HDI increased from 0.610 in 2002 to 0.713 in 2012, with an average annual growth rate of 1.58%, leaping from the world's middle human development group to the high human development group. Growth in the per capita income component index was still an important factor. Nominal per capita GDP exceeded CNY 10,000 (USD 1208) for the first time in 2003, and reached CNY 40,000 (USD 6337) in 2012,<sup>1</sup> with an average annual growth rate close to 10%.<sup>2</sup> It is noteworthy, however, that from 2002 to 2012, the education index grew at an average annual rate of 1.9%, the highest in the 40 years of Reform and Opening Up. By the end of 2012, the fulfilment of the goals of universalizing nine-year compulsory education and eliminating illiteracy in the 15 to 50-year-old population were achieved, the gross enrolment rate of preschool education<sup>3</sup> reached 64.5%, the gross senior middle school enrolment rate reached 85%, and the gross higher education enrollment rate reached 30%.<sup>4</sup> Average life expectancy increased from 72.6 years in 2002 to 75.4 years in

1 Per capita GDP converted to US dollars using the historical exchange rate obtained from the World Bank, op cit.

2 National Bureau of Statistics of China, *China Statistical Yearbook 2017*, op cit.

3 In China "pre-school education" refers to what in many countries would be called "kindergarten", i.e. classes before Grade One.

4 The Ministry of Education of China, *The 2012 Statistical Communiqué on Education Development in China*, 16 August, 2013. Retrieved from: [http://www.moe.gov.cn/srcsite/A03/s180/moe\\_633/201308/t20130816\\_155798.html](http://www.moe.gov.cn/srcsite/A03/s180/moe_633/201308/t20130816_155798.html)



**Figure 1.5 Ratio of per capita incomes of urban and rural residents in China from 1978 to 2017**

Source: National Bureau of Statistics of China, *China Statistical Yearbook 2018*.

2012. By 2012, the infant mortality rate fell to 10% and the maternal mortality rate fell to 24.5/100,000. Following the implementation of the new rural cooperative medical care system in 2003, the participation rate among farmers steadily increased, reaching 98.3% in 2012, laying a foundation for addressing the medical and healthcare problems of farmers.<sup>1</sup>

#### 1.2.4 The new stage of human development (2012-present)

Since 2012, China has shifted from a high-speed economic growth phase to a phase of medium-high speed broad economic

and social development, in which advances in human development are a high priority. The 18th Party Congress held in 2012 demanded that the government accelerate the transformation of China's economic development pattern, and rely more on scientific and technological progress and improvement in the qualifications of the labour force. The need to further strengthen the social sector was emphasized, meaning providing education satisfactory to the Chinese public, improving people's health, and speeding up the "construction of a harmonious society". In order to adapt to the "New Normal" of economic and social development, the Chinese government further put forward in 2015 the vision of "innovative, coordinated, green, open and shared" development, a vision that centers the concept of human development and emphasizes

<sup>1</sup> National Health and Family Planning Commission, The 2012 Statistical Communiqué on the Development of Health and Family Planning Services in China, 19 June, 2013. Retrieved from: <http://www.nhc.gov.cn/mohwsbwstjxxzx/s7967/201306/fe0b764da4f74b858eb55264572eab92.shtml>

supply-side structural reform to promote sustainable economic growth. Reforms are to be deepened in all key fields, including economic, ecological, cultural and social sectors. The “Healthy China 2030” Plan Outline was released and implemented at the first National Health and Well-being Conference in the 21st Century held by the Party Central Committee and the State Council in 2016. Health issues have received unprecedented attention.

From 2012 to 2017, China’s HDI increased from 0.713 to 0.752. The rate of increase has slowed, as is inevitable once the index reaches relatively high levels, since further improvements in life expectancy, income and education rates are certain to be more gradual. This is reflected in the shift in China’s development strategy to more balanced and coordinated development as outlined above. Nominal per capita GDP increased from CNY 40,000 (USD 6,337) in 2012 to CNY 60,000 (USD 8,877) in 2017.<sup>1</sup> The income gap between urban and rural residents in China began to decline after peaking in 2009. The per capita income ratio between urban and rural residents fell from 3.33:1 in 2009 to 2.71:1 in 2017. Since the adoption of targeted poverty reduction and alleviation strategies in 2013, the fight for poverty reduction has entered a new stage. From 2013 to 2017, China’s rural poor population decreased by 13 mil-

1 Per capita GDP converted to US dollar value using the historical exchange rate obtained from the World Bank, op cit.

lion per year, and an accumulative total of 68 million people were no longer living in poverty; the incidence of poverty dropped from 10.2% at the end of 2012 to 3.1% at the end of 2017, down 7.1 percentage points.<sup>2</sup> Education has further developed, the education index has steadily increased, and the educational facilities conditions and equipment have improved significantly. As of 2017, over 94% of primary and secondary schools nationwide have been connected to the Internet, and 80% of the schools have been equipped with multimedia classrooms. Reforms in the health sector have accelerated, the Healthy China Strategy has been implemented smoothly, and the people’s health has continued to improve. The average life expectancy has further increased from 75.4 years in 2012 to 76.7 years in 2017.

### 1.3 Regional and provincial HDI trends

China is a country with a large population and vast regions, and the natural ecology and social environment of the various regions are quite different from each other. The 31 provinces, directly administered municipalities (see Box 1.2) and autonomous regions on the Chinese mainland are generally divided into four overall re-

2 National Bureau of Statistics of China, “The number of rural poor population decreased significantly, and the growth of the incomes for rural residents accelerated in 2017”, February, 2018. Retrieved from: [http://www.stats.gov.cn/tjsj/zxfb/201802/t20180201\\_1579703.html](http://www.stats.gov.cn/tjsj/zxfb/201802/t20180201_1579703.html)

gions, according to their natural resource endowments, geographical and cultural differences: the eastern, central, western and northeast regions. This division is as follows:

- Eastern region (10 provinces and municipalities): Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan
- Central region (6 provinces): Shanxi, Anhui, Jiangxi, Henan, Hubei and Hunan
- Western region (12 provinces and autonomous regions): Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Ningxia, Qinghai and Xinjiang
- Northeast region (3 provinces): Liaoning, Jilin and Heilongjiang

Due to natural and historical reasons, the northeast and eastern regions enjoy relatively developed economic and social conditions, the central region has tended to lag behind them, and the western region is relatively underdeveloped. Since the Reform and Opening Up began, human development in these four regions has improved significantly and some regional differences have narrowed, but the gaps are still big.

### 1.3.1 Regional HDI trends

In the last 40 years human development has improved steadily and strongly in all

four regions of China. In 1982, human development in the four regions was at a low level of development. In 1995, the eastern and northeast regions took the lead in entering the middle development group. In 2000, the central region also entered the middle development group. In 2005, the western region also entered the middle development group. The eastern and northeast regions entered the high development group in 2010. In 2017, the central and western regions also entered the high development group, which means that the four major regions have all entered this development group.

The human development level in the western region is relatively low, but the increase is the biggest. From 1982 to 2017, the Human Development Index of the eastern region increased from 0.446 to 0.772, an increase of 0.326 points, a cumulative increase of 73%; the Human Development Index of the central region increased from 0.388 to 0.724, an increase of 0.336 points, a cumulative increase of 86%; the Human Development Index of the western region increased from 0.361 to 0.704, an increase of 0.343 points, a cumulative increase of 95%; and the Human Development Index of the northeast region increased from 0.472 to 0.748, an increase of 0.276 points, a cumulative increase of 59%.

Over the past 40 years, the health indexes of the four regions have been growing slowly from a high initial level, and the education and income indexes have

### Box 1.2 China's Administrative Divisions<sup>1</sup>

Directly under the central government of the People's Republic of China (excluding the special administrative regions of Hong Kong and Macao) are three main provincial-level administrative divisions; provinces (22), directly administered municipalities (4) and autonomous regions (5).

Autonomous regions are similar to provinces; however due to their relatively high ethnic minority populations they have been granted more legislative rights. If an administrative division at any level includes the term autonomous or ethnic it refers to an area traditionally dominated by ethnic minorities. The autonomous regions are the Inner Mongolia Autonomous Region, Ningxia Hui Autonomous Region, Xinjiang Uygur Autonomous Region, Tibet Autonomous Region and Guangxi Zhuang Autonomous Region.

Urban and rural administrative division categories are clearly distinguished in their names, a reflection of the sharp urban-rural structural divide that characterized China in its centrally planned era.

The four directly or centrally administered municipalities, Beijing, Tianjin, Shanghai and Chongqing have province-level status and include both rural and urban areas. Cities at lower administrative levels also generally encompass urban and rural areas, and some municipal (i.e. part of a directly administered municipality) districts do as well.

Prefectures, counties and townships (and their equivalent in high ethnic minority areas) are found in rural China; their administrative centers are generally classified as cities, although they may contain rural areas as well.

The following table also presents the main sub-provincial levels of government in China today.

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<sup>1</sup> Drawn from the Ministry of Civil Affairs' interactive map at: <http://xzqh.mca.gov.cn/map> and the Ministry of Civil Affairs of the People's Republic of China, 2017 Statistical Table of Administrative Divisions of the People's Republic of China. Retrieved from: <http://xzqh.mca.gov.cn/statistics/2017.html>; And the State Council, "Administrative Division", August 26, 2014. Retrieved from: [http://english.www.gov.cn/archive/china\\_abc/2014/08/27/content\\_281474983873401.htm](http://english.www.gov.cn/archive/china_abc/2014/08/27/content_281474983873401.htm)

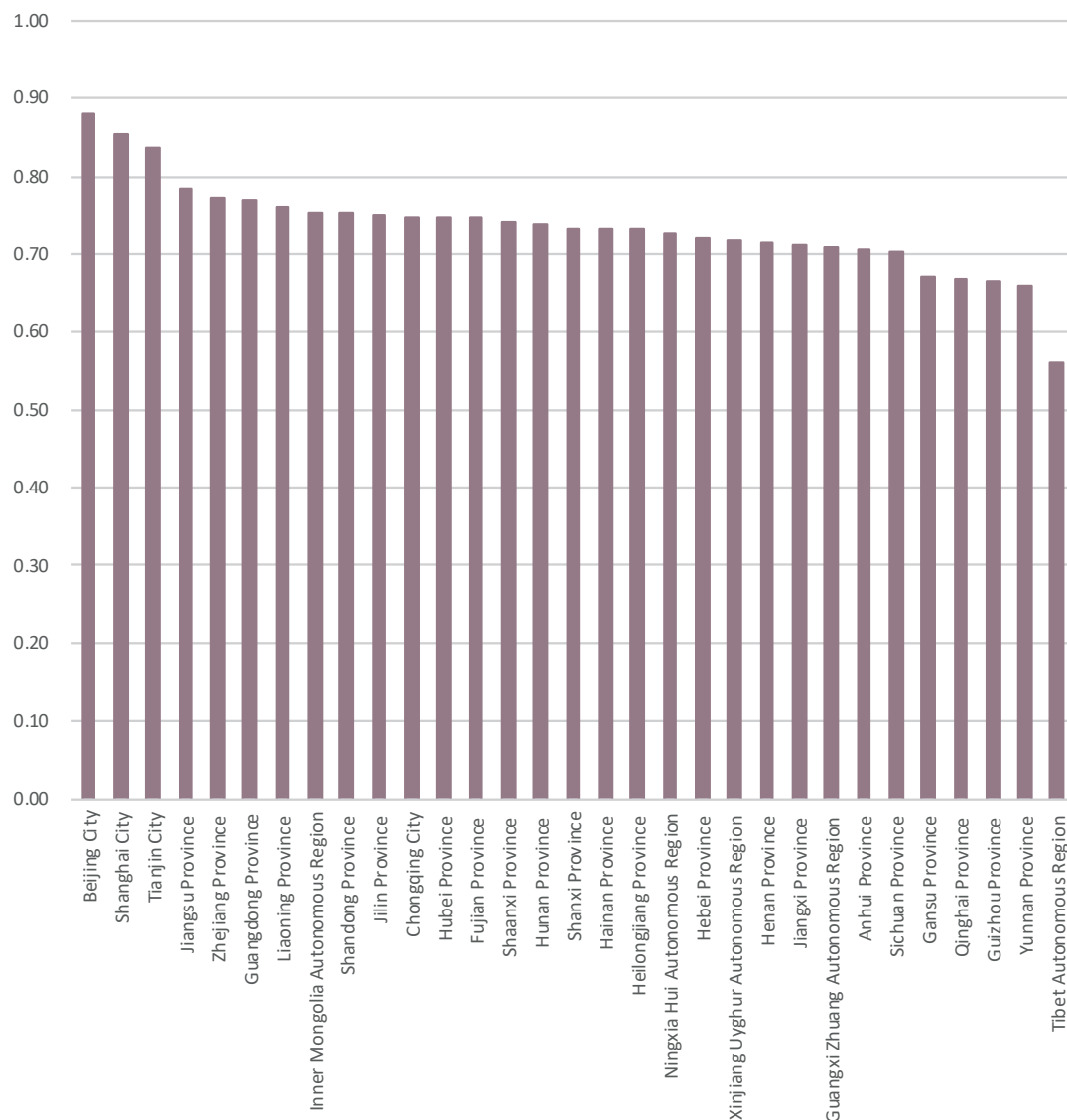


Main Administrative Divisions of the People's Republic of China			
Provincial-level	Prefecture-level	County-level	Township-level
4 directly-administered municipalities 22 provinces 5 autonomous regions 2 special administrative regions (Hong Kong and Macao)	294 prefecture-level cities 7 prefectures and 30 autonomous prefectures	962 municipal districts 363 county-level cities  1355 counties  171 autonomous or other special county-level units	2 district offices 21116 towns 9392 townships  152 sumu (an Inner Mongolian township-level division) 984 ethnic townships 1 ethnic sumu  8241 urban subdistricts (sometimes translated as "street")

been growing fast from a low initial level. However, the education and income indexes are still lower than the health index, with a particularly big gap between the education index and the health index. Education is still a weak link in the current human development in China. In 1982, the health indexes of the eastern, middle, western, and northeast regions were 0.773, 0.731, 0.682, and 0.759 respectively, which had already reached a high level. By 2017, the health indexes of the four regions reached 0.900, 0.868, 0.855, and 0.888, an increase of 16.5%, 18.8%, 25.3% and 17.0% respectively. Between 1982 and 2017, the educational index was characterized by a low starting point and high growth. The education indexes of the eastern, central, western and northeast regions increased from 0.322, 0.299, 0.272 and 0.371 in 1982 to 0.632, 0.602, 0.571 and 0.643 in 2017 respectively, increasing by 96.6%, 101.6%, 110.2% and 73.4% respectively. The in-

crease was much bigger than in the health index. The increase in the income index was even more pronounced. The distribution of the per capita income index in the eastern, central, western and northeast regions increased from 0.357, 0.268, 0.255 and 0.372 in 1982 to 0.809, 0.726, 0.716 and 0.733 in 2017, an increase of 127%, 171%, 181% and 97% respectively.

Over the past 40 years, all three indicators used to capture the three dimensions of human development have steadily increased across all regions. The increase in life expectancy during the past 35 years for the eastern, middle, western, and northeast regions are 8.3, 8.9, 11.2, 8.4 years respectively. The western region experienced the largest improvement in health conditions compared to other regions. In 1982, the average years of schooling for the eastern, central, western regions were all below 5 years while the



**Figure 1.6 Human Development Indexes of various provinces in China in 2017**

Note: Due to the difficulty in obtaining data on Taiwan province's 2017 Human Development Index, the 2014 Human Development Index for Taiwan province is shown in the figure.

northeast region had the highest value of 5.6 years. The increase in average years of schooling for the eastern, middle, western, and northeast regions are 4.7, 4.5, 4.5, 4.1 years respectively. The changes are similar in absolute terms and the average years of schooling for the northeast region was 9.7 in 2017, remaining the highest across all

regions. The change in the income dimension is more prominent, and all regions have experienced significant growth in GNI per capita. The GNI per capita in the eastern, central, western and northeast regions increased from 1,060, 589, 536 and 1,176 in 1982 to 21,221, 12,218, 11,424 and 12,772 in 2017. The western region expe-



rienced the largest rise. Its GNI per capita in 2017 is 20 times the value of 1982. The northeast region, although having had the highest in GNI per capita in 1982, experienced the smallest increase in income in percentage terms over the past 35 years.

Since 1982, inter-regional differences in HDI have steadily narrowed. The coefficient of variation<sup>1</sup> in the HDI fell from 10.6% in 1982 to 6.7% in 2000, and further dropped to 3.5% in 2017. In 1982, the northeast region, which had been the beneficiary of a large amount of heavy industry investment during the planned economy era, had the highest HDI among the regions, 0.111 or 23.5% higher than the lowest, which was in the western region (See Table 1.3). By 2017, the region with the highest HDI was the eastern region, which includes the coastal areas that benefited the most from opening up to foreign trade and investment, and the western region was still the lowest. However, the gap between these two was only 0.068, or 9.1%.

Inter-regional gaps in the health index have consistently been the smallest. In 1982, the average life expectancies of the eastern, central, western and northeast regions were 70.2, 67.5, 64.4, and 69.4 years respectively. By 2017, they increased to 78.5, 76.4, 75.6, and 77.7 years. The difference was significantly reduced, and the

1 The coefficient of variation is defined as the ratio of the standard deviation to the mean. It is a standardized measure of dispersion, the higher the value, the greater the dispersion.

coefficient of variation in the health index fell from 4.7% in 1982 to 2.0% in 2017. As education and income levels continue to improve across the regions, the differences in education and income between the four regions have continued to shrink. The coefficient of variation in the education index fell from 11.5% in 1982 to 4.6% in 2016; the coefficient of variation in the income index fell from 16.7% in 1982 to 5.0% in 2017. However, there is still a relatively large income gap between the regions. Calculated by PPP (2011 international \$),<sup>2</sup> in 2017, the per capita GDPs of the eastern, central, western and northeast regions were USD 84,546, USD 48,675, USD 45,514 and USD 50,887 respectively.<sup>3</sup> The ratio between the eastern region with the highest per capita income and the western region with the lowest per capita income reached 1.86:1. Although the difference declined quite a bit compared with the ratio of 2.46:1 in 2000 (See Figure 1.8), the difference in the income index remains the highest of the three dimensions.

2 Also known as the Geary-Khamis dollar. A hypothetical unit of currency that would buy the same amount of goods in the given country as in the United States at a given point in time. See: <https://datahelpdesk.worldbank.org/knowledgebase/articles/114944-what-is-an-international-dollar>

3 Results calculated by the research team.

**Table 1.3 Changes in Human Development Indexes by region**

Region	Index	1982	1990	2000	2010	2017
The Eastern Region	Human Development Index	0.446	0.509	0.627	0.723	0.772
	Health Index	0.773	0.788	0.827	0.873	0.900
	Education Index	0.322	0.382	0.494	0.571	0.632
	Income Index	0.357	0.437	0.605	0.757	0.809
The Central Region	Human Development Index	0.388	0.456	0.564	0.667	0.724
	Health Index	0.731	0.744	0.786	0.842	0.868
	Education Index	0.299	0.359	0.473	0.535	0.602
	Income Index	0.268	0.355	0.484	0.659	0.726
The Western Region	Human Development Index	0.361	0.432	0.534	0.647	0.704
	Health Index	0.682	0.707	0.757	0.821	0.855
	Education Index	0.272	0.333	0.43	0.51	0.571
	Income Index	0.255	0.342	0.469	0.648	0.716
The Northeast Region	Human Development Index	0.472	0.52	0.622	0.715	0.748
	Health Index	0.759	0.746	0.814	0.864	0.888
	Education Index	0.371	0.433	0.525	0.593	0.643
	Income Index	0.372	0.435	0.564	0.712	0.733

Between 1999 and 2004 China implemented three regional development strategies targeting the relatively disadvantaged western, northeast and central regions, tailored to their specific challenges and conditions, to help them keep up with the booming coastal areas in the east. These strategies have guided government investment and encouraged regional coordination.

- *Great Western Development Strategy:* Launched in 1999, this plan involved massive central government investment in infrastructure (CNY 1 trillion in nominal

terms by 2006) including transportation, energy, telecommunications, encouraging foreign investment, ecological protection and other strategies to help western provinces and autonomous regions catch up to the east.<sup>1</sup>

- *Northeast revitalization programme:* Proposed in 2003, this was a comprehensive industrial restructuring policy to address economic decline in the old in-

<sup>1</sup> China Daily, "Western Development Strategy", 22 December, 1999. Retrieved from: [http://www.chinadaily.com.cn/china/westdevelopment/2009-12/22/content\\_9215054.htm](http://www.chinadaily.com.cn/china/westdevelopment/2009-12/22/content_9215054.htm)

**Table 1.4 Changes in indicators by region**

Region	Indicator	1982	1990	2000	2010	2017
The Eastern Region	Life expectancy	70.2	71.2	73.8	76.7	78.5
	Average years of schooling	4.8	5.7	7.4	8.6	9.5
	GNI per capita(2011PPP\$)	1,060	1,810	5,473	15,050	21,221
The Central Region	Life expectancy	67.5	68.4	71.1	74.7	76.5
	Average years of schooling	4.5	5.4	7.1	8.0	9.0
	GNI per capita(2011PPP\$)	589	1,046	2,466	7,872	12,217
The Western Region	Life expectancy	64.4	66.0	69.2	73.4	75.6
	Average years of schooling	4.1	5.0	6.5	7.7	8.6
	GNI per capita(2011PPP\$)	539	961	2,226	7,304	11,424
The Northeast Region	Life expectancy	69.4	68.5	72.9	76.2	77.7
	Average years of schooling	5.6	6.5	7.9	8.9	9.7
	GNI per capita (2011PPP\$)	1,176	1,783	4,180	11,141	12,773

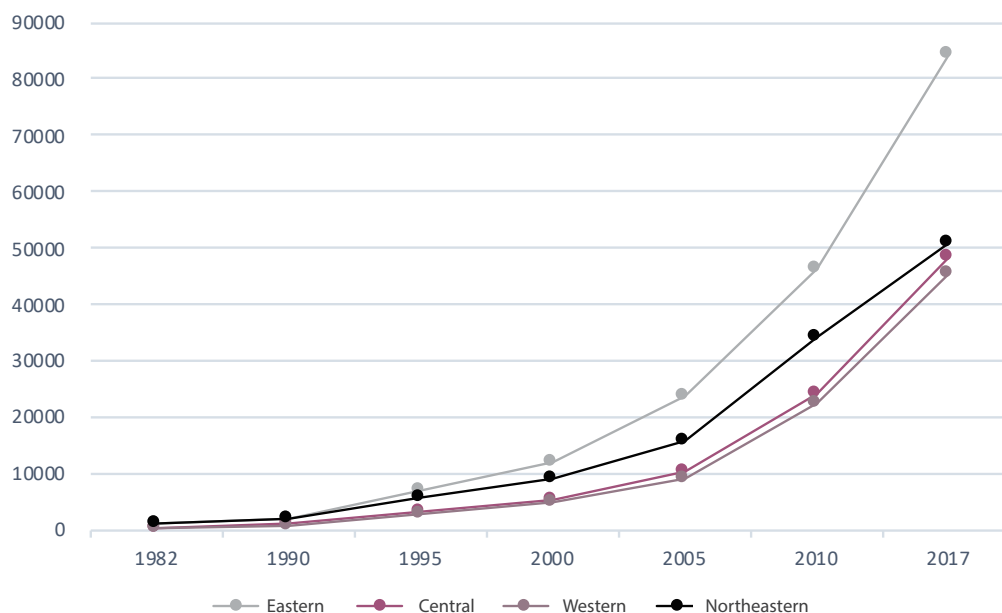
dustrial bases of the northeast suffering from state-owned enterprise reform and consolidation of heavy industry.<sup>1</sup>

- *Rise of Central China:* The Rise of Central China Plan announced in 2004 focused on promoting the central region of China as a center of manufacturing, modern agriculture and ecological civilization. In 2016, the State Council announced the incorporation of this strategy into the 13th Five-year Plan to support the development of advanced manufacturing in Central China.<sup>2</sup>

1 The Plan is available here in Chinese: Retrieved from: [http://www.gov.cn/gzdt/2007-08/20/content\\_721632.htm](http://www.gov.cn/gzdt/2007-08/20/content_721632.htm)

2 State Council, "Clear roadmap laid out for rise of Central China", 22 April, 2017. Retrieved from: [http://english.www.gov.cn/policies/policy\\_watch/2017/04/05/content\\_281475617525468.htm](http://english.www.gov.cn/policies/policy_watch/2017/04/05/content_281475617525468.htm)

With the successive implementation of these strategies and with sustained government focus on rural development and poverty alleviation, the gap in human development between the four regions of China has narrowed over time. For example, under the large-scale western development strategy the basic public service system in the western region has been continuously improved, the coverage of education, culture, health care, and social security has continued to expand, and reimbursement rates have steadily improved. From 2010 to 2015, the income of urban and rural residents in the western region increased by more than 10% annually, higher than the average growth of the



**Figure 1.7 Changes in per capita GDPs of the four regions (Unit: PPP (2011 international \$))**

whole country and the eastern region.<sup>1</sup>

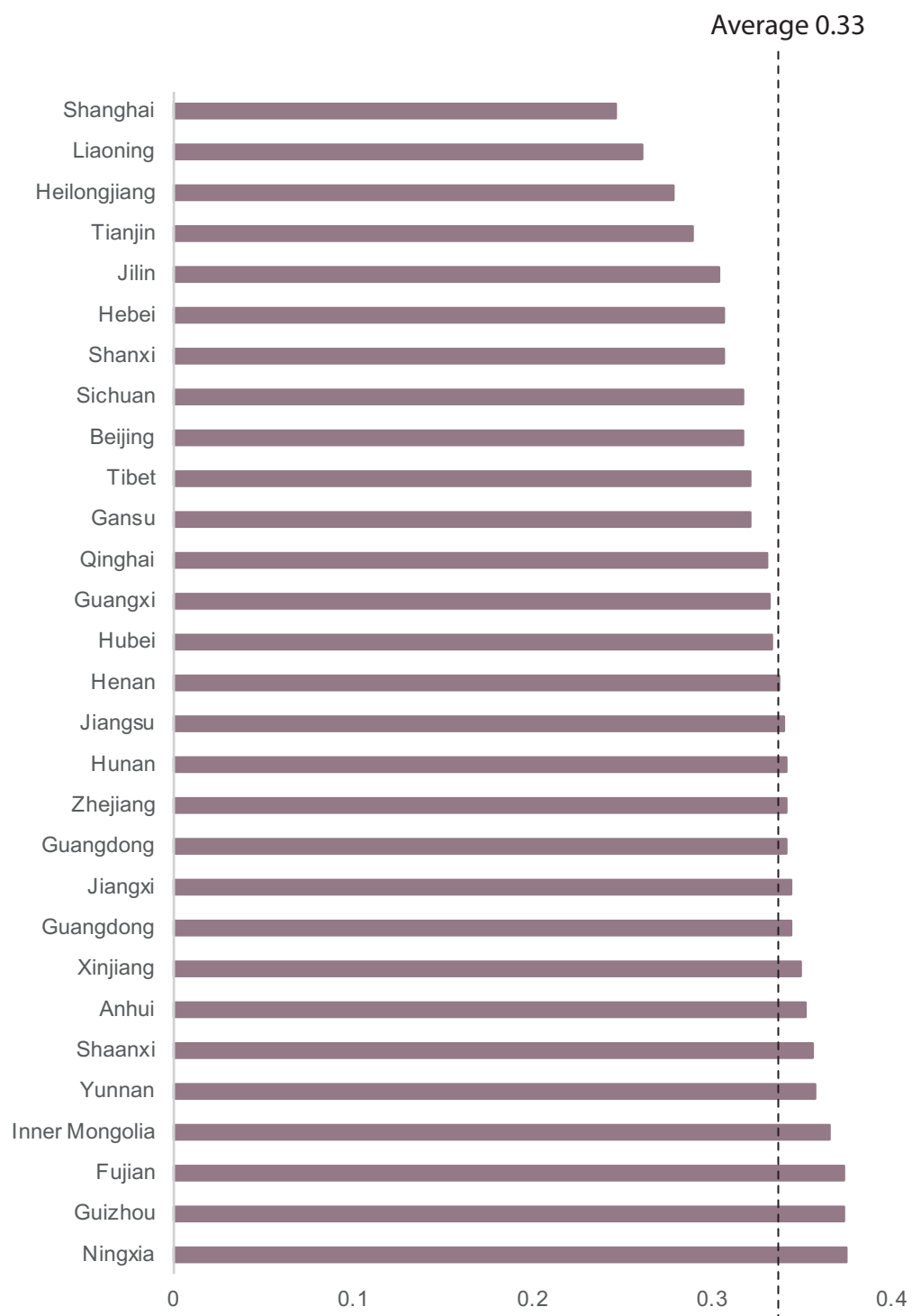
Under the revitalization of Northeast China strategy, the economy of Northeast China grew rapidly. During the period from 2009 to 2012, in particular, growth in the economy of Northeast China exceeded the national average. After 2013, however, the economic growth rate in Northeast China dropped significantly. In 2016, the central government once again vowed to “revitalize Northeast China in an all-round way”.

The Rise of Central China strategy has led to impressive economic and social achievements. During the period of 2006-

2015, the central region’s GDP grew at an average annual rate of 11.6%, 2.1 percentage points higher than the national average. The proportion of its economic aggregate in the national total rose from 18.8% to 20.3%; the per capita disposable incomes of urban and rural residents increased by 11.8% and 31.2% annually. The relative gap with the national average income level continues to shrink.<sup>2</sup>

1 Xu Zhangyong, Ren Baoping, eds., Annual Report on Development in Western Region of China 2017: Innovative, Coordinated, Green, Open and Shared Development (Beijing, Social Sciences Academic Press, 2017).

2 Information Office of the State Council, “Policy interpretation of the Plan on the Rise of the Central Region (2016-2025)” December 9, 2016. Retrieved from: <http://www.scio.gov.cn/34473/34515/Document/1535229/1535229.htm>



**Figure 1.8 HDI index change by province (China, 1982-2017)<sup>1</sup>**

<sup>1</sup> This table does not include HongKong SAR of China, Macau SAR of China, or Taiwan Province of China.

### 1.3.2 Provincial<sup>1</sup> HDI trends

As can be seen in Table 1.5 below, China's provinces are the size of countries, with many having populations in the tens of millions. Analysis of provincial HDI trends is therefore significant in terms of impact on global human development progress.

Over the past 40 years the level of human development in all provinces has improved significantly. However, the absolute gaps between them are still large. In 1982, among the 29<sup>2</sup> provincial-level units, the HDIs of Shanghai and Beijing were both already in the medium human development category. The other 27 provinces were all in the low human development group. By 2000, 20 out of 31 provinces were classified as having medium human development, Beijing and Shanghai were classified as having high human development, and the proportion of low human development provinces fell to less than 30%. By 2017, among all 31 provinces in China, only 5 were classified as having medium human development, 23 were classified as having high human development, and Beijing, Shanghai and Tianjin were classified as having very high human development.

1 China has 31 provincial level administrative units, which fall into three categories: 23 provinces, 3 centrally administered municipalities, and five autonomous regions (see Box 1.2). For the sake of simplicity in this report we will refer to these 31 units as "provinces" unless specific reasons arise to distinguish among the three categories.

2 At the time Chongqing and Hainan were not separate provincial-level units yet, so there were only 29.

From 1982 to 2017, HDI in Ningxia, Guizhou and Fujian had the largest improvement in absolute terms, as the HDI value of Ningxia increased from 0.350 to 0.725, Guizhou from 0.291 to 0.665, and Fujian from 0.373 to 0.746, percentage increases of 107%, 129% and 100% respectively. The HDI of Inner Mongolia also rose sharply, from 0.389 in 1982 to 0.754 in 2017, an increase of 94%. The lowest improvement was observed in Shanghai, Tianjin, Liaoning and Heilongjiang, with an increase of less than 0.300. The corresponding percentage change is 41%, 53%, 52% and 61% respectively.

Beijing, Shanghai, and Tianjin have long been the regions with the highest human development in China, while Tibet, Yunnan, Guizhou, Qinghai, and Gansu have always been the lowest. The difference in HDI between Beijing and Tibet widened in absolute terms before it narrowed, showing an inverted U-shaped curve over time, although Tibet's has grown at a consistently faster rate than Beijing's. In 1982, the HDIs of Beijing and Tibet were 0.563 and 0.240, respectively; Beijing's was 134% higher than Tibet's. Their HDIs increased to 0.732 and 0.397 in 2000 respectively, and 0.881 and 0.561 in 2017, with the gap between them falling in percentage terms to 57%.

While provincial level HDI provides an aggregate and comparable measurement of human development across the country, it is also relevant to examine the provincial difference in the real indicators. In 2017,

**Table 1.5 China's Human Development Indexes by province (2017)<sup>1</sup>**

Provincial-level Divisions	Region	Area (Square kilometres)	Population (in millions)	HDI
Beijing Municipality	Eastern	16,412	21.7	0.881
Tianjin Municipality	Eastern	11,903	15.6	0.838
Hebei Province	Eastern	187,159	75.2	0.721
Shanxi Province	Central	156,698	37.0	0.733
Inner Mongolia Autonomous Region	Western	1196,113	25.3	0.754
Liaoning Province	Northeast	148,084	43.7	0.760
Jilin Province	Northeast	190,234	27.2	0.750
Heilongjiang Province	Northeast	439,703	37.9	0.732
Shanghai Municipality	Eastern	6,339	24.2	0.854
Jiangsu Province	Eastern	102,378	80.3	0.784
Zhejiang Province	Eastern	103,493	56.6	0.772
Anhui Province	Central	139,615	62.6	0.707
Fujian Province	Eastern	122,870	39.1	0.746
Jiangxi Province	Central	167,064	46.2	0.712
Shandong Province	Eastern	158,219	100.1	0.753
Henan Province	Central	166,785	108.5	0.714
Hubei Province	Central	185,750	59.0	0.746
Hunan Province	Central	211,833	68.6	0.737
Guangdong Province	Eastern	174,246	111.7	0.770
Guangxi Zhuang Autonomous Region	Western	237,438	48.9	0.708
Hainan Province	Eastern	30,970	9.3	0.733
Chongqing Municipality	Western	82,370	30.8	0.747
Sichuan Province	Western	491,718	83.0	0.704
Guizhou Province	Western	176,161	35.8	0.665
Yunnan Province	Western	394,029	48.0	0.659
Tibet Autonomous Region	Western	1194,047	3.4	0.561
Shaanxi Province	Western	205,629	38.4	0.742
Gansu Province	Western	454,858	26.3	0.671
Qinghai Province	Western	696,610	6.0	0.667
Ningxia Hui Autonomous Region	Western	66,400	6.8	0.725
Xinjiang Uyghur Autonomous Region	Western	1640,016	24.5	0.717

<sup>1</sup> This table does not include HongKong SAR of China, Macau SAR of China, or Taiwan Province of China.

**Table 1.6 Changes in human development levels in China's provinces**

Year	Number of Provinces	Low Human Development		Medium Human Development		High Human Development		Very High Human Development	
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1982	29	27	93.1	2	6.9	0	0	0	0
1990	30	27	90.0	3	10.0	0	0	0	0
1995	30	21	70.0	9	30.0	0	0	0	0
2000	31	9	29.0	20	64.5	2	6.5	0	0
2005	31	3	9.7	25	80.6	3	9.7	0	0
2010	31	1	3.2	19	61.3	9	29.0	2	6.5
2017	31	0	0	5	16.1	23	74.2	3	9.7

Shanghai had the highest life expectancy of 83.4 years and Tibet the lowest life expectancy of 68.9 years. A gap of 14.5 years in life expectancy indicates quite a variation across the country in terms of the health. As for education, the average years of schooling is 12.3 in Beijing and only 5.1 in Tibet, i.e., less than half of Beijing's. There is an even bigger gap across country in terms of income. The GNI per capita for Beijing and Gansu is USD 32,379 and USD 7,338 respectively. Beijing's is over four times that of Gansu's.

#### **i. Provincial inequality-adjusted HDI<sup>1</sup>**

Compared with the overall world's human development loss of 22% because of inequality,<sup>2</sup> the overall loss of human development in China's provinces is relatively low. Xinjiang had the highest loss of human development in China because of inequality. Xinjiang's inequality-adjusted HDI dropped from 0.712 to 0.557, with an overall loss of 21.8%, close to the average global figure. 17 out of 26 provinces in

<sup>1</sup> Like all averages, the HDI conceals disparities in human development across populations within the same country. Two countries with different distributions of achievements can still have the same average HDI value. The inequality-adjusted HDI takes into account not only the average achievements of a country in health, education and income, but also how those achievements are distributed among its population by "discounting" each dimension's average value according to its level of inequality. See: <http://hdr.undp.org/en/faq-page/inequality-adjusted-human-development-index-ihdi#t293n2906>

<sup>2</sup> UNDP, *Human Development Report 2016: Human Development for Everyone*, (New York, 2017).



**Table 1.7 Inequality-adjusted Human Development Indexes in select provinces in 2016<sup>1</sup>**

Provinces	HDI	Inequality-adjusted HDI	Overall Loss
Xinjiang Uyghur Autonomous Region	0.723	0.565	21.8%
Guangdong Province	0.779	0.647	16.9%
Gansu Province	0.688	0.579	15.9%
Tibet Autonomous Region	0.631	0.536	15.1%
Inner Mongolia Autonomous Region	0.768	0.663	13.7%
Ningxia Hui Autonomous Region	0.730	0.641	12.2%
Hunan Province	0.747	0.661	11.5%
Hubei Province	0.755	0.676	10.6%
Qinghai Province	0.692	0.621	10.3%
Heilongjiang Province	0.745	0.672	9.8%
Liaoning Province	0.775	0.701	9.6%
Anhui Province	0.730	0.661	9.4%
Shandong Province	0.773	0.703	9.0%
Jiangxi Province	0.733	0.668	8.8%
Guangxi Zhuang Autonomous Region	0.732	0.674	7.9%
Sichuan Province	0.725	0.671	7.5%
Yunnan Province	0.673	0.623	7.4%
Jiangsu Province	0.800	0.748	6.6%
Shaanxi Province	0.756	0.706	6.6%
Hebei Province	0.738	0.690	6.5%
Shanxi Province	0.731	0.687	6.0%
Guizhou Province	0.691	0.654	5.3%
Henan Province	0.733	0.694	5.2%
Zhejiang Province	0.789	0.757	4.0%
Jilin Province	0.768	0.741	3.4%
Fujian Province	0.771	0.757	1.8%

Source: calculation by the research team based on the distribution data of prefecture-level cities within the provinces. The calculation method can be found in Appendix 2. Given the limitations of data availability at the city level, the HDI and IHDI presented here use different methodologies and may have small deviations from the data presented in Table 1.4.

<sup>1</sup> This table does not include HongKong SAR of China, Macau SAR of China, or Taiwan Province of China.

China had an overall loss of less than 10%; the three provinces of Fujian, Jilin and Zhejiang had the lowest loss of human development (all below 5%). In addition, the overall loss of human development in 8 provinces including the Inner Mongolia Autonomous Region, Hunan and Hubei provinces was between 10% and 20%, among which Guangdong, Gansu and Tibet had the highest loss, all exceeding 15%.

Disaggregated data show that among the three components, income inequality poses the greatest challenge for China's human development. The losses shown by the inequality-adjusted education index and health index in different provinces were less than 5%. However, the losses of the income index exceeded 5% except for that of Fujian, Jilin, Zhejiang and Guizhou provinces. In particular, the income index loss in Xinjiang was high at 21.4%.

In addition, regional differences within the provinces can also, to some extent, explain the disparities in losses due to inequality across provinces. The greater the differences between prefecture-level cities within provinces, the higher the loss of human development. The distribution of HDI in prefecture-level cities of the 26 provinces (Table 1.8) shows that the numbers of prefecture-level cities with very high, high, medium, and low human development levels are 22, 248, 59 and 1. Judging from each province, the HDIs of all prefecture-level cities in the 8 provinces: Hebei,

Shanxi, Jilin, Heilongjiang, Fujian, Jiangxi, Henan and Shaanxi, demonstrate a high level of development, with relatively small internal differences. However, the human development levels among prefecture-level cities in Xinjiang, Hunan and Hubei provinces present great disparities at three levels: very high, high and medium. In Qinghai Province, there are 5 prefecture-level cities at the medium human development level, 2 at the high level and 1 at the low level. This is the only prefecture-level city among those of all 26 provinces that has a low human development level. 6 cities in Jiangsu and 4 in Inner Mongolia have reached a very high level of human development level according to the Human Development Indexes distribution of prefecture-level cities, a relatively high proportion; as well, 4 prefecture-level cities in Guangdong, 2 in Zhejiang and Shandong respectively and 1 each in Liaoning, Hubei, Hunan and Xinjiang have a very high human development level.

As well, through the analysis of the city-level Human Development Index, we can see gaps within each province. Even in the south-eastern coastal areas, which are the most developed in public perception, there is a large gap in the level of human development between cities in the same province. For example, in Guangdong province, the most developed province in China, regional disparity within the province is second only to the Xinjiang Uygur Autonomous Region, which ranks first for

such a measure. 10 out of the 21 prefecture-level cities in Guangdong Province have a human development level lower than the national level; if only measured by

economic indicators, 2/3 of the prefecture-level cities in Guangdong are below the national average. These underdeveloped cities in Guangdong Province have better

**Table 1.8 HDI distribution of prefecture-level cities in select provinces in 2016**

Provinces	Number of Prefecture-level Cities	Proportion of Prefecture-level Cities at different Human Development Levels (%)			
		Very high	High	Medium	Low
Hebei Province	11	0	100	0	0
Shanxi Province	11	0	100	0	0
Inner Mongolia Autonomous Region	12	33	67	0	0
Liaoning Province	14	7	93	0	0
Jilin Province	9	0	100	0	0
Heilongjiang Province	13	0	100	0	0
Jiangsu Province	13	46	54	0	0
Zhejiang Province	11	18	82	0	0
Anhui Province	16	0	81	19	0
Fujian Province	9	0	100	0	0
Jiangxi Province	11	0	100	0	0
Shandong Province	17	12	88	0	0
Henan Province	17	0	100	0	0
Hubei Province	13	8	85	8	0
Hunan Province	14	7	86	7	0
Guangdong Province	21	19	81	0	0
Guangxi Zhuang Autonomous Region	16	0	88	13	0
Sichuan Province	21	0	76	24	0
Guizhou Province	9	0	22	78	0
Yunnan Province	16	0	13	88	0
Tibet Autonomous Region	7	0	14	86	0
Shaanxi Province	10	0	100	0	0
Gansu Province	14	0	29	71	0
Qinghai Province	8	0	25	63	13
Ningxia Hui Autonomous Region	5	0	60	40	0
Xinjiang Uyghur Autonomous Region	12	8	67	25	0

natural and geographical conditions than those in inland provinces, and they are closer to coastal ports and transportation hubs. It is thus clear that geography and transportation are not the main reasons for the lag in development. Contrary to the situation in Guangdong Province, Zhejiang and Jiangsu, which are both developed coastal provinces, have higher HDI levels than the national level for all cities in Zhejiang, and all cities in Jiangsu except Suqian.

### ii. Provincial gender disparity

Judging from the Gender Development Index (GDI) values in China's provinces, HDI values for women are more than 90% of the HDI values for men, and gender disparity is generally fairly small. HDI values for women were relatively high in Beijing, Tianjin and Shanghai at over 0.800, reflecting a high level of human development. At the same time, gender disparity in these three municipalities was also relatively small, and HDI values for women accounted for more than 95% of HDI values for men.

## 1.4 Factors affecting HDI values and balanced development

Since the beginning of the Reform and Opening Up, the development of China and its eastern, central, western, and northeast regions in terms of economy, education, and medical care have had

different characteristics at different periods and stages.<sup>1</sup> Accordingly, the driving factors for the changes in HDI values are also different in different periods, phases and regions. Based on the Human Development Index value of China and its eastern, central, western, and northeast regions from 1978 to 2017, this section analyzes the contribution rate of the three dimensions of the HDI, namely the health index, income index and education index, in promoting human development in different phases and regions, so as to provide a reference for better interpretation and understanding of the historical trends in China's human development process, identifying key development paths for the future, and further advancing balanced and sustainable human development. The classification of the eastern, central, western, and northeast regions is based on the 10:6:12:3 classification standard commonly used in national statistics (Table 1.4). The division into phases is consistent with the previous one. In principle, one phase lasts for 10 years, and there are four phases: 1978-1992 (1982-1992 in four regions), 1992-2002, 2002-2012 and 2012-2017.

The logarithmic mean Divisia index (LMDI) is a commonly used method for analysing the degree and change of the influence of different variables. This section adopts

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<sup>1</sup> Regional development strategies such as the Eastern China Trailblazing Development Plan, Great Western Development Strategy, Rise of the Central China, and Revitalization of Northeast China have had different priorities and goals during different phases.

the LMDI to decompose the factors contributing to the changes in the HDI values of China and its provinces to analyze and discuss the main causes for the changes in the HDI values based on the effects of the health index, income index and education index. Given that the calculation method of the HDI changed in 2010, this report calculates the HDI values of China and its provinces using the revised calculation method, and draws the following conclusions.

#### **1.4.1 Decomposition of factors affecting national HDI**

The contribution rate of the education and health indices at the national level have grown steadily over the last 40 years, reflecting a healthy balance between the three components of the HDI. As China's economy shifted from the stage of rapid development to medium-to-high speed growth, there has been strong progress in social spheres directly related to living standards and quality of life including education and health care. The contribution of the health and education indices to China's HDI increased dramatically from pre-1992 to the post-2012 period. From 1978 to 1992 health and education accounted for 5.4% and 29.8% of the improvement in China's HDI, respectively. Their contributions increased to 14.4% and 46.0% after 2012. In the same period, the contribution rate of increases in the income index decreased from 64.9% before 1992 to

39.6% after 2012. During 2012-2017, the contribution rate of the education index was almost the same as that of income. As China's health level was already high, and the main health indicators were generally higher than the average level of middle-and high-income countries, the contribution of the health index value to the overall HDI value is relatively small.

In the 40 years after the beginning of the Reform and Opening Up, the reform and development of China's education phases have presented prominent temporal characteristics. In the early stage of the Reform and Opening Up, centered on rapid restoration and rebuilding, China's education system expanded rapidly. A focus in this period was to provide feasible educational methods for a large number of under-educated adults and improve their educational levels. Therefore, a variety of educational modes were introduced, including adult education, radio and television universities as well as self-study examinations for adults. In the second phase of the reform after 1984, with a focus on supporting economic reform, school autonomy was expanded, diversified investment patterns were introduced and administration of schools by non-government actors encouraged.

At the same time, the government proposed developing education as a model of industrial development and the enrolment expansion of colleges and universities starting from 1999 directly reflects this

idea. After 2003, existing education modes were revised, education equity advocated, the public welfare purpose of education was re-defined, government responsibility in education emphasized and the protection of equal education rights for vulnerable groups began to be enhanced.

These measures to adjust policies have yielded clear results. By the end of 2016, the gross enrolment rate for pre-school education in China reached 77.4%, above the average of middle and high-income countries. More children, especially those from rural areas, have gained access to

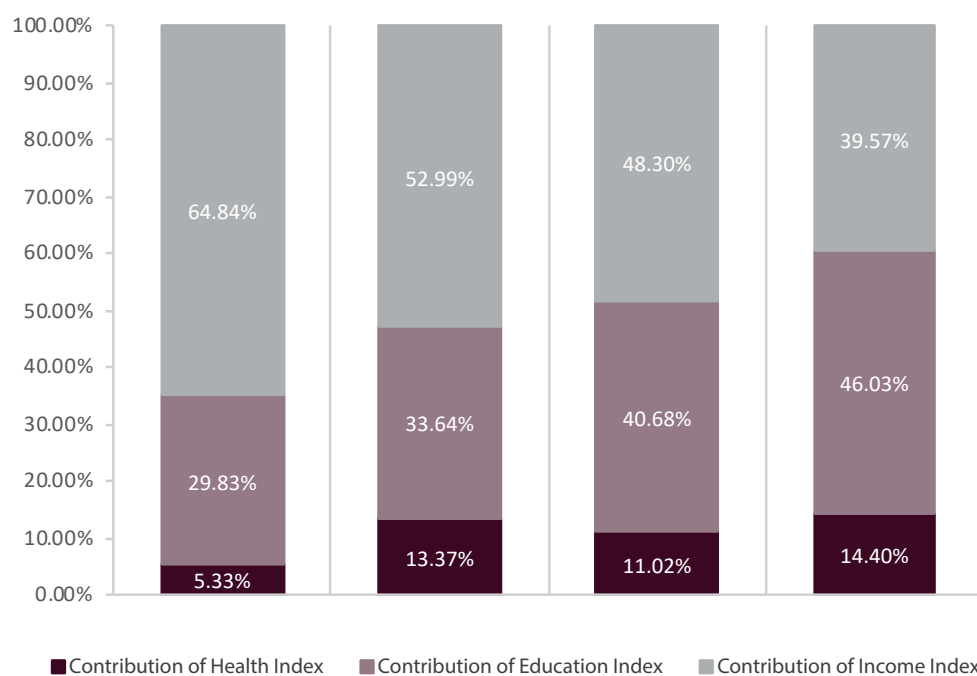
**Table 1.9 Gender Development Indexes in provinces in 2016<sup>1</sup>**

Provinces	HDI	Male HDI	HDI Female	HDI	GDI
Beijing Municipality	0.878		0.846		0.964
Tianjin Municipality	0.844		0.806		0.955
Hebei Province	0.760		0.704		0.926
Shanxi Province	0.751		0.696		0.926
Inner Mongolia Autonomous Region	0.788		0.737		0.935
Liaoning Province	0.798		0.737		0.923
Jilin Province	0.788		0.734		0.932
Heilongjiang Province	0.765		0.713		0.931
Shanghai Municipality	0.866		0.830		0.957
Jiangsu Province	0.825		0.761		0.922
Zhejiang Province	0.810		0.753		0.930
Anhui Province	0.757		0.687		0.907
Fujian Province	0.791		0.741		0.937
Jiangxi Province	0.757		0.696		0.920
Shandong Province	0.792		0.742		0.937
Henan Province	0.749		0.705		0.940
Hubei Province	0.784		0.713		0.909
Hunan Province	0.772		0.707		0.917
Guangdong Province	0.792		0.759		0.958
Guangxi Zhuang Autonomous Region	0.747		0.707		0.946

<sup>1</sup> This table does not include HongKong SAR of China, Macau SAR of China, or Taiwan Province of China.

Hainan Province	0.760	0.725	0.955
Chongqing Province	0.785	0.725	0.923
Sichuan Province	0.746	0.692	0.927
Guizhou Province	0.712	0.652	0.916
Yunnan Province	0.692	0.641	0.927
Tibet Autonomous Region	0.655	0.596	0.910
Shaanxi Province	0.781	0.716	0.917
Gansu Province	0.715	0.646	0.904
Qinghai Province	0.715	0.658	0.920
Ningxia Hui Autonomous Region	0.750	0.700	0.934
Xinjiang Uyghur Autonomous Region	0.740	0.698	0.943

Source: calculation by the research team. The calculation method can be found in Appendix 2. Given the limitation of data availability by gender, the research team uses different methodologies in calculating the female and male HDIs.



**Figure 1.9 Contributions to national Human Development Index value, 1978-2017**



pre-school education. The gross enrolment rate among primary school-age children reached 97.96%.<sup>1</sup>

The gross enrolment rate for junior high school reached 104% and the compulsory education penetration rate exceeded the average of high-income countries. The gross enrolment rate for high school and secondary vocational education reached 87.5% and that of higher education reached 42.7%, surpassing the average of middle and high-income countries, expanding access to higher education. Apart from the improvement in education for all indicated by this data, the reforms have also brought about inclusive growth in China's education system. For example, the "Hope Project" and "Spring Bud Programme" provide subsidies to needy children and girls at high risk of quitting school, forming a system of care for children, especially for children in poor areas and for girls. The continuous improvement and implementation of policies in education have significantly raised the contribution rate of the education index value to the HDI value, from 29.8% in the first period of the Reform and Opening Up (1978-1992) to 46.0% in 2017, exceeding that of the income index value.

Health is an important goal for people's development, and is also an important

foundation for individuals to achieve comprehensive development. In the past 40 years of the Reform and Opening Up, China's health sector has made remarkable progress. The Chinese government has made clear that the health sector is a public welfare social undertaking, and has set a goal of "basic medical and health services for all". On the supply side, China has multiple systems, including a public health service system, medical service system and drug supply guarantee system. On the demand side, China has established in a short time a multi-level medical insurance system that benefits urban and rural residents with a main component of basic medical security and supplementary medical insurance including commercial insurance in various forms.

There are two main experiences in the reform of the health care sector in China: first is enhancing the accessibility of medical and health resources and health rights through increasing the supply of medical and health resources. In the 40 years of the Reform and Opening Up period, China's medical service resources, especially facilities and equipment, have mushroomed. From 1978 to 2017, the total number of health care institutions in China grew from 170,000 to 987,000; the number of beds in health care institutions increased from 2.0 million to 7.9 million. In 2017, there were 2.44 licensed doctors and 2.74 registered nurses per 1,000 people; 1.82 general practitioners and

1 UNESCO, "Education: Gross enrolment ratio by level of education", Institute for Statistics (UIS). Available at <http://data.uis.unesco.org/#> (accessed on 15 October 2019).



6.28 public health professionals per 10,000 people.<sup>1</sup> These achievements mainly resulted from the reforms initiated in the 1980s to expand autonomy and incentivize medical institutions. Meanwhile, strengthened management of medical institutions has contributed to the significant improvement in medical service capabilities and service quality. In 2017, the total number of outpatient visits in China's medical and health institutions reached 8.18 billion and hospital admissions amounted to 244.4 million. By the end of 2017, 42.0% of second class and above public hospitals had adopted medical service pre-registration, 81.4% carried out clinical pathway management, 43.3% provided telemedicine services, 86.3% practiced mutual acceptance of peer-reviewed results and 76.1% had implemented high-quality nursing care.<sup>2</sup>

Second, institutional integration has been promoted and group differences narrowed so that residents can obtain the right to health equally through constantly improving access to healthcare. At the end of 2017, basic medical insurance including that for urban and rural residents and urban workers covered more than 1.3 billion people, and universal medical insurance has been basically realized. In the

meantime, with the increase in financial support to the medical insurance system for urban and rural residents, the disparity between various kinds of medical insurance benefits has gradually been narrowing. As medical and health resources are available, the establishment of a social medical insurance system has contributed to affordability for residents and provided a fundamental guarantee for improving health. China's reform and development in the medical field has not only greatly improved health care for everyone, but has also raised the contribution rate of the health index value to the overall HDI value, from 5.3% in the early stage of the Reform and Opening Up to 14.4%.

#### 1.4.2 Decomposition of factors affecting provincial HDI values

According to the LMDI decomposition results (Table 1.10), the contribution rate trends of each HDI sub-index in the eastern, central, western and northeast regions of China is consistent with the national overall trend. Generally, there is decline in the contribution rate of the income index, and increases in that of the education and health indexes. However, within each region, the trend of each sub-index is not as linear as that of the national sub-index, but has its own characteristics.

Regional development is uneven, and there is room for the education index value of the western region and the

1 National Health and Family Planning Commission, "Statistical bulletin on the development of health care in China in 2017", June, 2018. Retrieved from: <http://www.nhfpc.gov.cn/guihuaxxs/s10743/201806/44e3cdf11fa4c7f928c879d435b6a18.shtml>

2 *ibid.*

**Table 1.10 HDI component breakdown by region and time period**

Phase	Eastern China			Central China			Western China			Northeast China		
	Con-tribution Rate Health Index	Con-tribution Rate Edu-cation Index	Con-tribution Rate In-come Index	Con-tribution Rate Health Index	Con-tribution Rate Edu-cation Index	Con-tribution Rate In-come Index	Con-tribution Rate Health Index	Con-tribution Rate Edu-cation Index	Con-tribution Rate In-come Index	Con-tribution Rate Health Index	Con-tribution Rate Edu-cation Index	Con-tribution Rate In-come Index
1982~1992	5.9%	40.6%	53.6%	4.4%	39.0%	56.6%	4.3%	37.3%	58.4%	-0.75%	5.9%	40.6%
1992~2002	10.4%	39.3%	50.4%	10.5%	39.5%	50.0%	12.6%	40.5%	47.0%	16.9%	34.9%	48.2%
2002~2012	14.5%	37.6%	47.9%	13.8%	29.7%	56.5%	14.1%	34.4%	51.5%	14.8%	32.5%	52.8%
2012~2017	17.5%	50.2%	32.2%	13.2%	48.3%	38.5%	15.1%	45.9%	39.1%	19.1%	55.8%	25.13%

income index value of the northeast region to increase. Although the health index value of the eastern region continues to grow, its overall contribution rate has not been high. The contribution rate of the education index value and the income index value have changed significantly, from 40.5% and 53.6% before 1992 to 50.2% and 32.2% in 2017 respectively. The changes in the central region were similar to those in the eastern region where the contribution rate of the education index value has increased rapidly and exceeded the contribution rate of the income index value. In the western region, the income index value contributed 58.4% before 1992; however, in the following years, the education index value and income index value together supported the increase of the HDI value, and contributed 45.8% and 39.0% to the HDI value after 2012 respectively. In the northeast region, it is apparent that during the 2012-2017 phase the contribution rate of the income index

value declined dramatically, while that of the education and health index values has remained relatively stable. Overall, before 1992, the income index value contributed the most to the increase of the HDI values of these four regions. However, as economic and social development entered a new stage, more emphasis was placed on balanced development that included aspects such as the economy, society, environment, livelihoods, etc. Education, health and other indicators therefore played an increasingly important role in different regions in promoting the growth of HDI values.

According to the horizontal comparison between these four regions, the education index after 2012 became the most important driving factor for the increase of HDI values in all four regions, with the largest contribution in Northeast China, 55.8%, and the smallest in Western China, 45.9%. The contribution of growth in the income

index declined; it is now largest in Western China at 39.0% and smallest in Northeast China at only 25.1%. Among these three indexes, the health index contributed the least, with the largest figure in Northeast China at 19.1%, and the smallest in Central China at 13.2%. It can be seen from these comparisons that there is particular room for improvement in health and education services in Central and Western China, especially in education. The sharp decline in the contribution of the per capita income index in Northeast China reflected the continued difficulties this region has faced in developing a new and competitive economy, which will have to be a continued focus of attention there.

## 1.5 Conclusion

In the 40 years since the launch of the Reform and Opening Up, China has made extraordinary achievements in economic and social development. In this chapter we evaluate China's overall human development and trends, and compare China's human development with that of other major economies in the world. The chapter also presents key characteristics and trends of human development in China by region, and analyzes the key drivers in those regional trends and in China as a whole by stage through adopting the LMDI method. The main conclusions are as follows:

(1) Since the start of the Reform and

Opening Up, China has witnessed continuous sharp increases in its per capita national income, rapid development of its education sector, and sustained improvement in the health of its population. Its HDI value has increased from 0.410 in 1978 to 0.752 in 2017, an increase of 83.4%. Of all the countries in the world which were in the low human development category in 1990 when UNDP first analyzed global trends, China is the only one that has now joined the ranks of high human development countries. There has also been progress in multi-dimensional poverty alleviation and gender equality. However, compared with developed countries, China's human development is still low, and its relatively lagging education levels are a significant shortcoming for the continuous improvement of China's human development.

(2) After 40 years of development, the human development of all Chinese provinces has improved to a medium-and-high level from a low level. In 2017, Beijing, Shanghai and Tianjin entered the very high human development level, as did many other Chinese provinces and prefecture-level cities. However, there were still some prefecture-level cities with low-level human development values.

(3) Inter-regional gaps in human development have also narrowed, decreasing from 23.5% in 1982 (0.47 in the northeast and 0.36 in the west) to 9.1% in 2017 (0.77 in the east and 0.70 in the west).

(4) In terms of HDI sub-indexes, since the Reform and Opening Up, in the four regions and in China as a whole, the life expectancy index value was high at the beginning and had a modest further increase over time, while the values of education and income indexes were low at the beginning and have increased considerably. The income index registered the largest increase over this period, and income growth has been the most important driver of China's sustained and rapid growth in human development, followed by education and health.

(5) Over the 40 years analyzed here, the contribution of increases in the income index to HDI gradually declined from its peak in the early years, both nationally and in all four regions. The contribution of improvements in education and life expectancy increased over time. As China is now leaving the period of ultra-rapid economic growth and shifting to a new mode of high-quality development, focusing on balanced development in the five spheres of economy, politics, culture, society and ecological civilization, these trends are likely to continue.

# Chapter 2





## Chapter 2

# Understanding China's Reform

**H**ow did China achieve such remarkable human development progress over the last 40 years? What are the key institutions, practices and policies that underpinned the sustained and widespread improvements in human development that have been analyzed in Chapter 1? The next two chapters of this report examine these themes, from two perspectives. First, here in Chapter 2, we look at China's Reform and Opening Up era from the perspective of overarching development concepts, policy and structural reforms. The issues of continuity and change emerge clearly in this analysis. The Chinese Communist Party launched and implemented the sweeping changes that occurred in China during these years,

and throughout the 40 years retained basic political institutions and practices. Party leadership and Party Congresses every five years announced major strategic policy initiatives and shifts, and a fairly regular pattern of other key meetings was established to implement and review progress. Finally, a five-year plan system that was inherited from a command economy was adapted to an economy in which market forces played a central role. Placing the evolution of the dramatic reforms and rapid development of the era in this context provides an essential perspective on how China has achieved what it has.

Then, in Chapter 3, the report presents a series of case studies regarding specific

reforms and policies, from the perspective of their origins and their human development impact.

As Chapter 1 noted, at key points during the last 40 years the government of China has shifted policy in new directions, identifying new central challenges and establishing rigorous goals and targets for the country in key human development spheres; income growth and poverty reduction, education, health, and others. The first critical moment in this extended evolution of policy and human development was the launch of what China now refers to as the Reform and Opening Up era, which established a conceptual and policy foundation for the extraordinary changes that followed. As in all the rapid development experiences of East Asia, strong government leadership has been a key characteristic of China's development over these 40 years.<sup>1</sup> To understand China's development since the inception of the Reform and Opening Up, we must start from understanding the evolution of China's policies and programmes.

This chapter will undertake an assessment of the reform policy as the core driver for the improvements in human development in the country during this period. It will examine the basic logic of the reform, the principal experiences of the reform and

the mechanisms by which the reform has promoted human development.

## 2.1 The fundamental logic of China's reforms

In December 1978, the Third Plenary Session of the 11th National Congress of the Communist Party of China called for the Party to "shift the focus of its work to socialist modernization". This represented a complete reversal of the previous practice of centering Party work and the life of the Chinese people around political life.

### 2.1.1 Economic construction as the central theme of development

The foundation for the sweeping changes to come was formulated in a simple but powerful phrase; China would now uphold economic construction as the central theme of development. The concept of development in any era derives from the Party's understanding of "contradictions" in each era.

As of 1978 China's economy and the life of its people were characterized by extremely low levels of production and a widespread shortage of various products. Therefore, the Government identified the major contradiction of that era as one between the people's expanding demand for material and cultural goods and limited

<sup>1</sup> Aoki Masahiko, *The Role of Government in East Asian Economic Development* (China Economic Publishing House, 1998).



productive capacity of the economy.<sup>1</sup> This contradiction constrained all aspects of development. In that context, economic construction was clearly understood as an essential condition both for improving living standards and for achieving social development as well.

As noted in Chapter 1, as of 1978, social indicators in China were considerably better than those in many other countries whose per capita income was much higher. This had been achieved primarily through the creation of extensive but rudimentary healthcare and education services at a rural grassroots level. The high level of integration with the rural communities and cost-effectiveness of the locally recruited and trained paramedics known as “barefoot doctors” made an important contribution to fill the gaps that existed in rural healthcare. In 1976, cooperative healthcare covered 85% of the rural population.<sup>2</sup> Similarly, considerable progress was achieved in rural education and literacy in those years. These achievements were impressive, given how low national

income was. As a transition phase, these services that met basic needs may well have helped create a human capital base for the surge in development that followed 1978.

However widespread shortage of essential medical and educational products, poor diet due to poverty and lack of capacity to provide more advanced training to educational and health personnel all imposed tight constraints on any further development in these essential human development spheres. Even more, these services were rooted in a collective governance structure, and a rigid urban-rural divide, that was unsustainable once controls over choice and activity were relaxed.

It was in the face of this situation that the Party set forth the concept of “keeping economic construction as the central task”.<sup>3</sup> This proposition has since underscored the entire process of economic and social development in China. It is important to note that this policy was not in any sense an embrace of “growth for growth’s sake”, which from a human development point of view might be problematic. Nor was it a reversion to the classic command

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1 The “principal contradiction” for the initial stage of socialism in China was singled out at the 6th Plenary Session of the 11th National Congress of the Communist Party of China in 1981. The report made by President Xi Jinping to the 19th National Congress of the CPC on October 18, 2017 stressed that, as Socialism with Chinese Characteristics has entered a new era, the principal contradiction facing Chinese society has evolved into one between “unbalanced and inadequate development and the people’s ever-growing needs for a better life”.

2 Zhou Shouqi, “Exploring the development of social health protection system for rural residents”, *International Medicine and Health Guidance News*, vol. 6 (2002).

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3 Deng Xiaoping formally pointed out the need to regard economic development as central to their work at a cadres’ meeting convened by the CPC Central Committee on January 16, 1980. This marked the establishment of the concept of “keeping economic development as the central task” in the economic and social development of China. Deng Xiaoping, “Current situation and tasks at hand”, Central Committee of the Communist Party of China Meeting, 16 January, 1980. Retrieved from: <http://www.cctv.com/special/756/1/50149.html>

economy mindset of growth and investment at all costs, although the influence of that school of thought on economic policy, particularly in the state-owned sector, was still felt.<sup>1</sup> Although there have been times in the last 40 years when the primacy of economic growth has been raised too high, most often at local levels, where an overemphasis on GDP growth has at times had negative consequences for social and environmental sustainability, the decision in the early reform years to take “economic construction as the central feature of development” was a thoughtful and reasonable response to the actual conditions facing the Chinese people in the aftermath of the Cultural Revolution.

Although this report focuses primarily on reform, and less on the Opening Up aspects of China’s experience of 40 years of the Reform and Opening Up, the combination of these two new approaches to development was important throughout the era, and reveals again the level of clearheaded analysis of China’s conditions and challenges that motivated the policy shifts of the time. China’s virtually autarkic economy in the pre-1978 era had cut the country off from the technology, the capital, the intellectual, trade and human flows that had stimulated development around the globe while China’s economy stagnated. Seeing this, and understanding the

constraints on China’s economy that it imposed, China’s leadership made the bold decision to open China up. The timing was fortuitous, as the global environment was quite favorable to extension of cross-border value chains and export-led growth. The opening up of China’s large economy to trade and investment both took advantage of that environment and also gave it great additional impetus.

By 2000, after 20 years of reform and development, and the completion of the 9th Five-year Plan which covered the years 1996-2000, China had dramatically improved the productive capacity of the economy and eliminated the widespread shortage of essential products and services. The purchasing power of hundreds of millions of households had increased enormously, boosting demand for rapidly rising output. The era of chronic scarcity had basically ended. In the following years the Chinese Government steadily broadened its development focus to place greater and greater emphasis on non-economic spheres. For example, in 2002, the 16th National Congress of the CPC proposed a three-sphere integrated programme comprised of economic, political and cultural development. In 2007, the 17th National Congress of the CPC expanded this to a four-sphere programme covering economic, political, cultural and social development. Then in 2012, the 18th National Congress of the CPC set forth a five-sphere integrated development programme

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<sup>1</sup> See, for example, J. Kornai’s classic *The Socialist System: The Economics of Communism* (Oxford, Oxford University Press, 1992) for an account of this phenomenon.

consisting of economic, political, cultural, social and ecological development.

It should be noted that although China's development pattern has shifted from an overriding focus on economic development to one based on the three-, four- and five-sphere integrated development concepts, the centrality of economic construction has nevertheless run through the entire Reform and Opening Up process. Even today, Deng Xiaoping's famous proposition that "development is the hard truth"<sup>1</sup> remains a basic starting point for China in addressing its major problems.

### 2.1.2 Flexibility in responding to challenges while adhering to an underlying vision

In 1978, the Chinese Government did not have a clear blueprint or clear targets for reform. However, it had identified five principles for its reform drive. First, the purpose of the reform was to "develop social productive forces and constantly meet the ever-growing material and cultural needs of the people". Second, the criteria used to evaluate the reform were whether the economy was taking new and more modern shape, whether growth was increasing and whether the Chinese people were enjoying the benefits of that growth. Deng

1 This proposition was first brought up during Deng Xiaoping's Southern Tour: People's Net, "Deng Xiaoping's Southern Tour puts forward 'Development is the hard truth'", 27 September, 2010. Retrieved from: <http://xj.people.com.cn/GB/188750/203663/203668/12835630.html>

Xiaoping asked the following questions at the time: "Have advanced management practices been adopted? How is the technological renovation going? How much has labor productivity risen? How much have profits increased? And how much have the income of individual workers and the benefits of collective organizations grown?"<sup>2</sup> Third, reforms should start locally, experimentation should be permitted and encouraged, and local reform experience summed up and shared widely, i.e., "crossing the river by feeling for stones".<sup>3</sup> Fourth, the basic principle of the reform was "give full play to the enthusiasm of four parties: the state, local governments, enterprises and workers" and "do whatever is needed to unleash their own creativity".<sup>4</sup> As discussed below, in practice this meant an ever-increasing role for market forces to guide economic decisions; encouragement of entrepreneurship, liberalization of prices, and relaxing of control on labor mobility, most importantly. Fifth, there was always a political constraint on reform; the basic political system of China was not

2 Speech by Deng Xiaoping at the closing ceremony of the CPC Central Committee's working conference held on December 13, 1978. *Selected Works of Deng Xiaoping*. Volume III (Beijing, People's Publishing House, 1994).

3 Chen Yun addressed a CPC Central Committee's working conference in December 1980, pointing out that "we must make reforms, but the pace must be steady...we must summarize experience at any time, that is to say, 'crossing the river by feeling the stones'..." Chen Yun, *Selected Work of Chen Yun*, 2nd Edition, Volume III, page 279 (Beijing, People's Publishing House, 1995).

4 Speech by Deng Xiaoping at the closing ceremony of the CPC Central Committee's working conference on December 13, 1978. *Selected Works of Deng Xiaoping*, op cit.

to be harmed, and social stability not to be undermined.<sup>1</sup>

Later in this chapter, and further in Chapter III, this report presents a series of case studies of reform that illustrate ways in which these principles have been put into action. Reform in China has been guided by these principles, whether in the first phase of implementation of the household contract responsibility system<sup>2</sup> to incentivize agricultural production, the variations and adjustments as reform expanded into the urban economy, and as the Chinese government allowed and encouraged the development of individual and private enterprises in order to absorb surplus labor that was being freed by reform of the command economy, thus introducing the non-public-owned economy into the country. Another major area of reform was promoting the development of the energy industry during the 6th Five-year Plan period starting in 1981 and the 7th Five-year Plan period commencing in 1986 to address energy shortages.<sup>3</sup> With regards to Opening Up in this period, China began to build its export-oriented development

model to address the shortage of foreign exchange.

By the start of the 21st century, productivity had improved significantly and the shortage economy had come to an end. In this period, however, a widening gap gradually emerged between urban and rural areas, between different regions and between different population groups and problems with social development began to loom large.<sup>4</sup> In this context, the Chinese Government enacted a strategy of “industry will support agriculture and the cities will support the countryside” reversing the previous pattern in order to reduce gaps and promote social development. In the wake of the 2012, 18th National Congress of the CPC, a human-centred development concept was proposed, striving to resolve all types of imbalances while sustaining economic development.<sup>5</sup>

From this brief description, it is clear that China did not follow a blueprint or top-level design for reform; rather, it has followed a pragmatic problem-oriented pathway to consistently deliver a critical mass of policy measures in response to a broad range of evolving economic and social conditions. The combination of long-term and

1 Speech by Deng Xiaoping on “adhering to the four cardinal principles” on March 30, 1979. *Selected Works of Deng Xiaoping*, op cit.

2 The household responsibility system established in the early 1980s shifted agricultural production from collectives to households by allowing households to contract land, machinery etc. from collective units, make operating decisions independently and sell surplus production once their quotas had been met. See Case Study 3.1.

3 Summaries of the 6th and 7th Five-year Plans available at: [http://www.ndrc.gov.cn/fzgggz/fzgh/ghwb/gjjh/200506/t20050613\\_7523.html](http://www.ndrc.gov.cn/fzgggz/fzgh/ghwb/gjjh/200506/t20050613_7523.html)

4 See discussion of inter-regional human development gaps, and their evolution over time, in Section 1.3.

5 Research Institute of Party History and Documentation of the CPC Central Committee, “People’s Daily publishes ‘Forty Years’ of the Events of Reform and Opening Up”, 17 December, 2018. Retrieved from: <http://www.dswxyjy.org.cn/n1/2019/0625/c428038-31193696.html>

short-term goals (see Section 2.1.3) was also a key factor in supporting sustained improvements in human development. All endeavors, from the practice of “crossing the river by feeling the stones” in the early stage of the Reform and Opening Up to the recent emphasis on the need to “try and pioneer boldly”, have demonstrated this basic approach.<sup>1</sup>

### **2.1.3 The role of long-term planning: The Xiaokang Society Vision, the Three-step Development Strategy and the Five-year Plans**

Influenced by the political system and the long-term reliance on planned economy institutions, China’s development in the Reform and Opening Up era has been characterized by a considerably stronger central planning function that is found in a majority of countries over the past four decades. Setting and developing a proper role for planning while market forces are introduced and given a major role in shaping the economy has been a challenge in most former planned economies, one which many have struggled to solve. China’s experience in this respect is an extremely interesting case.

The Xiaokang Society vision has been present constantly in Chinese political and

policy discourse since the 1980s, and the significance of the current position that in 2020 the goal of achieving an “all-around Xiaokang Society”, and that China will move on to other more ambitious goals in the following decades, cannot be overstated. The term “Xiaokang Society” appears frequently in this report. See Box 2.1 for a description of this important term for understanding recent Chinese history.

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1 CPC Newsnet, “General-Secretary Xi’s ‘Be bold and try to reform independently’ continues the spring story”, 6 March, 2014. Retrieved from: <http://cpc.people.com.cn/pinglun/n/2014/0306/c241220-24548989.html>

### Box 2.1 The Xiaokang Society Vision

Moderately prosperous/well-off society are common translations of the phrase Xiaokang Shehui, a phrase that has been used by the Chinese government throughout the 40 years of the Reform and Opening Up to capture in a vivid way, rooted in China's traditional culture, the development goals toward which China has been striving. Initially linked explicitly to targeted growth in income, over time the phrase has evolved, and in its currently most widely used form "an all-around Xiaokang Society" captures the Chinese Government's broader goals of modernization and elimination of poverty by 2020.

Xiao (small, pronounced 'she-yow') kang (well-being, health, rhymes with "pong" as in "ping pong") is an ancient term used in the *Book of Songs* and the *Book of Rites*, two classic Confucian texts, to refer to a peaceful social order that is not the perfect society ("datong") envisioned in Confucianism, but an important stage along the way there.<sup>1,2</sup>

The concept of Xiaokang first became part of modern Chinese political thought when Deng Xiaoping used it in remarks while meeting the Japanese Prime Minister Ohira Masayoshi on December 6, 1979. After noting that China's conception of modernization was different from Japan's and did not aim to achieve high levels of economic development immediately, Deng added that "Our concept is (the life of) a Xiaokang family", that is, a family that is economically comfortable, and that "China would still be in Xiaokang status" by the end of the 20th century. Further tying the concept to economic development, Deng stated in 1984 that "Xiaokang means that, by the end of this century, our per capita GDP reaches 800 dollars,"<sup>3</sup> i.e. a fourfold increase over the roughly USD 200 per capita GDP of 1978. It meant that the most basic subsistence needs of the population: food to eat and clothing to wear, should be met.

In fact, that first Xiaokang goal was achieved by 1998, and was subsequently reformulated in a more ambitious phrase, usually translated as "build a moderately well-off society in an all-round way", or "in all respects". This term was highlighted in a speech Party General Secretary Jiang Zemin gave titled "Build a Xiaokang Society in an all-round way and create a new situation in building socialism with Chinese characteristics" at the 16th National Congress of the Chinese Communist Party in 2002<sup>4</sup> and was set as a development goal under Jiang's successor, General Secretary Hu Jintao, in the 11th and 12th Five-year Plans. The phrase also

1 Delia Lin, *Civilizing Citizens in Post-Mao China: Understanding the Rhetoric of Suzhi* (London and New York, Routledge, 2017).

2 A.H.Y. Chen, "The concept of 'Datong' in Chinese philosophy as an expression of the idea of the common good", In: D. Solomon & P. Lo, eds., *The Common Good: Chinese and American Perspectives. Philosophical Studies in Contemporary Culture*, vol 23(Springer, 2014).

3 China Daily, "All about Xiaokang". 10 November, 2002. Retrieved from: [http://en.people.cn/200211/10/eng20021110\\_106598.shtml](http://en.people.cn/200211/10/eng20021110_106598.shtml).

4 Permanent Mission of the People's Republic of China to the UN, "Chinese President Jiang delivers report to CPC National Congress", 8 November, 2002. Retrieved from: <http://www.china-un.org/eng/hyyfy/t27941.htm>



appeared in the preamble to the revised text of the Constitution of the Chinese Communist Party adopted in 2012.<sup>1</sup>

Under Hu Jintao, the Xiaokang vision was seen as embodying a shift away from prioritizing GDP growth and towards addressing poverty and the inequalities and conflicts whose emergence had accompanied rapid economic growth. It was recognized that China had entered into a new phase of development and that a more balanced development approach was needed to address the challenges of this era.

The Xiaokang vision continues to have a central place in development policy under current Party General Secretary Xi Jinping. Xi's work report at the 19th National Party Congress in October, 2017, in which his position as Party leader was extended for another five-year term, was entitled "Secure a Decisive Victory in Building a Xiaokang Society in All Respects."<sup>2</sup> Xi called for intense efforts in three key 'battles' in the period leading up to the realization of the Xiaokang goal in 2020: eliminating extreme poverty, controlling pollution, and reducing financial risks.

China's leadership thus see 2020 as a pivotal year, the year by which China will realize the Xiaokang vision that has been guiding the Party for the first 40 years of the Reform and Opening Up. After 2020 China will turn toward new long-term goals that Xi Jinping also presented in 2017; by 2035 basically achieve the key goals of socialist modernization, and by 2050 become a "great, modern, socialist country."<sup>3</sup>

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1 The official English Translation of the CPC Constitution is available here: <http://english.cpc.people.com.cn/206972/206981/8188087.html>

2 Xi Jinping, "Secure a decisive victory in building a moderately prosperous society in all respects and strive for the great success of socialism with Chinese characteristics for a new era", Report to the 19th National Congress of the Communist Party of China, 18 October, 2017. Retrieved from: [http://www.xinhuanet.com/english/download/Xi\\_Jinping's\\_report\\_at\\_19th\\_CPC\\_National\\_Congress.pdf](http://www.xinhuanet.com/english/download/Xi_Jinping's_report_at_19th_CPC_National_Congress.pdf)

3 Xinhua, "China focus: Xi unveils plan to make China 'great modern socialist country' by mid-21st century", 18 October, 2017. Retrieved from: [http://www.xinhuanet.com/english/2017-10/18/c\\_136688933.htm](http://www.xinhuanet.com/english/2017-10/18/c_136688933.htm)

That said, the Xiaokang concept is flexible and has therefore evolved over time. One revealing example of the role of very concrete long-term planning in China's policy making in the last forty years has been the pursuit of the "three-step" development strategy. It is linked to the Xiaokang vision, but is more specific.

In October 1987, the 13th National Congress of the CPC presented the three-step strategic plan for China's economic construction.

- In the first step, the issue of basic subsistence was to be addressed through the doubling of the 1980 real GNP by 1990;
- In the second step, real GNP would double again in the period from 1991 to the end of the 20th century, to achieve a basic Xiaokang Society;

- In the third step, China would become relatively wealthy and achieve modernization by the middle of the 21st century with China's per capita GNP reaching the level of moderately developed countries.

These overarching goals set the framework under which a series of national Five-year plans were formulated. The full name of these documents is "Five-year Plan" (later "programme") for China's Economic and Social Development". These plans, whose name changed in 2006 from "plan" to "guideline" or "programme" for the 10th Five-year Programme set a broad-reaching array of targets for government offices in economic, environmental, social and other sectors, and, as the economic role of market forces has steadily expanded, have retained great importance in shaping government policy at all levels. See Box 2.2.

### Box 2.2 China's Five-year Plans

China's Five-year Plans (FYP), formally the "Five-year Plan for China's Economic and Social Development", are a blueprint for the country's social and economic policy directions over the five-year period covered by the Plan. The role of the Five-year Plan has shifted considerably as "socialism with Chinese characteristics" has developed.

After the founding of the People's Republic of China, China's leadership adopted the planned economy model of the Soviet Union. One of the characteristics of this model was the development of a unified economic plan for the entire country and the government of China issued its first Five-year Plan for the 1953-1957 period. These plans included a slew of hard targets for outputs of a broad range of intermediate and final products.

The 6th Five-year Plan (1981-1985) was the first fully completed in the Reform and Opening Up period. After this point, the plans began their shift from economic planning documents to



what one scholar has termed “public affairs governance” documents.<sup>1</sup> While planning in the Mao era had been used as a substitute for markets, now the orientation was to “take markets as the foundation”, i.e. to plan with and for markets.<sup>2</sup>

The 10th Plan (2001-2005) eliminated the use of hard economic targets entirely, but consolidated the role of five-year planning in policy guidance. Hard targets were reintroduced in the 11th (2006-2010) and 12th (2011-2015) plans as “government promises” for things like social service provision and environmental protection. This shift was reflected in the change in name of the 11th and subsequent Five-year Plans from *jihua* to *guihua*, both of which are translated into English as plan, but *guihua* implies higher-level, more flexible coordination without the command economy implications of hard target *jihua* planning.<sup>3</sup>

The process for developing the 14th Five-year Plan is already underway. The National Development and Reform Commission (NDRC) is in charge of coordinating the planning process. Mid-term reviews of the previous plan feed into the development of the next plan. Recommendations on areas of focus are sought from government ministries and sub-national governments who in turn seek input from academics, industry experts and think tanks and even from the general public via microblogging sites. NDRC submits a report on these recommendations to the Central Committee, which in turn selects the key areas for the plan based on these recommendations and NDRC finalizes the plan.<sup>4</sup> The National People’s Congress will endorse the plan in early 2021, after which detailed sectoral (e.g. the 14th FYP for energy) and regional plans are formulated based on the principles and targets set out in the Plan.<sup>5</sup>

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1 Hu, Angang. “The distinctive transition of China’s five-year plans”, *Modern China*, vol. 39, No. 6 (November, 2013).

2 S. Heilmann & O. Melton, “The Reinvention of development planning in China, 1993–2012”, *Modern China*, vol. 39, No. 6 (November, 2013).

3 Ibid.

4 China Daily, “What are China’s five-year plans?”, 29 October, 2015. Retrieved from: [http://www.chinadaily.com.cn/china/2015cpcplenarysession/2015-10/29/content\\_22311061.htm](http://www.chinadaily.com.cn/china/2015cpcplenarysession/2015-10/29/content_22311061.htm)

5 Tom Baxter & Yao She. “The 14th Five-year Plan— What ideas are on the table?” *China Dialogue*, 7 August, 2019. Retrieved from: <https://www.chinadialogue.net/article/show/single/en/11434-The-14th-Five-Year-Plan-what-ideas-are-on-the-table->

China attained the first strategic goal of doubling real GNP by the end of the 1980s as aimed for. The strategic goal of doubling it again was achieved in 1995, five years earlier than targeted.<sup>1</sup>

Having achieved the goal of building a Xiaokang Society by the end of the century, in 2002 the 16th National Congress of the CPC set a new goal of building a “comprehensive Xiaokang Society” by further quadrupling 2000 real GNP by 2020 (See Box 2.1). Subsequently, the 17th National Congress of the CPC added further requirements and the 18th National Congress of the CPC convened in 2012 emphasized the goal of “securing a decisive victory in building a Xiaokang Society in all respects” by 2020.

In 2017, the 19th National Congress of the CPC stated that as socialism with Chinese characteristics has entered a new era, and the principal contradiction facing Chinese society has evolved into one between “unbalanced and inadequate development and the people’s ever-growing needs for a better life”. In response, the CPC proposed a new two-stage strategy for development beyond 2020. In the first stage from 2020 to 2035, China is to build on the foundations created by the achievement of a moderately prosperous society to realize socialist modernization through 15 more

1 People.net, “The formation and main contents of the strategic target of ‘Three Steps’ in China’s economic development”, 4 July, 2001. Retrieved from: <http://www.people.com.cn/GB/jinji/31/179/20010704/504063.html>

years of effort. In the second stage from 2035 to the middle of the 21st century, China, having basically achieved modernization, will spend another 15 years to develop into a great modern socialist country that is “prosperous, strong, democratic, culturally advanced, harmonious, and beautiful”.<sup>2</sup>

#### **2.1.4 First economic development and then comprehensive social development**

The concept of development in China has changed significantly over the 40 years of the Reform and Opening Up. In the initial stage of this period, development was guided by the concept of “one central task and two basic points”.<sup>3</sup> In fulfilling the central task of economic development, China adopted the practice of efficiency first and equity second during the 1980s and 1990s.<sup>4</sup> In 2003, for the first time, the Third Plenary Session of the 16th Na-

2 Government of the People’s Republic of China, “Selected topics of 19th National Congress of the CPC”, 18 October, 2018. Retrieved from: [http://www.gov.cn/zhuanti/2017-10/18/content\\_5232637.htm](http://www.gov.cn/zhuanti/2017-10/18/content_5232637.htm)

3 This statement refers to economic development being the central task of the government, and the two basic points are (1) the four cardinal principles (the socialist road, the people’s democratic dictatorship, the leading role of the Party, and Marxism-Leninism-Mao Zedong Thought), and (2) the policy of the Reform and Opening Up guiding development. See: China.org.net, “1987: One central task and two basic points”, 16 September, 2009. Retrieved from: [http://www.china.org.cn/features/60years/2009-09/16/content\\_18535066.htm](http://www.china.org.cn/features/60years/2009-09/16/content_18535066.htm)

4 NDRC, “Establishing the socialist market economy system”, n.d. Retrieved from: [http://www.ndrc.gov.cn/fzgggz/tzgg/zhdt/200812/t20081231\\_254407.html](http://www.ndrc.gov.cn/fzgggz/tzgg/zhdt/200812/t20081231_254407.html)

tional Congress of the CPC set forth the guideline of promoting comprehensive socio-economic and human development. On that basis, the Fifth Plenary Session of the 16th National Congress of the CPC went further, promoting the concept of scientific development in 2005. The 17th National Congress, held in 2007, further elucidated the concept of scientific development, highlighting people-centred and comprehensive, coordinated and sustainable development. The Fifth Plenary Session of the 18th National Congress of the CPC, held in October 2015, expounded the new development concept of “innovation, coordination, green development, opening-up and sharing”. This brief outline of the high-level policy statements on development illustrates how the CPC and the Chinese government has expanded its understanding of the practice of development through the Reform and Opening Up period.

These changes in the understanding of development illustrate the fundamental logic of the approach to development and the practice of the Reform and Opening Up.

One key issue in the theory and practice of economic development has been setting and adjusting the proper relationship between the government and the market. In some periods, the role of the market was emphasized more, while in other periods, government took a more prominent role. In all periods, countries have tried to

delimit boundaries between market and government.

In most market economy countries this has been an extended, gradual process. We can think, for example, of the history of monopoly regulation in the United States and Europe, with twists and turns covering well over a century since the US passed its first antitrust law in 1890, and where today there are still impassioned debates about regulating internet companies, and others. In the Reform and Opening Up era, China has also been going through a continual process of adjusting the relationship between market and government but at a much more intense pace and in a much more compressed timeline.

China's starting point in 1978 was a planned economic system that had been in place for nearly 30 years. Under that system, almost all aspects of economic and social life were subject to government control while the opportunity for individuals to realize their potential was greatly restricted. In response to this situation, the direction and logic of China's development after the launch of the Reform and Opening Up was the exploration of ways to gradually introduce and expand the role of the market mechanism so that individuals' initiative and motivation could be given greater scope while also improving the government's role under the market mechanism.

In practice China's reform has gone

through two stages. The first stage lasted from the beginning of the Reform and Opening Up to the end of the 20th century, during which time the focus was to loosen the system so as to provide each individual in society with development opportunities and unleash individual capacity. The dominant position at this stage was to encourage individuals to fully use their initiative in the market so that “some people get rich first”, a dramatic reversal of the previous egalitarian ethos. In developing the government-market relationship, and based on strong government, China gradually identified areas where the market could play a role and where the beneficial and effective influence of the market mechanism on development could be tested.

As government control eased and the positive role of the market mechanism was confirmed, speeches made by Deng Xiaoping on his Southern Tour in 1992 and the subsequent 14th National Congress of the CPC established the goal of developing a socialist market economy in China, defining the framework within the Reform and Opening Up were to be pursued. This formally clarified the practice of introducing market mechanisms into China on condition that socialism was still to be maintained. The relationship between government and market shifted from one with a leading role for central planning (government) with the market playing a supplementary role to one in

which both were seen as equally necessary and important. In this period, the meaning of development was still largely centred around economic development. Attention to improvements in social development, for example in the education and healthcare sectors, was insufficient, and environmental sustainability was an even lower priority.

The second stage of the Reform and Opening Up has covered the years from the late 1990s to the present. During this time there has been considerable exploration of the demarcation between government and market based on an assumption of equality between the two. In response to the inadequate exercise of government oversight during excessive marketization in the 1980s, particularly in social sectors, there has been considerable discussion about reasonable levels of government intervention, and what the scope of modern government responsibility looks like. Major events during this period included deepening educational reform, the relaunching of health reform, regulating income distribution, promoting social fairness and justice, increasing support to rural areas and strengthening assistance to underdeveloped areas and vulnerable populations. The definition of government social responsibilities has also expanded from ensuring people’s access to the “five benefits”, i.e. education, employment, medical services, elderly care and housing, to the “seven benefits” defined at the 19th Party

Congress in 2017, i.e. childcare, education, employment, medical services, elder care, housing, and social assistance.

## 2.2 Understanding China's reform experience

Reform in China over the past 40 years has been a dynamic social experiment impacting virtually all aspects of the lives of the largest population in the world. Limited by the length of this publication, this section summarizes only the key reform experiences that have had a wide-ranging impact on the economic and social development of the country, with a view to identifying critical aspects of China's development over the past four decades.

### 2.2.1 Was the reform top-down or bottom-up?

In China, one of the contentious issues in discussions about reform has been whether it has been a top-down or bottom-up process. This report has emphasized in several places the leading role that the CPC played in shaping the reform agenda throughout the last 41 years, which may give some readers the impression of a tightly controlled top-down system of implementation of the reforms. However, a close look at China's reform experience shows that while there have been some measures that have been implemented in a top-down manner, all the major practices that have been decisive in driving Chinese

reform have been piloted and rolled out in a bottom-up manner. The creation of the household contract responsibility system that jumpstarted rural reform and the introduction of private enterprise, represented by the Fool's Sunflower Seed, that ushered in urban reform are both good examples of the interaction between top-down and bottom-up reform processes.

**i. The Household Contract Responsibility System** (see Case Study 3.1 in the following chapter for more details on this reform and on agricultural reforms in general)

China established a people's commune system in rural areas in 1958. The system was based on the collective ownership of land at the village level; farmers labored together; their income was distributed equally and agricultural products were procured and sold by the state. After the establishment of the system, there were farmers and local officials in some locations who tried to innovate, usually by returning to household-based production, during this planned economy period. They won support from Deng Xiaoping and Chen Yun, but three large-scale attempts to move ahead with such measures were stopped by the forces that championed collectivization.

During the first phase of the Reform and Opening Up era in 1978, the Chinese government's rural policy was to stabilize and improve the existing collective economic

system. Household management was not allowed. Meanwhile, the Chinese Government significantly raised the purchase price for agricultural products<sup>1</sup> under a system of grain quotas. Grain in excess of the quota were purchased at prices 50% higher than normal. However, due to natural disasters in 1978 and the resulting poor harvest in some regions, some grassroots experiments began to allocate farmland to farming households and allowed them to manage the farming on that land themselves in provinces such as Anhui. The households accepted a contractual obligation to sell a certain amount of grain to the state at a fixed price, but could keep any additional earnings from their labors. This reform was very controversial at the time, but the central government did not suppress it and instead permitted these experiments to proceed.

By 1981, the areas that had put in place the household contract responsibility system had seen dramatic growth in grain yield and farmers' incomes, and this reform was indisputably successful according to the criterion of "developing productive forces". As a result, the household contract responsibility system began to be rolled

out across the country in 1982.<sup>2</sup>

This "incremental reform" approach helped ensure the smooth adoption of the household contract responsibility system.<sup>3</sup> First, an incremental approach to land rights meant that ownership remained with the collectives and did not change, but the use rights and rights to benefit from the land were transferred to farmers. This practice of separating ownership from use rights (management rights) and rights to income was not only an innovation based on national conditions in China, but also proves that the development of a market economy did not necessarily necessitate the adoption of private land ownership.

Later development experience indicates that this distinctive land system, in conjunction with the household registration system<sup>4</sup> (often referred to by its Chinese

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2 As the reform unfolded across the country, the total production of grain in China had an annual average growth rate of 7.8% from 1982-1984, with the per capita net income of farmers growing from CNY 133.6 in 1978 to CNY 355 in 1984, representing an annual average increase of 16.5%. In the same period, the income gap between urban and rural areas began narrowing.

3 Wang Mengkui, ed. *Thirty Years of China's Reform*, (China Development Press, 2009).

4 See Box 3.1 for a more detailed discussion of this system. The household registration or hukou system divides households in China into rural or urban households. It was originally set up to prevent rural to urban migration and later when rural migrants were allowed into the cities to work, it effectively barred non-local people from access to subsidized housing, education and other benefits. It is currently in the process of being reformed. See: KW Chan, "The household registration system and migrant labor in China: notes on a debate", *Population Development Review*, vol. 36, No. 2 (2010).

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1 Grain prices were hiked by 20%.



name-*hukou system*) implemented in 1958, became an important institutional safeguard that prevented the loss of land by large numbers of farmers and helped China avoid the large-scale urban poverty that many other countries have experienced while undergoing rapid urbanization. The *hukou system* has been one factor that has maintained a structural gap between urban and rural human development levels, and created a “floating population” of rural to urban migrants who do not enjoy equitable access to public services in their new urban homes. However, by maintaining the links between the migrants and their rural places of origin, and specifically by maintaining their rights to their land, it helped rural migrant workers weather the 2008 global financial crisis, although they were also exposed to economic downturns.

## ii. Debating the private economy: The Idiot’s Sunflower Seeds Company

The greatest change in China’s urban areas since the inception of the Reform and Opening Up is the gradual development of the non-public sector economy in a country where the economy was previously almost 100% state-run. A turning point in the development of the non-public sector was the development of a private business named the “Idiot’s Sunflower Seeds”. In the 1950s, driven by the rapid development of “public-private joint operations”, private enterprises that had previously been operating in China gradually turned into state-owned or collective

enterprises. By 1978 at the beginning of the Reform and Opening Up period, private enterprises had almost disappeared in China and there were only a limited number of individually-owned businesses.<sup>1</sup> It was these individual businesses that triggered the development of China’s private economy.

Two reasons led to the development of individual businesses in urban areas at that time. The first was the return to cities of a large number of Educated Youth who had been sent down to the countryside during the Cultural Revolution at the same time that urban unemployment was quite high due to the slow economic development during that period. There were 20 million unemployed young people in the urban areas in 1978 and hidden unemployment was even worse in rural areas.<sup>2</sup> Given these factors, the Chinese government began to legitimize small-scale commercial or industrial businesses owned and operated by individuals to address unemployment. Second, inspired by the rural reform, the Chinese government permitted some individual businesses that had been closed to resume operations. There were approximately 150,000 individual businesses in

1 Relevant data show that there were approximately 178,000 individually-owned commercial service shops (points) across China in 1978. Wu Xiaoding, Shi Xiaofeng, Meng Yanhua, “The history and current characteristics of the individually-owned commercial service shops in China”, *Commercial Times*, vol. 15 (2008).

2 Zhou Tianyong. “Why did we opt to reform and open up thirty years ago?”, *Party Building Collection Monthly* (October, 2018).

the cities in 1978; this number surged to 868,000 in 1981 employing 1.13 million people. In the same year, the number of individual businesses in rural areas was 961,000 employing 1.218 million people. By 1986, the number of individual businesses across the country has reached 10 million, employing 20 million people.<sup>1</sup>

This did not happen without controversy. One of the concerns was over “exploitation”. In July 1981, the State Council issued the document *Several Policy Provisions on Non-agricultural Individual Economy in Urban Areas* which clarified that individual businesses may employ one or two assistants but take on no more than 5 apprentices and engage in the handicraft, commercial, catering, transportation and repair industries.<sup>2</sup> However, as the individual economy grew, large industrial and commercial businesses that employed more people than stipulated, namely, de facto private enterprises, emerged. This led to a conflict between reality and policy. Whether private enterprises with a relatively larger number of employees should be allowed to develop became the focus of policy debate at that time. In Anhui Province, in particular, an enterprise processing and selling sunflower seeds called “The Idiot’s Sunflower Seeds” em-

ployed as many as 100 people, making it a focus for policy concern. In response to the debate, Deng Xiaoping stated in 1983 that the issue should be “shelved for two years” to assess its results.<sup>3</sup> The Chinese Government continued this practice with respect to large industrial and commercial businesses. The document *Several Issues on Current Rural Policies* issued in 1983 specified a Three Don’ts policy with respect to large industrial and commercial businesses: “Don’t promote; Don’t publicize; and Don’t crack down in a hurry”. This approach allowed the private sector in the form of large individually-owned industrial and commercial businesses to develop, providing an institutional safeguard for the private economy to thrive. Since then, the private sector continued to increase in importance and today it has become an important part of China’s economy. According to Gao Yunlong, head of the All-China Federation of Industry and Commerce, the private sector contributed more than 60% of China’s GDP growth and brought half of China’s fiscal revenue in 2017. At the end of 2017, there were 65.79

1 Zhang Houyi, Ming Lizhi, *China Private Enterprises’ Development Report (1978-1998)*. (Beijing, Social Science Academic Press (China), 1999)

2 Wu Jinglian, *China’s Economic Reform in the Contemporary Times* (Shanghai, Far East Publishers, 2008).

3 Deng Xiaoping touched on the debate triggered by the Fool’s Sunflower Seed company, saying that “Many people were not comfortable then, proposing to crack down on him for he earned 1 million yuan. I said that we couldn’t do that, for people would say that our policy had changed if we did it, and that wouldn’t be worthwhile.” “My opinion was to shelve it for two years and see the results. Would that affect the general picture of our reform?” *A Collection of the Works of Deng Xiaoping*, Volume III, page 91, op cit.



million individually-owned businesses and this number is only 0.15 million in 1978.<sup>1</sup>

### 2.2.2 The comprehensiveness of the Reform

The Reform involves adjustment and changes in many areas. However, given the relatively limited capacity of the government, after understanding and addressing the major contradiction of the era, it is impossible to address all aspects of that contradiction. This pattern can be found throughout the history of the reform era, where the government focused its efforts on major issues, set overall guidelines, and allowed local authorities considerable flexibility to deal directly with their other challenges. An example of this can be seen in the reform of state-owned enterprises (SOEs) in the 1990s, which is discussed in detail in the next chapter.

Due to the China's specific national conditions, SOEs have always played an important role in China's economic growth. Even today, SOEs in China enjoy strong momentum. The majority of China's Fortune 500 companies are SOEs. This has not always been the case, but is a result of many difficult reforms. In the 1980s and 90s, the reform of SOEs was one of the top

three priorities of China's economic reform process.<sup>2</sup>

Reforming SOEs was an enormously challenging process; it affected the lives of millions of people, and the risk of disruption of supply of the key products and services that SOEs provided was always present. The process by which the reforms took place reflects the high degree of attention and care that the government paid to this sector, as readers can see in the next chapter.

The comprehensiveness of the reform process can be seen from the way in which SOE reform led directly to even more profound reform questions of the structure of the government. Once previously state-managed sectors, with thousands of large enterprises, were marketized, a fundamental shift in government management of the economy was needed. Therefore, China forged ahead with the restructuring of government institutions. To quote a description by one of the key figures in that reform process:<sup>3</sup>

The year 1998 marked a sweeping overhaul of government institutions. The number of ministries and commissions directly under the State Council was cut from more than 40 to 29. Most economic management departments (they used to

1 China Daily, "China's private sector contributes greatly to economic growth: federation leader", 6 March, 2018. Retrieved from: <http://www.chinadaily.com.cn/a/201803/06/WS5a9e7735a3106e7dcc13fef8.html>

2 The other two important reforms were the reforms to the dual-track price system (i.e. whereby some goods were sold at government-set prices and some at market rates) and reform of the macro-economic management system.

3 Wang Mengkui, *Thirty Years of China's Reform* (China Development Press, 2009).

exercise the right of investor representation and public administration on SOE boards) in charge of domestic trade, coal, machinery, metallurgy, petrochemical, light industry, textile, construction materials and nonferrous metals were revamped into national administrations under the State Economic and Trade Commission. Over 200 functions and responsibilities of departments under the State Council were delegated to enterprises, intermediary organizations or local governments. Meanwhile, for-profit enterprises run by the military, armed police, and administrative and judicial organs were handed over to local governments. Party and government organs handed over their own economic entities to other organizations. National administrations under the State Economic and Trade Commission alone handed over 168 colleges and universities to the Ministry of Education or local authorities, and 242 research institutes were transformed into enterprises. In late 2000, nine national bureaus under the former State Economic and Trade Commission were abolished. In the latter half of 2001, the reform of the administrative approval system focused on reducing the number of administrative examination and approval projects. A total of 4,147 projects were cancelled by 65 relevant departments under the State Council. Local governments at all levels were also involved in institutional reform and administrative approval system reform.

The sweeping and expansive institutional reform that prioritized the separation of government functions from enterprise operations, and the transformation of government functions and the administrative approval system reform launched in 1998 was unprecedented. During this period, a special inspection delegate system for large SOEs was established, which later evolved into external boards of supervisors. In February 2000, the State Council issued the Interim Regulations on the Boards of Supervisors in State-Owned Enterprises. During this period, the central government also intensified the policy of state-owned enterprise reform in Northeast China. By the end of 2000, these policy measures and reforms had reduced the number of large and medium-sized state-owned industrial enterprises from 6,599 to 4,319, and the goal of extricating most money-losing large and medium-sized state-owned industrial enterprises out of their predicament in three years was basically completed.

This practice of “grasping the big and letting go the small” is also reflected in the subsequent sectors subject to reform, as the focus moved from economic base to superstructure. One of the criticisms of China’s development over the past 40 years has been that too much emphasis was put on economic growth in the first 20 years of reform neglecting social and ecological development. It was not until 20 years into the Reform and Opening Up

period that China began to think about livelihoods in a more inclusive manner. Yet, in fact, this practice demonstrates the pragmatism of China's reform: when sweeping breakthroughs are impossible, reform will prioritize the solution of key issues.

### **2.2.3 Gradual reform process to manage the transition to a market economy**

Many former centrally planned economies countries in or closely linked to the former Soviet Union took a rapid, comprehensive approach to their transition in the years of the late 1980s and early 1990s, one that in some countries was labelled "shock therapy". In comparison, China's reform approach has been gradual. The Chinese leadership saw the complexity of the issues and their interlinkages, and recognized that too rapid change would pose the risk of a very negative impact on the wellbeing of the Chinese people. They also understood that no policy could be successful if the capacity to implement it was not present, and that deep changes in their development concept and economic management model would require a period of adjustment, learning and gradual scaling up. This more gradual approach that the leadership adopted relied on piloting, encouragement of local level innovation, and a sustained effort to learn lessons from both successful practices and mistakes made during the reform process. The result of this gradual approach

to transition has been, in hindsight, an extraordinarily rapid and sustained surge in China's economic and human development.

### **2.2.4 Elimination of the Dual-Track Price System and the approach to Opening Up**

Many formerly planned economies took a "big bang" approach to price liberalization and the elimination of quantitative output targets for producers. The theory was that only such an approach would send the right price signals to producers and consumers, and that price controls and quantitative targets would continue to impose distortions. However rapid liberalization often resulted in a traumatic transition period, during which their economies encountered a period with no effective coordinating mechanism until the market system evolved sufficiently. As a result, all Eastern European economies encountered a "transition recession". China took a different approach to price and output liberalization, seeking to attain a positive supply response from having price signals guiding economic activity while retaining, for a transition period, some stability in prices of basic commodities and inputs for consumers and businesses. This approach took the form of a dual-track price system that was established in the early years of the reform period. The first sector in which this approach was utilized was agriculture. Under this system, grain

production quotas were retained, and all grain sold under the planned or state-controlled scheme was procured and sold at a low price, ensuring a stable urban food supply and the ability to maintain low wages for urban workers, thus enabling steady progress in industrialization and the operation of the national economic system. At the same time, any grain exceeding the purchase quota could be sold for higher prices. Farmers could sell it to the state or put it on the market, increasing farmers' income and motivating them to increase production. The purpose of this innovative approach was to accomplish two potentially contradictory goals simultaneously: ensure supply of low-priced grain to urban markets while providing incentive to farmers to increase their production. The results were quite successful.

However, as time passed, this put increasing pressure on the state budget. In the 1980s, price reform became a core issue of China's macro-economic reform. The purpose of the reform was to replace the dual-track price system with a unified price system via the revamping of the economic system through price reform, moving to a more market-based system.

During the price reform, China applied different pricing methods to different types of products. Consumer goods and agricultural products with many varieties but with small output per variety were gradually sold at market prices. Widely-used con-

sumer goods<sup>1</sup> first were subject to price adjustments before being deregulated. The dual-track price system remained in place for important production materials such as steel, coal and important agricultural products, with state-set prices applied for planned production quantities while the portion exceeding the prescribed quota could be sold at market prices. However, because of the huge gap between the planned price and the market price, some people began to make use of the dual-track system to profiteer, resulting in public dissatisfaction. It also became difficult to meet procurement targets at the lower state prices. In this context, it was deemed necessary to replace the dual-track system with a unified system as soon as possible.

In the 1980s, while the dual-track price system was still in place, the government wanted to convert it into a unified price system as soon as possible. It even attempted to "dash ahead with price reform", i.e. complete price liberalization, in 1988. However, since the prices of many key products were still subject to state control, this practice triggered widespread fear of inflation among residents and did indeed

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1 These included urban non-staple foodstuffs (1982), vegetables (1985), cigarettes (1986) and Chinese liquor (1987).

lead to inflation,<sup>1</sup> leading to the failure of this attempt to establish a unified price system. In the early 1990s, as macro-economic patterns stabilized, resident income increased significantly and most key commodities became subject to market pricing. The government adopted measures such as raising the price of grain and subsequently liberalizing it as well as raising the planned price of coal and keeping it in line with market prices. Price reform of the main agricultural products and production commodities was able to be implemented without major market fluctuations and social upheaval. The lessons drawn from this experience of successful price reform was that forcing through reforms at inappropriate times will only cause economic and social upheaval and result in failure. See Case Study 3.1 for further details on how China liberalized the prices of grain and other agricultural products.

Turning from the Reform to Opening Up, a review of the experience of the Opening Up from 1978 to today shows that this process also has contributed significantly to China's development. It helped China address its early lack of foreign exchange and boosted productivity levels through the introduction of advanced production tech-

nologies and management experience. Meanwhile, it brought about dramatic changes in the behaviors and values of Chinese society, speeding up China's integration into the international community. An extremely important example of this approach has been China's use of special economic zones to pilot, learn lessons from, and then scale up opening to foreign investment, trade and business practices.

The Opening Up was a new experience for China, so policies were implemented incrementally. Table 2.1 gives an overview of the construction of special economic zones in China. As it shows, the Opening Up policies of which special economic zones became a core embodiment went through several phases, including exploration, deepening, institutional Opening Up and proactive Opening Up. At various stages, through the establishment of different forms of special economic zones, China has been accumulating experience and exploring ways to solve the specific problems of each period. See Case Study 3.9 for a more detailed discussion of the role of special economic zones in China's reform and human development.

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1 For example, during this period, pork prices surged by 50-60% and vegetable prices by 31.7%; the price of some cigarettes and liquor rose by more than ten times. Yang Jisheng, *Deng Xiaoping Era: Record of China's Reform and Opening-up* (Beijing, Central Compilation & Translation Press, 1998).

**Table 2.1 Overview of China's Special Economic Zones**

<b>Development Zone</b>	<b>Establishment</b>	<b>Goals</b>	<b>No.</b>
Special Economic Zone	1980	To bring in foreign investment, technology and management expertise	7
Economic and Technological Development Zones	1984	To bring in foreign investment in the manufacturing industry	219
High-tech Industrial Park	1988	To achieve high-tech innovation in industrialized development	168
Bonded Area/Tariff-Free Zone	1990	To develop international trade and logistics	14
Border Economic Cooperation Zone (BECZ)	1992	To develop the border economy	17
State-Level New Area	1992	To secure progress and transformation in regional economic growth	19
Export Processing Zone	2000	To regulate processing trade	63
Bonded Port Area	2005	To promote China's import and export trade	15
Comprehensive Bonded Zone	2006	To develop international transfer, distribution, procurement, intermediary trade and export processing	67
Pilot Zone for Comprehensive Reforms	2007	To build the socialist market economy system	12
Independent Innovation Demonstration Zone	2009	To promote the development of independent innovation and high-tech industries	17
National Key Development and Opening Up Experimental Zone	2012	To combine development with Opening Up	7
Pilot Free Trade Zone	2013	To enable high-level Opening Up (trade and investment liberalization/facilitation)	11
Pilot Programme for Innovation and Development of the Service Trade	2016	To advance the open development of the service trade	15
Pilot Zone for New Open Economy System	2016	To facilitate new cooperation modes of international investment	12

Source: National Bureau of Statistics, Ministry of Commerce and General Administration of Customs.



### 2.2.5 The reform of central-local relations

Chapter 1 of this report analyzes the evolution of inter-regional human development gaps over the 41 years of the Reform and Opening Up. One key factor that has shaped those trends, and the government's ability to respond to them, has been trends and reforms in central-local fiscal relations. As a large developing country with more than 30 provinces, autonomous regions and municipalities directly under the administration of the central government (i.e. with province-level status), a large territory and an enormous population, managing the relationship between central and local governments has always been a core issue in China's entire reform and development process, with large implications for the government's ability to promote human development.

One fascinating component of those relations, which is beyond the scope of this report, has been the ability of the Party and government to manage local leading cadres through the national personnel system, at every step training and promoting more educated and reform-oriented officials. Continual reform of the fiscal and taxation systems is another central component. As an important feature of China's economic reform, fiscal and taxation reform has played a crucial role in the reform and improvement of China's macroeconomic management system, laying the

foundation for the relationship between central and local governments, and directly providing institutional support for China to balance regional disparities.

After the Reform and Opening Up, China's fiscal system reform changed from a "each eats his own meal" (a system of dividing revenue and expenditure between the central and local governments) to a "tax-sharing system". The basic principle of the former system was to increase the autonomy of local governments through the decentralization of power and transfer of fiscal revenues. This was an important step by which the central government sought to motivate local governments in the early stage of the Reform and Opening Up in response to the pre-reform fiscal management system, which was fragmented and segmented, and was characterized by messy relationships between the main entities in the fiscal system, and weak revenue-raising and regulatory capacity.

In the initial phase of the reform period, China's new budget policy sought to rectify the problems of the previous system, by emphasizing decentralization. The new system was essentially a contract-based system, designed to provide strong incentives to state-owned enterprises (SOEs) and local governments to increase their profits and revenues. SOE profits were transferred at negotiated rates to the government authority they were managed by, creating considerable opportunity to retain very high proportions. Local gov-

ernments also had considerable ability to negotiate and manage the share of their revenues that were transferred to the center.

This approach was successful in incentivizing investment and growth, and local governments and SOEs accounted for the bulk of revenue growth in this period. However, one result was a sharp decline in the proportion of fiscal revenues available to the national government. Between 1985 and 1992, the proportion of central government spending in GDP fell from 8.6% to 3.7%, while its proportion of total fiscal revenue dropped from 38.4% to 28.1%.<sup>1</sup> The decline in central government revenue forced the central government to devolve many public services to local governments. Because there were still significant regional disparities in income, capacity to deliver education, medical care and other social services were distorted and the development disparity between regions further expanded. Local governments in the areas that were benefiting most from the Reform and Opening Up saw large improvements in their fiscal capacity, whereas those in less advantaged regions were facing a range of unfunded mandates, expenditure responsibilities in public service delivery that they were unable to finance.

As a result, China reformed its fiscal system in 1994 and put a new tax distribution

system into practice. On December 15th, 1993, the State Council issued the Decision about Implementing the Provincial Tax Distribution Financial Management System, which was implemented nationwide as of January 1st, 1994. The Decision mainly addressed three aspects: first, dividing central and local fiscal revenue; second, dividing central and local fiscal expenditures; and third, determining the amount of taxes returned to local governments from the central government. At the same time, China adopted the following as supporting measures for the tax sharing reform. First, the profit distribution system of SOEs was reformed. Starting from January 1st, 1994, SOEs had to pay income tax uniformly at the rate of 33% set by the country and two additional sets of tax, namely 27% and 18%. Second, the tax administration system was reformed. A value-added tax was proposed and the corporate income tax system was unified. Third, budget preparation methods were improved and budget constraints were hardened. Fourth, a treasury system and transfer payment system adapted to the tax distribution system were established, and fifth, methods of properly handling tax reductions and exemptions were put in place.

Another key component of the fiscal reform was the reform of the central-to-local fiscal transfer system, to allow the redistribution of revenues from wealthier areas to poorer. However, in order to win accept-

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1 China Statistical Yearbook, op cit.



ance of the whole package from wealthier local governments, this transfer system had a number of features that still favoured better off regions. It was a step in the right direction of a strong formula-based inter-governmental transfer system, but contained weaknesses that grew more prominent in the ensuing years.

The reform of the tax distribution system in 1994 was a milestone in the development of China's fiscal system. The system's implementation aimed to achieve a proper balance between decentralization of authority to give local governments the ability to respond to the needs of their local population, a core principle of market economy central-local fiscal relations,<sup>1</sup> and maintaining the capacity of the national government to fulfil its own mandates. It basically established a finance and taxation system suitable for the requirements of the market economy and regulated the financial distribution relationship between the central and local governments. After the reform, both the proportion of government fiscal revenue in GDP and that of central government fiscal revenue in national fiscal revenue have risen and remained stable.<sup>2</sup>

1 The classic statement of this view is in W. Oates, "Fiscal decentralization and economic development", *National Tax Journal*, vol. 46, No. 2 (June, 1993).

2 The proportion of national fiscal revenue in GDP rose from 10.7% in 1995 to 15.0% in 2000. The proportion of central fiscal revenue to national fiscal revenue has been maintained at around 50%. National Bureau of Statistics of China, "Annual Data", 15 September 2019. Retrieved from: <http://data.stats.gov.cn/easyquery.htm?cn=C01>

After the tax sharing reform, national financial resources were more highly concentrated in the central government. Local governments undertook more administration and approval authority, and were responsible for providing public services; however, the problem of unfunded mandates persisted and even worsened as responsibilities grew. Local fiscal capacity in most regions was inadequate to match its undertakings. Therefore, local governments, especially the ones below the county level, were largely constrained by their fiscal capacity, whether in terms of maintaining normal government expenditures at their corresponding level or pursuing effective local governance and development. This has led to a further number of problems; local government reliance on land sales to raise budget funds, arrears in payments to staff and service providers, and underinvestment in key public services.

As such, the Chinese government has made continuous improvements to the financial transfer payment system<sup>3</sup> which is a vital part of implementing the tax distribution system. In particular, the establishment and improvement of a general transfer payment system has changed the financial management system of "one-on-one" negotiation and

3 When the tax-sharing reform proposed the establishment of a central and local fiscal transfer payment system, it clearly stated that the central government would transfer 20% of total fiscal revenue to areas with low income levels to narrow the gap between regions.

“bargaining” between the central and local governments from before the tax distribution system reform, made the financial management system more systematic and rational and reduced the randomness in determining the amount of subsidies to local governments from the central government. For all these efforts, addressing the asymmetric status between the central and local government in administration and approval authority as well as financial resources remains outstanding, as evidenced by the gradual distribution of the financial resources to higher levels and actions taken to delegate administration and approval authority to lower levels.

In the face of the widening gap in local supply of public services due to different financial resources, the Chinese government proposed the concept of regional equalization of public services in 2005, and increased support for regions with weak financial resources. Since the 18th National Congress in 2012, the importance of regional equalization of basic public services has been re-emphasized and regarded as an important goal in promoting social construction. With the above efforts, the imbalance in local public service development that resulted from the reform of the tax distribution system which changed central-local relationship was gradually redressed.

### **2.2.6 Additional facilitating conditions for the reform**

China’s approach to the reform has helped to gradually resolve major challenges in different periods and continues to drive economic and social development. In addition to these strategies, there are some significant supporting practices or measures that ensure the effective implementation of reform policies. Among them, policy continuity, the competition mechanism among local governments and a Pareto improvement approach in the reform of specific issues deserve attention.

The “shock therapy” approach aimed to rapidly dismantle existing systems in socialist countries, weakening the power of the state and creating new systems on that basis. China’s experience was that this approach would undermine the macro-conditions for economic and social management. In contrast, China’s Reform and Opening Up emphasized improving the existing system initiated by the ruling party from the inside. The long-term political structure has secured a stable environment for policy formulation and implementation. The Party Congresses held every five years and regular plenary sessions provide institutional security for extending the research on and resolving major problems at different stages. Based on the guidelines established during the Party Congresses and plenary sessions, the government has not only ensured the identification of problems and imple-

mentation of measures to address those problems, but has also fundamentally safeguarded policy continuity and stability through the formulation of the Five-year Plans for national economic and social development.

In implementing reform initiatives, the Chinese government encourages local innovation and competition to ensure effective policy implementation and emergence of innovative models. For major issues, the central government has determined the direction and purpose of the reform while concrete implementation paths and operational models were left to local governments. This approach motivated local governments by delegating power and helps ensure that the policy was more aligned with local conditions on the ground. Respect for local initiative has been a basic principle throughout the Reform and Opening Up era. Competition between localities put pressure on local governments to solve problems and actively pursue development. This combination of incentives–rewards for good results and competition that punished failure–helped facilitate the effective implementation of central policies in local places.

The Chinese government recognizes that the adjustment of existing policies and systems will harm the interests of some. Therefore, the specific approach to advance a reform has often been to seek Pareto improvement, that is, to strive for

all people to benefit from the reform, so as to reduce resistance to the reform. For example, in the dual-track price reform the government was aware that government officials with the power to allocate scarce materials and commodities as well as businesses and individuals able to obtain these goods at low prices had vested interests in the old system. Or, compared to rural residents, urban residents had vested interests in transferring payments from low-priced goods and would be harmed when the prices of materials and commodities went up. Therefore, the government was very concerned with compensating vested interests during price reform. For example, each time the price of agricultural and by-products was raised, the government carefully calculated and increased price subsidies accordingly. When the dual-track price mechanism was first introduced, the market mechanism was adopted at the margin. Resource allocation efficiency was improved with increased social wealth while the continued existence of the planned price mechanism protected the beneficiaries who were used to low-priced goods under the old system.<sup>1</sup> This is why the dual-track system was able to be implemented without any strong resistance.

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1 Weiyang Zhang and Gang Yi, "China's gradual reform: a historical perspective" in C. A. Tisdell and J. C. Chai, eds., *China's Economic Growth and Transition* (New York: Nova Science Publishers, Inc., 1997) and L. J. Lau, Y. Qian, & G. Roland, "Reform without losers: An interpretation of China's dual-track approach to transition", *Journal of Political Economy*, vol. 108 No. 1 (2000).

China's Reform and Opening Up since 1978 has been systematic and comprehensive with many aspects worth discussing. However, it should be noted that these practices and strategies are closely related to China's national conditions, history and culture and discussion of the implementation of reform strategies needs to take this into account.

### 2.3 How the reform has advanced human development

The ultimate goal of development is human development; the enhancement of the capabilities of all individuals to lead the lives they wish. Everything else—economic development and social development, science and technology, and so on—are just means to that end. Human development also has a broader social meaning; building a society based on principles of equity and commonality that promotes the equitable development of all members of society and the overall development of all individuals. From this perspective, how did Chinese reforms contribute to human development in China? Here are two suggestions. First, rapid economic growth in China, managed well and inclusively with an eye on broader impacts on the lives of the population, indirectly supported progress in human development. Second, Chinese policy through the reform era offered very favorable conditions for three key factors of human development: acquiring oppor-

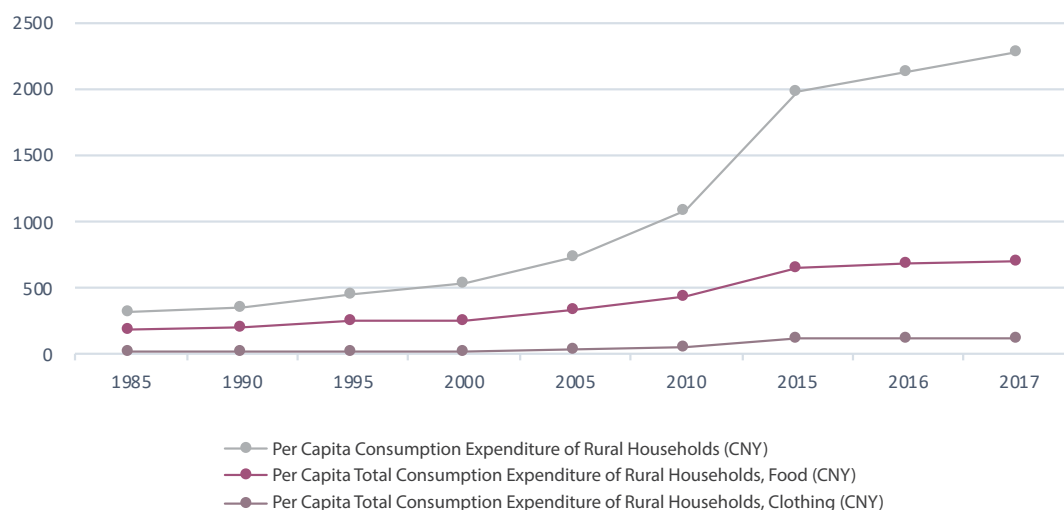
tunities, improving capabilities and the promise of sustainability.

#### 2.3.1 Economic growth and human development

Reform has delivered economic growth to China, but economic growth does not necessarily equate to human development. How China's economic growth led to improvements in human development is a vitally important topic for our analysis.

Although economic growth has dropped from an average annual rate of about 10% in the first 30 years to 7% since 2012, by any international standard China's economy over the past 40 years has grown rapidly. The broad-based economic growth that China experienced has contributed to a general improvement in people's living standards, improving nutrition, housing and increasing consumption and expenditures in education and medical care. And the resulting improvements in human capital have fed back to continued growth.

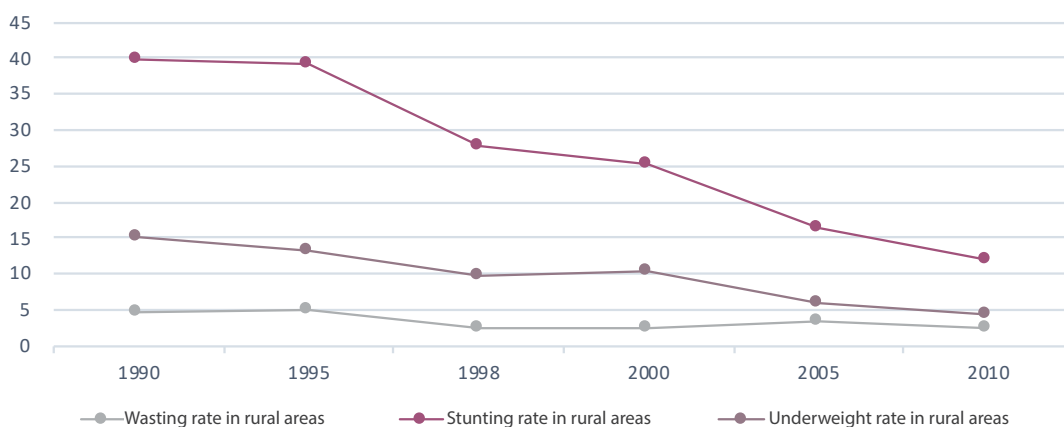
Figure 2.1 shows real per capita household expenditures in rural areas from 1985-2017, along with disaggregated lines on household spending on food and clothing. Total per capita spending increased more than sevenfold in this period, and food and clothing expenditures, all inflation-adjusted, both increased roughly fourfold.



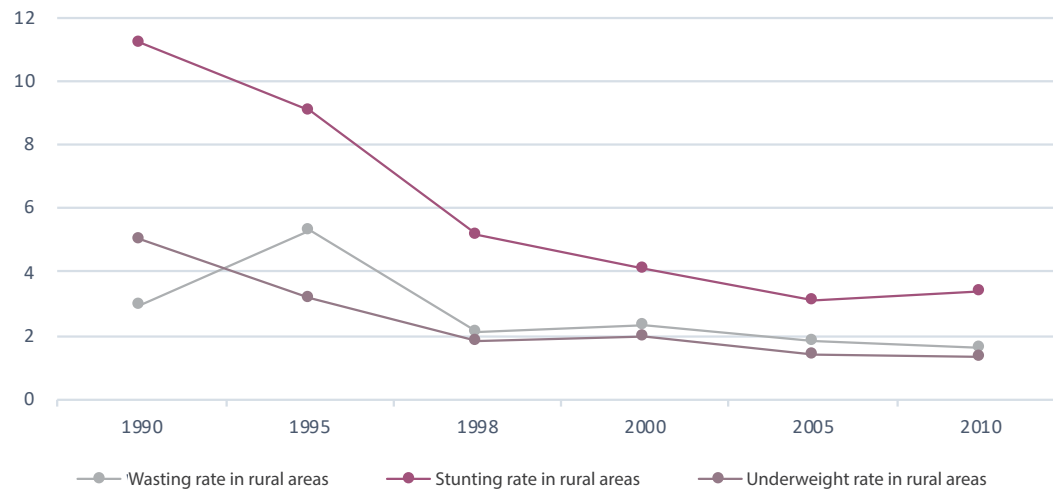
**Figure 2.1 Real per capita consumption expenditure of rural households (CNY, base year 1978)**

Tables 2.2 and 2.3 illustrate how growth in household income and expenditures has contributed to broader human development outcomes, by looking at wasting, stunting and underweight rates among 0-5 years old urban and rural children in China from 1990-2010. Because of limitations on comparable data, this chart does not include the period 1978-1990, but the

data included here shows how strongly nutrition improved during this 20-year period, with large declines in all three indicators in both groups. The share of stunted or underweight rural and urban children declined by roughly 70% in these two decades, and the wasting rates in both groups declined by nearly 50%.



**Figure 2.2 Nutrition trend among 0-5 years old children in rural areas (China, 1990-2010)**



**Figure 2.3 Nutrition trend among 0-5 years old children in urban areas (China, 1990-2010)**

This is particularly significant because in the first 20 years of the Reform and Opening Up social sector development was in a subordinate position to economic construction, and social reforms often were based on commercialization and the introduction of market forces. For example, when the rural people's communes were disbanded in order to boost incentives for agricultural production, village and township social service units were in many cases simply disbanded as well. Many reforms in the social realm during this period simply copied ideas from the economic reforms. For example, the development of the education and health fields in the first years of reform followed the practice of stimulating the capacity of market players or promoted commercial operations of education and health service providers, who charged the highest fees they could in

order to improve their own incomes. One outcome of this approach was that many problems arose, even as considerable development took place in social spheres during the first 20 years of reform. This led to progress in increasing the supply of social services, but due to gaps in service provision to different population groups (see Chapter 4) that were inherent in the design of these systems, and continued relatively low spending power of households, strikingly large disparities emerged between groups. From the perspective of equity, the human development impact of government efforts in social spheres in this period was constrained.

During that period the large increases in household consumption, including on vital necessities, were the key driving force behind human development improvements.



As noted earlier, in the most recent 20 years, after the problems of a shortage economy had been addressed, social policy began to place more focus on equity between groups and strengthening various social supports for vulnerable groups. This rapid development of social services has significantly pushed forward human development.

One turning point in that change was the adoption of the goal of “Equalization of Basic Public Services”, which was incorporated in the 11th Five-year Plan covering 2006-2010. It was presented at the Fifth Plenary Session of the 16th CPC Central Committee, which issued a statement that “in accordance with the principle of equalization of public services, we will increase support for underdeveloped areas and speed up economic and social development in old revolutionary base areas, ethnic minority areas, border areas and poor areas.”<sup>1</sup>

Since that time this goal has been an important guideline for expansion and reform of public service delivery, explicitly aiming to close gaps between advanced areas (especially urban) and poorer rural areas.

### 2.3.2 Opportunities, capacity and sustainability

Seen from three important features of human development—opportunities, empowerment and sustainability, China’s development in every domain has gone through different stages during the 40 years of the Reform and Opening Up.

From the perspective of acquiring opportunities, the core of the 40-year Reform and Opening Up process has been to gradually introduce and strengthen market mechanisms to allow people access to development opportunities. The household contract responsibility system in the early stage of reform brought farmers production autonomy, and in turn, with greater productivity, they were no longer tied to the land. The household registration system reform launched in the late 1980s has laid a foundation for the free movement of people in different regions, gradually forming a nationwide labor market. The encouragement of individual businesses and later the development of the private sector has enabled more and more people to access employment and development space. In recent years, the government actively promoted procurement of social services so that new service providers such as social organizations (also known as civil society organizations) and charities, could develop. Overall, China’s 40 years of the Reform and Opening Up has been a process of continuously easing the government’s constraints on development

1 National Development and Reform Commission, *Report on China’s Economic, Social Development Plan (2014)*, 18 March 2014. Retrieved from: <http://www.npc.gov.cn/englishnpc/c2866/201403/aaf44e52a995456bad611acc1e96d8d9.shtml>

opportunities for individuals. The basic principle of the reforms is to continuously increase personal development opportunities.

From the perspective of empowerment, education and medical care was extensively developed before 1978, laying a solid human capital foundation for further improvements in people's development capabilities. After 1978 there were some experiments in the provision of basic education and medical services through market-based means. However, the growing disparity between groups has given rise to a clear understanding of the central role that government needs to play in these fields. China now has redefined education and medical care as public welfare with the responsibility for their provision resting with governments. Focus on vulnerable population groups has been expanded as well. However, as outlined in Chapter 4 of this report, many challenges remain in ensuring equitable access for all Chinese people to good quality education, health and other services.

The sustainability of human development depends in large part on how effectively China can develop its institutions. The 40 years of the Reform and Opening Up have created a much more complex society and economy, and China's development concept has broadened with them, and is now wide-ranging, covering almost every aspect of human development. Economic, social and environmental sustainability,

the core pillars of the global 2030 Agenda for Sustainable Development, are also central goals for China in the coming decade. In particular, the concepts of shared development and green development that have been highlighted in China's new development vision correlate closely with the inclusive and sustainable development ideas of the 2030 Agenda. Having achieved the Millennium Development Goals ahead of schedule, China is now actively engaged in the effort to achieve the Sustainable Development Goals, a much more ambitious set of targets. Environmental sustainability and building an ecological civilization have been strongly embraced at the national leadership level, and the Chinese people are eager for a conclusive resolution of the environmental damage that has occurred during the period of rapid growth. But obstacles remain, most importantly at the local government and enterprise level, where the "growth first" mindset has not been eliminated. Institutions and governance, rooted in rule of law, participatory approaches and the proper roles of state and non-state groups, will need to continue evolving for China to extend its remarkable progress in recent years into the coming decades.

## 2.4. Persistent problems

As a country with a vast territory and a huge population, major regional gaps in development and a history of centralized economic planning, China's recent reform



efforts have faced some challenges. While addressing some problems, reform has also given rise to new issues. In addition, some existing problems remain partly unresolved for several reasons, e.g. the historical context and path-dependence. Some of the issues that still need to be resolved are as follows.

First, the level of development remains relatively low. Although China has become the world's second largest economy, in terms of per capita income China still lags far behind developed countries. In terms of education, 9-year compulsory education is now in place, but there are still many issues in terms of the development of pre-school, kindergarten, senior secondary, tertiary and vocational education. There is still a considerable gap between the health indicators, e.g. life expectancy, of China and those of the world's developed nations, and new health risks are gradually emerging needing new response mechanisms on an ongoing basis in the macro-context of an ageing population and a changing spectrum of diseases. Environmental problems still loom large, pollution remains severe, and a virtuous interaction between environmental protection and economic development is yet to be formed and therefore requires more effort from the government. To sum up, China still faces many human development challenges in the coming years.

Secondly, unbalanced development is a serious problem. Before the start of the

Reform and Opening Up, China was characterized by low-level but relatively even development. After 40 years of the Reform and Opening Up, development levels have improved markedly for all population groups, but at very different speeds, and as a result significant gaps have emerged between urban and rural areas, and between different regions, genders and occupations. The gap is all-encompassing, covering income, education, health, ecology and environment, social participation, etc. The causes of such uneven development include both the variations in the starting point of development, path selection and institutional development in the process of development. At present and likely for a considerable time in the future, addressing the development level gaps between different population groups to promote fair development will be a major challenge for China.

Third, the reform is not yet completely free from the impact of the planned economy. A basic direction for China's Reform and Opening Up, originating in the planned economy, has been to constantly enhance the role of the market and reduce government interventions, in order to unleash the creative capacity of the Chinese people. However, the planned economy model has a long history in China, and has had a profound impact on ideology, behavior and institutional design. More importantly, some vested interests have become entrenched and new institutions have not

yet come into being. The influence of the planned economy remains strong in spite of 40 years since the launch of the Reform and Opening Up: in many areas, the intervention of government is still excessive, and the control over the micro-economy and people remains too tight. For this reason, streamlining government activities and decentralizing power has become an important aspect of the Chinese government's efforts to deepen reform, although there is still a long way to go before the influence of the planned economy can be eliminated. The government's role as a rules- and law-based regulator of economic activities, rather than a planner and conductor, still needs to be strengthened.

Fourth, there is need for further institutional development. In the course of transforming the economic and social policies and practices inherited from the planned economy, a variety of new market economy institutions have been introduced. These new institutions are needed to protect against potential market failures, to ensure equitable provision of high-quality public services and provide the basic rules governing government functions in the context of a modern market economy. However, given the short time in which these dramatic changes have occurred, and the rapid pace of economic and social development that has accompanied introduction of a market economy in China, the country is still exploring ways to better achieve the

integration of socialism with a market economy. Better defining the boundaries between government and market and allowing government to effectively play its proper role, while ensuring the decisive role of the market in allocating resources, is an ongoing challenge, and there is much room for further institutional development in this regard.

Chapter 4 of this report focuses on these and other human development challenges that China faces as it prepares to enter a new era of development. This brief discussion here provides some background, by linking the new challenges China's experience during the Reform and Opening Up era. In Chapter III that follows, we provide a number of important case studies of how the reforms took place.

# Chapter 3





## Chapter 3

# Best Practices in China's Reform and Human Development

In the 40 years of reform and opening-up, China's economic society has undergone overwhelming changes. These changes include not only the shift from material shortages to material abundance brought about by rapid economic growth, but also the popularization of new modes in all aspects of social life such as employment structure and housing pattern. For the environmental aspect, development methods shifted from increasing pollution to advocating green, and sustainable development. Factors such as mindset change, institutional adjustment, personal efforts, and modality innovation have brought about the above changes.

At national level, there were three major changes that had significantly expedited

human development of China. Firstly, the reform and opening up continuously released individual potential, which is based not only on constantly removing the institutional obstacles restraining individual initiative, but also on creating more opportunities and spaces for individuals to bring their initiative into full play. Secondly, with the deepening of reform, China has been strengthening the institutional foundation for the accumulation and improvement of human capital reserve at individual level. Such institutional foundation is represented in the continuous reform of the education system and health care system, which offers better chances for all to access more equal education and secures increasingly enhanced health conditions for all. Thirdly, China has never ignored the countryside

during the progress. Rural areas used to be the left behind compare to cities, but during the reform and opening-up, supporting rural livelihoods, improving agricultural productivity and output, and expanding and enhancing the quality of basic public service delivery in rural areas, have all been key components of government's reform agenda.

Building on the analysis of previous chapters, this chapter presents nine case studies of specific reform and development initiatives, policies or practices that have contributed to China's rapid progress in human development. Each case was addressed by its background, methodology, instant impact and strategic impact. A more comprehensive and in-depth presentation is put forth for practices that improved China's human development level in the past 40 years.

The nine specific dimensions includes: how to incite rural development with the household responsibility system; How to sustain the urbanization development through constant adjustment of the focus, how to promote the reform of state-owned enterprises to adapt to changing conditions; how to push for modernization of rural China through development of township enterprises; how to promote human development through infrastructure; how to improve the living conditions of residents by housing system reform; how to set examples of practical development through special economic zones; how

to lift poor areas out of poverty through comprehensive poverty alleviation schemes; how to promote balanced development through urban-rural integration; how to achieve economic, social and environmental development through green transformation; and how to implement the people oriented strategic planning. The ten dimensions reflect China's practices in promoting human development from different perspectives and present China's key experiences in promoting human development in the 40 years of reform and opening-up.

### **3.1: Agricultural Reform in China: The Household Responsibility System and Further Reforms**

In 1978 human development in rural China faced significant challenges. The poverty rate among rural residents was 97.5%<sup>1</sup>, with the number of rural poor people reaching 770 million. The per capita net annual income of farmers was a mere CNY 133.6. In 1981, about 30% of the Chinese population was malnourished, virtually all of them living in rural areas<sup>2</sup>.

This first case study focuses on agricultural

1 Based on the application of a poverty line of CNY 366/year, which is the 1978 inflation-adjusted equivalent of China's current poverty line of CNY 2,952/year.

2 The Economist, "The hungry and the forgotten", 13 June, 2014. Retrieved from: <https://www.economist.com/china/2014/06/13/the-hungry-and-forgotten>

development, the major reforms that have taken place in the arrangements under which agricultural products are grown and distributed.

Persistent deep poverty in rural China in 1978 was rooted in a lack of opportunity and autonomy, which were also among the main constraints on broader human development. Under a rigid agricultural production system, rural management authority was concentrated at the top, leaving no autonomy for grassroots production units and individual farmers. Approved agricultural practices were applied uniformly without flexibility, and egalitarianism greatly dampened farmers' incentives for production. Rural society was organized into People's Communes, and land was entirely under collective ownership and management, implemented from the top down. All output was pooled, and after the required quotas were handed over or sold at a low price to the state and to the collective, only then was the remainder redistributed among all collective members. As a result, there was virtually no connection between any one farmer's level of effort and productivity and what his family received.

The negative effect of these disincentives was compounded by several planned economy policies that reinforced and exacerbated the dichotomy between urban and rural areas, including a "price scissors" effect that imposed unfavorable terms of trade on rural agricultural producers vis-à-

vis the urban population, the household registration system that prevented the rural population from migrating to urban areas, and an employment system that relied entirely on official assignments from the government virtually eliminating any possibility for rural people to take the initiative to find different employment<sup>1</sup>. Without major changes, the wellbeing of China's rural population could not be assured. At the same time this system was the means by which the state ensured food supply for the urban population, reducing the willingness to experiment with any reforms that created uncertainty about meeting that goal.

This was the background for developments that are now seen as the opening act of China's Reform and Opening Up period. Life in Xiaogang Village, Fengyang County, Anhui Province was extremely difficult at this time. Before 1978, each farmer received only 3.5 kg of grain from the summer harvest under the collective production and distribution system that prioritized transfers to the state for distribution in urban areas. Villagers had to buy grain for their own consumption, and relied on cash assistance for daily necessities.

In 1978, 18 farmers in Xiaogang Village voluntarily signed private contracts with the village to meet their own household

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1 Wang Sibin, "Development of rural China- a perspective of social change in the recent 40 years", *Journal of Peking University, Philosophy and Social Sciences*, vol. 5 (2018).



production quotas. This small step marked the beginning of large changes in the fate of hundreds of millions of Chinese farmers. After a period of time, Huanghua Village and Xiaojing Village of Feixi County in Anhui also began to try out contracting production quotas to individual households. Thus, the household responsibility system gradually took shape.

The household responsibility system is a system for agricultural production in which farm households sign contracts with collectives under which they commit to selling a certain amount of output in exchange for access to land and other inputs, and are granted considerable autonomy in handling any additional output they produce. The system has two forms: one was known as “handing production to the household”. Products are wholly owned by the contractor aside from an agricultural tax to the state and public reserves to the collective organization, that is, “pay to the country, save for the collective, and the rest is yours”. The second is a production quota contract system under which the household is a contract unit with labor, production and costs included in the contract, and they commit to certain production tasks. Farmers fulfilling the contract targets will be rewarded while those who do not are penalized. At that time, most places adopted the “handing production to the household” arrangement. This reform divided land rights into ownership and management rights; ownership re-

mained with the collective while the management rights were sub-contracted to households by the collectives.

The experiment at Xiaogang Village had remarkable results. In only one year, Xiaogang Village’s grain output reached 133,000 *jin* (66,500 kilograms), equivalent to the total grain output from 1966 to 1970. Per capita income was CNY 400, 18 times the CNY 22 of 1978<sup>1</sup>.

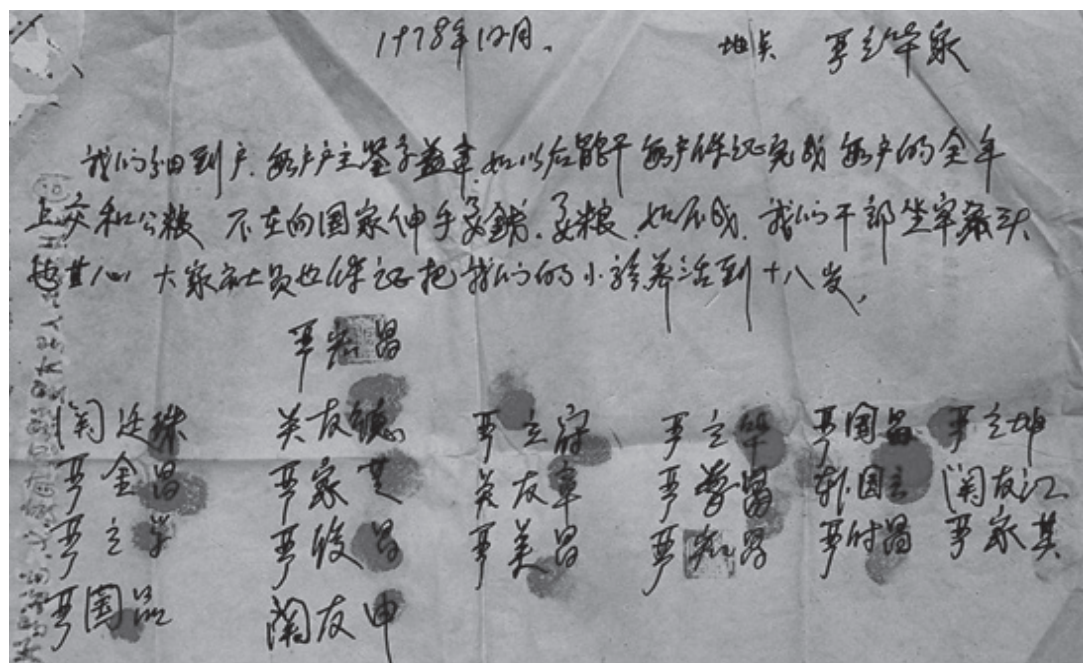
The household responsibility system quickly spread to the whole country from Anhui Province. Different places enacted their own variations: Guanghan City, Sichuan promoted the “production contracted to the group” system; Meitan County of Guizhou made reforms to improve the land utilization rate and output rate. By 1984, 99% of the production teams and 96.6% of the rural households in rural China had implemented the household responsibility system.<sup>2</sup>

After seeing the results of these local reforms, the central government gave explicit policy support to the consolidation and improvement of the new household responsibility system. In 1982, Document No.1, the first official policy document of every year issued jointly by the Party and

1 Yao Yuanshu. “Seeing the four decades of Reform and Opening Up from the radical changes in rural areas”, *Qingjiangluntan*, vol. 4 (2018).

2 Development Research Center of the State Council, “New China successfully solves the problem of ‘eating’”, 9 October, 2015. Retrieved from: <http://www.drc.gov.cn/xscg/20151009/182-473-2888964.htm>





**Picture 3.1: Xiaogang Village's land contract with fingerprints**

Note: The letter reads, "We will distribute the land to the household, and each household owner will sign and fingerprint it. If this effort turns out to be successful, households will be self-sufficient and no longer rely on the government. If it fails, we, the cadres, are willing to go to jail for it, and other members of the commune will raise our children to the age of 18." Source: Xinhua Net

the government and always dealing with rural development policy, focused on the household responsibility system.<sup>1</sup> In 1991, the Chinese government plainly stated that the responsibility system based on household contracting and the two-layer management system that combines individual management and group management should be the basic system over the long term for China's rural collective economic organizations and it should be constantly enriched and improved.

The household responsibility system was a

1 Xu Qing, "Variance, characteristic and direction of the household contract responsibility system.", *World Economic Papers*, vol. 1 (2008).

fundamental reform of the "first of all big, and second of all public"<sup>2</sup> nature of the rural people's commune systems, and the incentive-suppressing practice of "eating from the same big pot", unleashing rural productivity. From 1978 to 1984 the output value of China's agricultural products increased by 42.2% at constant prices, and almost half of the increase was attributed to the introduction of the household responsibility system.<sup>3</sup> In those six years

2 This phrase was popularized when the People's Communes were created in 1958, and at that time was meant to convey why they were a better form of rural management.

3 Xu Qing, "Variance, characteristic and direction of the household contract responsibility system.", *World Economic Papers*, vol. 1 (2008).

grain production grew by 4.9% annually. In 1984, China had a total grain output of 407.3 million tons, an average annual increase of 12.5 million tons. This period marked the fastest growth in grain production since the founding of the People's Republic of China. From 1978 to 1985, the average annual growth rate of farmers' per capita net income reached 16.5%. According to China's poverty line at the time<sup>1</sup>, the rural poor population dropped rapidly from 250 million in 1978 to 125 million in 1985. 50% of the decrease in mortality rates and increases in life expectancy in China between 1981 and 1995 were due to the improvement in per capita consumption levels.<sup>2</sup>

By 1984, the adoption of the rural household responsibility system was basically complete, but further reforms of the agricultural production system were still needed. The government still retained control over the market for agricultural products and implemented a state monopoly on purchasing and marketing grain. Agricultural products could still only be sold to the state; what food consumers could buy and how much they could buy were also all prescribed by the state, through a system that included grain ration coupons and unified sales. This system disconnect-

ed farmers from the market and greatly limited the natural growth in circulation of agricultural products. The state monopoly on the purchase and retailing of grain also severed the organic connection between regions, urban and rural areas and producers and consumers, and formed a closed single product economic system in rural areas. At the same time, the policy also contributed to the urban-rural dichotomy, further widening the gap between urban and rural areas and negatively impacting rural human development. Therefore, with the development of agricultural production, especially grain production, it was imperative to reform the grain purchase and retailing system and make it more responsive to market forces.

A series of experiments were launched to test reforms to this system. In 1979, the prices of state monopoly purchases were increased and the state purchase quota was reduced. In 1983, the state allowed farmers to sell their surplus grain through multiple channels after they had filled their state quotas. In 1984, the quota of farm products to be sold to the state was further reduced. In 1985, the state monopoly for grain purchase was canceled and replaced by a contract purchase system, allowing a certain degree of free procurement and selling.

In May, 1991, the southern island province of Hainan pioneered major grain price reforms, aligning the procurement and retail prices of grain much more closely,

1 China's poverty line has been continuously raised. It was CNY100/person in 1978 and CNY 206/person in 1985.

2 UNDP & China Institute for Reform and Development, *China Human Development Report 2007-2008. Access for All: Basic Public Services for 1.3 Billion People* (Beijing, China Translation and Publishing Corporation, November, 2008).

and deregulating grain prices. Hainan Province undertook these bold steps to promote production and stabilize supply, as well as to reduce the fiscal burden of financial subsidies. Targeted compensation in different forms was provided to some consumers, jointly financed by the state and enterprises. To create the conditions for price reform, policy also focused on increasing grain reserves, ensuring a normal grain supply for the province, and maintaining stable food prices in the province. Meanwhile, the proportion of the grain market under government regulation in urban areas grew from 36% to 56%. The substantive result of Hainan's grain price reform was the conversion of direct financial subsidies for the grain price into income subsidies for employees of state-run institutions and impoverished residents. This ground-breaking reform of the grain purchase and retail prices inverted the previous pricing system for the first time.<sup>1</sup> The result was a system that promoted the needs of the rural farming population and of vulnerable urban populations

In 1993, building on these local experiments, grain rationing through the use of coupons was abolished. The market started to play an increasingly important role in agricultural development. The cancellation of the state monopoly on grain re-granted production and management rights and

the right to their own income to farmers and helped promote the equalization of rights between urban and rural residents.

With the further development of the market economy in China, the limitations of the household responsibility system gradually emerged. Household farming operates in a decentralized and small-scale way, making it difficult to generate economies of scale. When rural collective organizations were weakened some problems arose in areas where they had played an important role, such as rural infrastructure construction and public service delivery, including services such as village clinics that had helped promote rural human development. The decentralized operation of small parcels of land is not conducive to the improvement of agricultural science and technology, and also means higher management costs for agricultural production. Therefore, there has been continuous reform in agricultural production and rural development to adapt to new challenges.

The agricultural reforms initiated by the household responsibility system have greatly improved the living standards of Chinese farmers. During the past 40 years, their income has continued to grow, having increased more than 20 times in real terms since 1978. Consumption in rural areas continues to improve and the Engel coefficient of rural households has fallen from 67.7% to 31.2%; the per capita floor space of rural households has expanded by nearly 40 square metres, and the ratio

1 Huang Qinghe, Chen Dian. "Reform of grain purchase and marketing system in Hainan Province: Experience and inspiration", *Reform*, vol. 3 (1992).

of income for urban and rural residents has fallen from 3.3:1 to 2.7:1.<sup>1</sup>

Rural Reform and Opening Up has not only improved the economy directly, but has also brought about many spinoff effects. First, it has facilitated the free flow of rural labor. Non-agricultural employment opportunities in rural areas have increased and labor mobility from crop farming to higher productivity non-agricultural industries has accelerated. The reform broke the fixed pattern of urban and rural labour. The system where production teams and cooperatives were integrated politically and economically had ended; they quickly became autonomous organizations—the village and township system with grassroots political power. Farmers' dependence on the team and cooperative system collapsed and the rural labor force were no longer tied to the land. A large number of surplus rural workers moved to coastal regions and migrant workers have become the largest social stratum of industrial workers in China's history. Second, rural Reform and Opening Up has boosted the development of rural secondary and tertiary industries. Township enterprises have been established (see case study 3.2), which would not have been possible under the pre-reform rural institutions. Trade and commerce flourished and the almost

exclusively agricultural economy has developed into a diversified rural economy. Third, it has contributed to the development of grassroots democratic autonomy and the restructuring of grassroots organizations.

The increase in farmers' income has supported improved health and education outcomes by allowing greater individual expenditures on food, health care and education. As well, the country's fiscal revenue has seen dramatic growth, increasing absolute government investment in rural areas and stabilizing the precarious supply of public goods in many rural areas.

However even today, the impact of the urban-rural dichotomy on rural human development has not been eliminated. Further narrowing the gap between urban and rural areas, reducing the burden on rural residents, delivering better and fairer public services to rural residents and improving rural human development is still a priority and a direction for the reform in China.

### **3.2: Township and Village Enterprises: A Unique Path for Development**

Even with the progress spurred by agricultural reform, it would have been difficult for China to rely on agricultural production alone to eliminate rural poverty; modernization and development in predominantly

<sup>1</sup> Han Changfu, "Achievements in the 40 years of agricultural and rural reform and development", People's Daily, 17 January 2019. Retrieved from: [http://paper.people.com.cn/rmrb/html/2019-01/17/nw.D110000renmrb\\_20190117\\_1-10.htm](http://paper.people.com.cn/rmrb/html/2019-01/17/nw.D110000renmrb_20190117_1-10.htm)

rural societies is always accompanied by the flow of surplus labor from agriculture to other sectors.

In most countries that labor flow has taken the form of the migration of large numbers of rural people to urban areas. While this migration has also occurred in China, it occurred more gradually because of the controls imposed by the strict household registration (*hukou*) system (see Box 3.1), which for many years blocked the flow of people between urban and rural areas. For a long time, the main mechanism for absorption of surplus agricultural labor into modern sectors in China was the development of modern non-agricultural sectors in rural areas, and the key to that process was the promotion of township and village enterprises (TVEs).

China's TVEs stand out, as they have helped a large number of rural people engage in non-agricultural work, formed the basis of rural industrialization and driven China's economic transition and sustained growth, laying the groundwork for countless achievements both economically and socially since 1978. Research on China's TVEs can offer lessons for developing countries, especially those with large populations.

Even before the Reform and Opening Up, a limited amount of rural industrialization had begun in China, mostly through the commune and brigade enterprises (CBEs). However, it was through the emergence

and rapid growth in TVEs that rural industry became an important factor in rural development, and this was only possible after the household responsibility system started to be implemented, which increased agricultural production efficiency and created massive surplus labor in rural areas in a short period of time. Wanting more income, rural residents in some places began to think about engaging in non-agricultural work locally. At the political level, the central government proposed to "encourage the major development of CBEs" after the Third Plenary Session of the 11th Central Committee of the Communist Party of China (CPC), and the No. 4 Document of the central government released in 1984 renamed the CBEs enterprises run by individual rural households, and by more than one rural household in partnership, and gave them a new name—TVEs. Governments at all levels were required to treat them equally to achieve common development. In addition, the TVEs benefited from some of contextual and institutional advantages in their early years of development. The government had prioritized the development of heavy industry for a long period of time after the founding of the People's Republic of China and there were extreme shortages of daily necessities and other light industrial products, creating a huge and almost zero-competition market for the TVEs. Moreover, the restrictions on the private economy had yet to be entirely lifted and the TVEs in the 1980s were mostly collectively owned. Local



governments, encouraged by the system of “separate meals” (dividing revenue and expenditure between the central and local governments), were therefore keen to support the TVEs through financing, land use, and employment. Also, the land contract system provided a safety net for rural residents that saved the TVEs from paying their employees social security and other benefits, which helped them save labor costs.

With access to land, financing, labor, and market demand, the TVEs across China flourished in the 1980s. Township and village processing enterprises focused on the “5 small industries”, namely small farm implements, small home appliances, small commodities, small hardware, and small chemical fertilizers, and expanded from coastal areas to the inland. There were 3 major models across the country: the “South Jiangsu Model” based on supplying the collective economy, the “Wenzhou Model” based on supplying the household economy through individual private enterprises, and the export-oriented “Zhujiang Model” dominated by collective enterprises. In 1987, the output of China’s TVEs surpassed its agricultural output for the first time, with the population employed by the TVEs making up over 1/5 (22.6%)<sup>1</sup> of the rural employed population. In spite

1 Office of CPC Party Work of Jiangsu Provincial Party Committee, “Development of township and village enterprises in Jiangsu and their experience”, 25 May 2011. Retrieved from: <http://www.zgdsw.org.cn/GB/218994/219014/220570/222737/14738973.html>

of an overheated economy and inflation in the late 1980s, the remarks made by Deng Xiaoping on his inspection tour to South China in 1992 further reinforced support for TVEs in the minds of local cadres and TVE entrepreneurs. This pushed TVEs into a second period of high-speed growth that lasted until the late 1990s. Then, as China was moving away from a “shortage economy” and the Asian financial crisis broke out in 1997, the defects of TVEs such as ambiguous property rights, extensive management, redundancy, and low-end homogeneous competition, gradually became apparent. Hence, many TVEs began to explore corporate transformations focused on ownership reform at the end of the 20th century. The reforms made in South Jiangsu, which was characterized by the collective economy, provide a case in point.

Located at the center of the Yangtze River Delta on China’s southeast coast, Suzhou, Wuxi, and Changzhou in the southern region of Jiangsu province have implemented the South Jiangsu Model, a pattern of development of the TVEs that is characterized by collective ownership.

With access to good transportation, a tradition of commerce and processing industries, and proximity to Shanghai, the TVEs in South Jiangsu went into business early and developed rapidly. Even before the Reform and Opening Up, the TVEs started operations as commune and brigade enterprises. By the end of 1978, CBEs in Jiangsu had

an output that was 16.6% of the national total and employed 2.49 million people.<sup>1</sup> After the household contract responsibility system for agricultural production that had started in Xiaogang Village of Anhui was rolled out across the country, Yanqiao Village of Wuxi set out to implement the “One Contract & Three Changes” reform to TVEs in 1983 by drawing inspiration from Xiaogang Village. “One Contract” refers to an economic contract system featuring factory directors and managers where contractors had a high degree of autonomy in management, which means they could offer bonuses to reward employees if contract goals were overfulfilled. “Three Changes” means changing the employment system of enterprise cadres from appointment by the village party committee to contract-based employment, changing the employment of workers to contract-based employment, and changing the wages of cadres and workers from a base wage to a floating wage.<sup>2</sup>

Such reforms had immediate results, as the TVEs in South Jiangsu that had the support of local governments performed very well. In 1985, Wuxi’s output exceeded CNY 5 billion, to which its TVEs contributed 84%, outstripping the combined industrial output of Qinghai, Ningxia, and

Tibet in the same year.<sup>3</sup> In 1989, the TVEs in South Jiangsu were the first in China to have their output exceed CNY 100 billion, accounting for up to 60% of the local rural output in total, and an array of star villages sprang up, including Huaxi Village in the city of Jiangyin. Huaxi Village became the first “Hundred-Million Village”<sup>4</sup> in Jiangsu as early as 1988, where a new type of shareholding collective economy was introduced with land and enterprises collectively owned by the village but with individuals also buying shares. In the early 1990s, dozens of companies big and small, such as casting plants and aluminium plants, were established in Huaxi, whose earnings were mostly used to improve the livelihood of local rural employees and the infrastructure of the Village. Huaxi was known as “China’s Richest Village” for its early accomplishments in providing “villas and cars for every household, per capita deposits exceeding 1 million, and free education and medical care” in the 1990s. But the problems with this model became clear by the mid-1990s, mainly reflected in the rigidity of the system and the resulting reduced performance.

In the 1990s, local and provincial governments in Jiangsu reflected upon the South Jiangsu Model many times, when

1 *ibid.*

2 South Reviews, 40-Year History of Reform and Entrepreneurship in Wuxi (18th edition, 2018).

3 Wang Zenong, Zhang Fengyun, “Emergence of township and village enterprises: a sudden rise to blaze trails”, *Farmers’ Daily*, 7th December 2018. Retrieved from: [http://www.farmer.com.cn/zt2018/ncgg/bwzg/201812/t20181207\\_1420995.html](http://www.farmer.com.cn/zt2018/ncgg/bwzg/201812/t20181207_1420995.html)

4 Office of CPC Party Work of Jiangsu Provincial Party Committee, *op cit.*



**Picture 3.2: Residential area in “China’s richest village” Huaxi Village**

many TVEs started to transition to private and mixed ownership. Jiangyin, the city where Huaxi is situated, was the first to launch corporate ownership reform with the concept of “resolutely trying to do the best, avoid disorder and not to strive for many”, defining more explicit ownership structures with capital management strategies that included shareholding and a joint stock cooperative system. Jiangyin’s first company to issue shares went onto the Shenzhen Stock Exchange in 1997, and 8 companies went public by the end

of 1999, making up about 1%<sup>1</sup> of the total listed companies across China, creating a unique “Jiangyin Stock Category” in the capital market. In the early years of the 21st century, most of the collective TVEs in South Jiangsu transformed themselves into private enterprises through ownership reform, making the ownership of the TVEs, which had long had a problem with implicit ownership, increasingly explicit, separating government from corporate management and separating politics from the economy. Since then, a modern corpo-

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1 Hu Hongwei, Xu Yiping, “Inspections of Jiangyin/ how powerful government develops an interdependent relations with powerful enterprises?”, *The Paper*, 16 May, 2019. Retrieved from: [https://www.thepaper.cn/newsDetail\\_forward\\_3450903](https://www.thepaper.cn/newsDetail_forward_3450903) and Hu Hongwei, Yao Silu, “Inspections of Jiangyin/Methodology of 41-year reforms: Jiangyin’s success hinges upon successful reforms”, *The Paper*, 16 May, 2019. Retrieved from: [https://www.thepaper.cn/newsDetail\\_forward\\_3457093](https://www.thepaper.cn/newsDetail_forward_3457093)



rate management system has been gradually put in place, and the TVEs in South Jiangsu have again entered a period of rapid development.

With China's accession to the World Trade Organization, TVEs with reformed ownership were pushed into more competitive markets. This exposed many of their congenital defects. First, the TVEs were far away from markets, decentralized, and could not take advantage of clusters. Second, they usually had a low-skilled workforce and lacked technology and talents; some of them had to borrow "Sunday engineers" from companies based in nearby cities.<sup>1</sup> Third, their extensive production led to environmental pollution and resource depletion, making it hard for them to adapt to increasingly strict national regulations protecting resources and the environment. Fourth, as various institutional barriers to the migration of rural residents to cities were removed and more people migrated for better-paid jobs and more development opportunities in secondary and tertiary industries, the TVEs in rural areas faced increased labor costs. Owing to various internal and external constraints, development of TVEs gradually slowed after entering into the 21st century, so a new round of transition began. They became more centralized, building county

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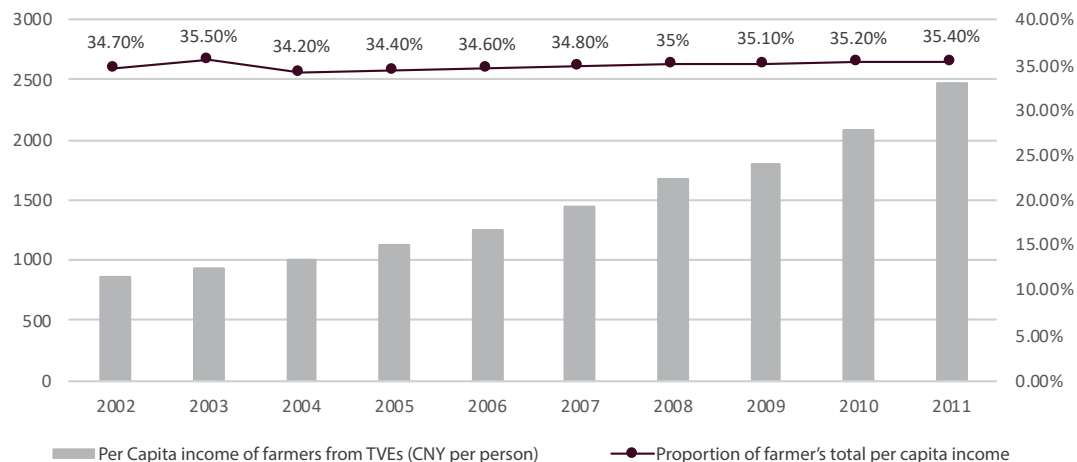
1 Technical staff working in plants in large and medium-sized cities who would spend their non-working time, such as weekends, offering technical guidance and support to neighbouring TVEs.

and even village industrial parks, science parks, and innovation parks, in a bid to develop industrial clusters. They also made use of policies on infrastructure, technology, and consumption upgrading to focus on creating job opportunities in the agricultural value chain, including e-commerce, agriproducts processing, agro-tourism, rural tourism, and modern planting and breeding industries. In particular it is worth noting that with improved transportation, logistical and information infrastructure as well as greater policy support in terms of rural finance, e-commerce is becoming a new engine driving the development of TVEs and a new platform where rural people can start up a business or find jobs. It is playing a significant role in supplying retail trade agricultural products in poverty-stricken areas, making it an important means of poverty alleviation.

Looking back over the 40 years of reform, the TVEs were meant to break the old planned economic system from the outset. In spite of many challenges, they have demonstrated the extreme resilience of a "grassroots industry".<sup>2</sup> In 1978, there were over 1.5 million TVEs across China, with a combined output of approximately CNY 51.5 billion and over 28 million employees. Many enterprises that were founded in the townships and villages later became well-known enterprises. By the end of 2017, they had increased to more than 32

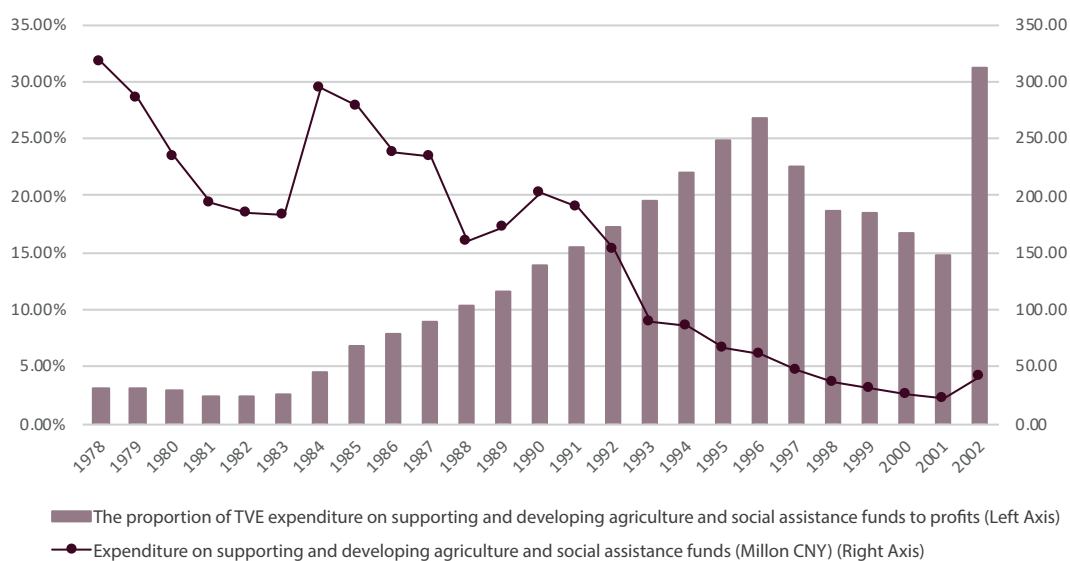
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2 Fei Xiaotong, "The industrialization and urbanization of rural China agriculture", *Zhejiang Social Science*, vol. 4 (1998).



**Figure 3.1 Contribution of TVEs to rural income in China (2002-2011)**

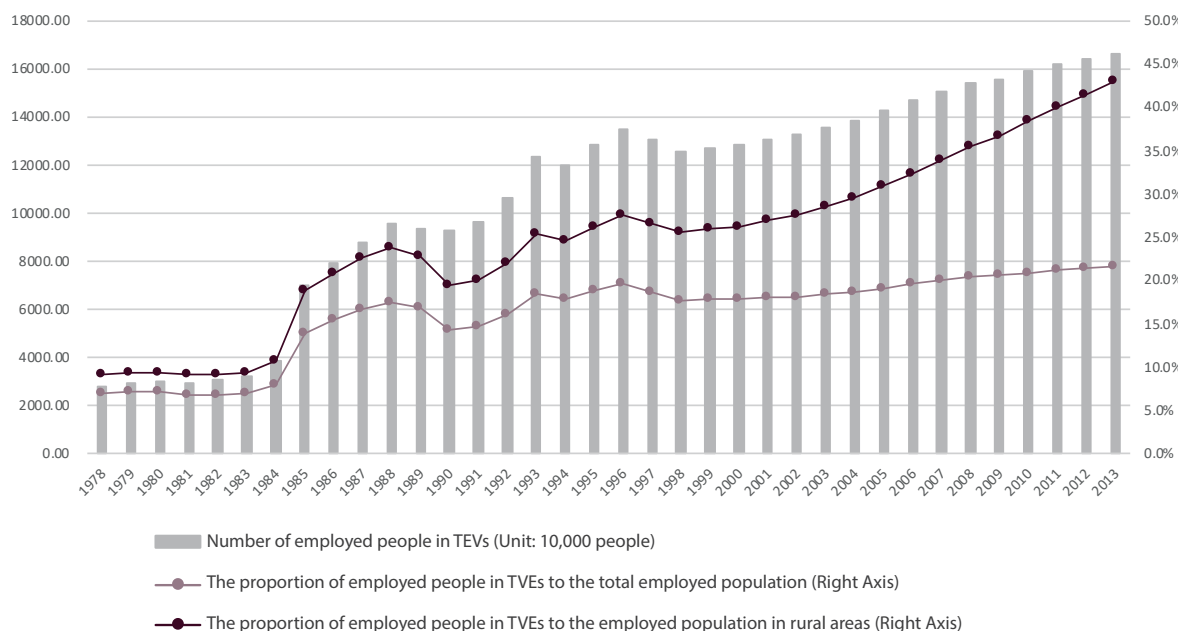
Source: Zong Jinyao and Chen Jianguang<sup>1</sup>



**Figure 3.2 TVEs' subsidies and social expenditures in rural areas as a proportion of their profits**

Source: compiled from the Statistics of China's Township and Village Enterprises (1978-2002)

1 Zong Jinyao and Chen Jianguang. "History will never forget important contributions of township and village enterprises-for commemorating the 40th anniversary of China's Reform and Opening-up", Ministry of Agriculture and Rural Affairs of the People's Republic of China, 13 July 2018. Retrieved from: [http://www.moa.gov.cn/xw/bmdt/201807/t20180731\\_6154959.htm](http://www.moa.gov.cn/xw/bmdt/201807/t20180731_6154959.htm)



**Figure 3.3 TVEs' subsidies and social expenditures in urban areas as a proportion of their profits**

Source: compiled from the *Statistics of China's Township and Village Enterprises (1978-2002)*, *China's Township and Village Enterprises Yearbook (2003-2006)*, *China's Township and Village Enterprises and Agricultural Products Processing Industry Yearbook (2007-2012)*, *China's Agricultural Products Processing Industry Yearbook (2014)*, and *China Statistical Yearbook*

million, generating an output of CNY 85 trillion and employing up to 164 million people.<sup>1</sup> Many enterprises that started out in townships and villages have grown into well-known companies, such as the Midea Group, founded at the Beijiao Commune of Shunde City, Guangdong, in 1968 and entered the Fortune Global 500 List in 2016. TVEs have made multi-dimensional and far-reaching contributions to China's rural areas, rural people, and agriculture.

First, the TVEs are mostly labor-intensive enterprises that provide non-agricultural

job opportunities for large numbers of rural workers. They helped people move from precarious employment such as family labor and self-employment and acquire decent jobs and fairer wages. Non-agricultural employment has directly raised the wages of rural residents and diversified rural household income sources. The 1980s was not only a period when TVEs did particularly well, but also a time when China had its narrowest income gap between urban and rural residents, and when rural poverty was greatly reduced.

Second, the TVEs actually shouldered the main responsibility for funding rural infra-

<sup>1</sup> Zong Jinyao and Chen Jianguang, op cit.

structure and public affairs in the 1980s as a result of the inaction of governments at all levels. As many TVEs were created either by rural collective organizations or directly by rural residents, the TVEs were largely community and village based which enabled them better than urban industry to promote combining agriculture with industrial development. Much of the earnings generated by the TVEs were used to build infrastructure including rural roads and water and electrical facilities and other public utilities as well as schools, to purchase equipment for agricultural modernization, and to improve the health, education, and living conditions of rural residents. Rural residents “gave up land rather than hometowns and found jobs in factories rather than cities”, which not only maintained the vitality of village communities and prevented villages from hollowing out, but also contributed to village agricultural production, public services, infrastructure building, and grassroots governance. They made it possible for urban standards of living to penetrate into rural areas.

Third, the prosperity of the TVEs also contributed to China’s rapid industrialization. The TVEs have driven rural secondary and tertiary industries and optimized the industrial and economic structure of China’s rural areas. In 1997, secondary and tertiary industries accounted for 50.1% of total employment, outstripping agricultural employment for the first time in China. Employment in TVEs made up about 18.1%

of total employment and about 36.6%<sup>1</sup> of all employment in secondary and tertiary industries. In 1998, the TVEs generated an added value of CNY 2.2 trillion (about 28% of China’s GDP), paid taxes of CNY 158.3 billion (20.4% of China’s total tax revenues), contributed exports of CNY 685.4 billion (34.8% of China’s total exports), and the industrial enterprises in the TVEs created added value of CNY 1.55 trillion (46.3%<sup>2</sup> of China’s total industrial added value). In addition, village industrialization built up human capital through skills development, professional training and other activities, transforming large numbers of farmers into industrial workers. Skilled and cheap, these people were the majority of the “tide of migrant workers” who emerged in the 1990s, and the mainstay of urban industrialization, who have rapidly propelled China into the middle stage of industrialization.

Fourth, the TVEs have been a major force driving China’s urbanization. In the early years of reform when urban industry was unable to accommodate rural labor, the TVEs were able to absorb surplus rural labour, which helped avoid large-scale and rapid rural migration to the cities. This has not only ensured the stability of rural communities, but avoided decline, decay, and

1 Gan Shiming, *China’s Township and Village Enterprises Statistics, 1978-2002* (China Agriculture Publishing House, 2003) and National Bureau of Statistics, *China Statistical Abstract 1998* (China Statistics Press, 1998).

2 National Bureau of Statistics, “Sudden rise of township and village enterprises”, Analysis Report on China in the Past 50 Years, 18th September 1999.

bankruptcy in rural areas as well as the problem of “city malaise” typical of some populous developing countries going through rapid modernization and urbanization processes. Many rural residents working for TVEs have become small town residents, classified as urbanites. As specialized markets arose because of the TVEs, tertiary industries rose in rural areas leading to the development of small towns. Small towns and counties in Jiangsu, Zhejiang, and Guangdong rank among the top nationally in terms of comprehensive economic power largely because they have benefited from the TVEs located there.

In 1978, China had about 800 million rural residents. How to use such abundant labor resources, protect their rights and interests, increase their income, and at the same time tackle the problems of agricultural production and undeveloped rural areas was seen as an enormous challenge. However, Chinese rural people creatively came up with a “categorically unexpected” solution: developing the TVEs.<sup>1</sup> By transferring surplus rural labor locally, the TVEs enhanced rural productivity, offered decent jobs and salaries, diversified

the rural and even the national economy, integrated rural and urban industries, and pushed the rapid industrialization and urbanization of China. The solution in itself is a unique combination of different elements that include labor, capital, technology, and land. It was an experience unique to China, different from that of other countries that does not fit with classical economics theories. Now as circumstances have changed since the period in which they were able to develop rapidly, TVEs are entering a period of adjustment. That said, their contributions at critical periods cannot be forgotten. As the interactions between cities and rural areas are increasingly diverse, there is still considerable room for increasing rural income, agricultural modernization, urbanization, and integrated urban-rural development, and new space for renewed TVEs to play a role.

### 3.3: Human Development and Infrastructure: the Guizhou Experience

Infrastructure is an important component of public goods and provides critical public services that form the material basis for human and economic development. Core infrastructure such as water, electricity and waste water treatment supports basic survival, quality of life and human settlements. Social infrastructure such as education and medical care can improve health and cultural standards and contrib-

<sup>1</sup> Deng Xiaoping said at his meeting with delegates from Yugoslavia in June 1987: “The most unexpected thing that came out of the rural reform is the sudden rise of the township and village enterprises, with the emergence of multiple industries, commodity economy, and all sorts of small enterprises. The central government should not be given the credit to for it.” Deng Xiaoping, “Accelerating reforms”, vol. 3 Deng Xiaoping’s Selected Works, 1st edition, (People’s Publishing House, 1 January, 1993), pp. 238 and 239.

ute to individual flourishing. Roads and transportation infrastructure are conducive to expanding the flow and range of various production elements, facilitating the circulation of goods, and improving the rational and effective allocation of social and economic resources. Information infrastructure can expand people's access to information and the range and speed of information dissemination. In particular, it can improve people's access to information in underdeveloped areas and promote fairness. More importantly, various types of infrastructure have a comprehensive impact on economic growth, social development and environmental sustainability. In general, the construction of infrastructure can not only directly generate jobs and stimulate economic growth through investment, but also indirectly reduce the transaction costs of production and exchange, which is conducive to deepening the economic division of labor, goods, capital, technology and information, thereby promoting the liberation of social productive forces and human development. In contrast, insufficient investment in infrastructure has led to weak economic growth in many developing countries, insufficient interaction with other countries in materials, personnel and information, and slower social development. In addition, due to poor quality infrastructure construction, those countries are prone to a vicious circle of waste of resources and environmental pollution. For this reason, the United Nations has included the goal

of "Build resilient infrastructure" as one of the 17 goals of the 2030 Agenda for Sustainable Development. Other goals such as "Good health and well-being", "Quality education", "Clean water and sanitation" etc. also include targets related to infrastructure development. Supporting underdeveloped countries to build schools, hospitals, roads and other infrastructure has become an important function of international organizations.

The history of infrastructure in China overall and in its representative regions since 1978 reflects the underlying logic of China's economic development. China's remarkable economic development achievements in the 40 years of the Reform and Opening Up, and the human development gains that they generated, are inseparable from China's extraordinarily rapid and wide-reaching infrastructure development. The speed of China's economic development over the past 40 years would not have been possible without a consistent national effort to build infrastructure connections across the country. However, the relatively large inter-regional development differences in China have led to significant variations in quantity and quality of infrastructure as well. Still, even the poorest and most underdeveloped regions of the country have seen a remarkable expansion of infrastructure services.

At the beginning of the People's Republic of China, its industrial base was weak and



its rural infrastructure was poor. The new government, influenced by a classic Soviet style command economy mindset, committed to developing “heavy industry first, light industry second and agriculture last”. The share of investment in infrastructure for China’s agriculture, light industry and heavy industry between 1953 and 1955 was 6.2%, 5.9% and 32.0%, respectively. After the three difficult years that followed the establishment of the People’s Communes, ensuring the supply of food, clothing and other domestic goods was prioritized in economic development, and the proportion of investment in agricultural infrastructure increased significantly, reaching 23% in 1963. In the 1970s when heavy industry such as national defence was given a higher priority, the proportion of investment in agricultural infrastructure fell to about 10%. From 1980 to 2000, China’s market-oriented reforms were dominated by industrialization and urbanization, which was accompanied by the rapid collapse of the rural collective economy and the People’s Communes; at the same time, a new tax-sharing system reform restricted local fiscal capacity, and the burden of providing public services was not alleviated. As a result, the proportion of investment in agricultural infrastructure further declined, accounting for only about 3% of total national investment in infrastructure on average during these 20 years. Entering the 21st century, with the development of the national economy, the absolute value of infrastructure investment in China rose, in-

cluding the investment in rural infrastructure. However, due to historical trends, the heavy tilt toward public investment in cities and economic infrastructure instead of in rural areas and social infrastructure has not fundamentally changed. In addition, tax and fee cuts, although they increased rural disposable incomes, further tightened budgetary resources for rural public services and facilities.

In fact, even when the proportion of investment in rural infrastructure was relatively high, investment sectors were mainly in farmland, water-saving irrigation and other production fields. Human settlements and community facilities in rural areas have long been disregarded. Lack of investment in infrastructure such as village roads, medical care, education, waste and water treatment, toilets and clean drinking water has seriously affected basic subsistence and quality of life for farmers. Infrastructure disparity is thus one of the important factors in China’s rural-urban gap. As a public good, infrastructure relies heavily on public funds from governments at all levels. However, in China, it is local governments that exercise financial and administrative power over infrastructure, which contributes to the inconsistent development of rural and urban infrastructure.

In 2005, this pattern began to change, when the central government launched the “New Rural Construction” strategy, which shifted the focus from urban to rural areas, and ensured that more effort

would be made to support infrastructure that is conducive to the improvement of production and quality of life in rural areas, such as water-saving irrigation, drinking water for humans and for livestock, rural biogas, rural hydropower, rural roads, pasture fences, etc. In the following decade or so, the development of infrastructure and basic public services in rural areas was one of the main ways the central government addressed problems with agriculture, rural areas and farmers and fought rural poverty. In addition to increasing central government investment in the development of rural areas and agriculture, there has also been considerable innovation in investment and financing mechanisms for agricultural infrastructure. At the same time, investment has been made not only in economic infrastructure such as irrigation and traditional social infrastructure such as rural roads, but also in human development-oriented infrastructure such as medical care and education and modern infrastructure such as information and communication technologies. As well, attention has been paid to the synergy and integrity of urban and rural infrastructure. The financing system for infrastructure became increasingly innovative and diversified.

Learning from the practices of other provinces (municipalities) in infrastructure construction, Guizhou Province, one of China's poorest, took advantage of the "advantages of backwardness" to make a major push to stimulate development in

agricultural and rural areas through leap-frogging improvements in infrastructure.

Like most underdeveloped regions in China, infrastructure in Guizhou was extremely limited. In 1978, Guizhou had only 30,600 kilometres of highway, 2,802 kilometres of navigable waterways with low-level channels, and 2,932 bridges. However, unlike most regions, this was attributable to its special natural geography. Located in the southwestern part of China and the eastern part of the Yunnan-Guizhou Plateau, Guizhou is an inland province without coastal areas, major rivers, or borders with other countries. 92.5% of its area is mountainous and hilly. Guizhou is the only province in China that does not have a plain. The land available for agriculture, forestry and animal husbandry accounts for 83.7% of its total area. Although the concept of "building roads before getting rich" is deeply rooted in the minds of the public, the province's karst formations mean the terrain is rough, water conservation and storage is difficult and the ecological environment is fragile. With serious water shortages for engineering work, Guizhou's construction of transportation infrastructure such as roads and bridges started quite late, and was extremely difficult and slow.

The lack of infrastructure has seriously restricted the economic, social and overall human development of Guizhou. "No three feet of [flat] land, no three consecutive sunny days, and no three coins in a



household” is the best portrayal of the relationship between Guizhou’s geography and social economy. With little arable land, it was difficult to expand the non-agricultural economy, and Guizhou’s local economy has long failed to thrive. A majority of its labor force found employment and income by migrating to other provinces, especially the south-eastern coast. The large outflow of young and middle-aged workers not only impeded the restructuring of local agricultural production and productivity improvement, but also led to the problem of the “three stays” (children, the elderly and women staying at home) in rural communities and the extreme hollowing-out and aging of villages. Blocked by mountains and rivers, its natural resources such as medicinal herbs and coal as well as its diverse and rich cultural resources could not be transformed into real economic advantages, but instead magnified its disadvantages. Over time, Guizhou’s rural poverty became increasingly serious, eventually becoming the largest impoverished province in China both in scale and number. The 2005 Human Development Report showed that Guizhou’s Human Development Index (HDI) was equivalent to that of Namibia in Africa. That number reflected the provincial average; the situation of the poorest residents in remote mountainous areas was even worse.

The rapid changes in Guizhou’s infrastructure began with the implementation of the “Great Western Development” strate-

gy in 2000 (see Section 1.1.3). The central government focused on supporting infrastructure in the western provinces and cities, and Guizhou started to innovate its infrastructure financing mechanisms. With scientific and technological progress, major breakthroughs have been achieved in bridge construction technology in mountainous areas and road construction technology in places with unusual geology. Between 2000 and 2010, the cumulative investment in infrastructure in Guizhou Province exceeded CNY 440 billion, and impressive achievements have been made in transportation. At the end of 2013, the Guizhou Provincial Government issued a rural infrastructure action plan involving rural roads, water usage, housing, electricity, and villages. The plan aims to accelerate the expansion of infrastructure in towns and villages. Guizhou opened its first high-speed railway in 2014, and became the first province in western China and the ninth province in China to open county-level expressways in 2015. It became China’s tenth province to run public buses connecting each village and the fourteenth province to open village-level asphalt roads. By the end of 2017, Guizhou ranked third in western China in terms of the total length of expressways, fifth in China in terms of the comprehensive density of expressways, and the first among 14 non-water-network provinces and provincial-level municipalities with 3,664-kilometers of navigable waterways. More than 80 of the world’s top 100 high bridges are

located in China, and 40 of those are in Guizhou. From big cities to counties to villages, from high-speed trains to air travel to water travel, Guizhou's transportation network is becoming more multi-level and multi-dimensional.

If Guizhou's investment in transportation and core infrastructure is regarded as addressing historical gaps, it is fair to say that the creation of information infrastructure is an innovative measure adopted by an emerging region, and has become a new driver of Guizhou's economy. In the context of targeted poverty alleviation, Guizhou Province launched a three-year big data strategic action and information infrastructure action plan in December 2014. Its special geography became an

advantage this time. The province's cool weather and clean air made it attractive to data center servers, its low incidence of natural disasters provide a stable environment for equipment operation, and abundant water and electricity resources provide sufficient sources of power. With the improvement in transportation infrastructure, Guizhou has attracted many well-known high-tech enterprises, both Chinese and international, and has become the largest data aggregation site with the best bandwidth and speed in China and globally. By the end of 2017, Guizhou had the fastest year-on-year improvement in logistics efficiency in China; 100% of its administrative villages had access to the 4G network, 98% had access to fibre optics; and the coverage by express delivery



**Picture: 3.3 He Zhang bridge, Biwei Highway, Guizhou Province.**

*Source: Beijing Daily*

networks from online shopping platforms in impoverished areas exceeded 60%. Relying on this, its modern intelligent logistics infrastructure has developed rapidly. For example, Truck Alliance, an internet company based in Guizhou has developed a cross-industry and cross-region logistics information sharing platform based on big data technology, matching truck drivers and cargo owners, and improving the efficiency of road transportation. In addition, Guizhou Province developed its own e-commerce platform, "Guizhou E-commerce Cloud", to connect with large-scale e-commerce platforms, built a direct supply system for agricultural products, establish a three-level logistics system for counties, townships and villages and developed a cold chain network covering all communities within Guizhou. Infrastructure has helped Guizhou "leapfrog" in terms of its economic and social development. As production, livelihood, medical services, education, transport, and telecommunications infrastructure have gradually improved and the flow of people, materials, funding, and information has increased, Guizhou has been able to take advantage of its climate, water, coal, electricity, wild plants, and the social and cultural resources of ethnic minority groups that its unique geographic position has given it to bring about positive economic and social effects. Improved integrated transport infrastructure, information infrastructure, and modern logistical infrastructure have overcome geographical and

development constraints and have helped built an effective system that connects rural production with urban consumption, enabled two-way flows of markets and resources between urban and rural areas, promoted the development of high value-added industries such as food and agriproduct processing industries and rural tourism, helped facilitate the rise of the digital economy, and raised the livelihood and cultural and recreational consumption of rural residents.

With improved agricultural efficiency and higher rural incomes, the province's per capita GDP has been rising at a faster pace than the national average, and is no longer in last place in the national per capita GDP rankings. Production-based poverty alleviation, the Chinese term for poverty programmes that emphasize increased income from productive activities rather than from transfers or other direct financial support, increased the income of 1.68 million poor people in 2018 alone. The value of the agricultural sector increased by 6.8% in the same year, the highest in the country. The hidden unemployment of rural residents has been lowered, and even less educated rural residents and ethnic minorities with limited Chinese language skills are participating in non-agricultural employment with the help of information technology. As the rural economy has strengthened, living conditions have improved, and innovation and entrepreneurial choices have become more diverse in

rural areas, migrant workers have returned home, families have been reunited, and rural communities have been reinvigorated.

From a national perspective, China's infrastructure development has also undergone radical changes in the past four decades. For example, in transport infrastructure, in 2017 China had the most high-speed railway mileage, and electrified railway mileage in the world, with 145.6% more in mileage of railways in service and 4.4 times increase in road mileage compared with 1978. In telecommunications infrastructure, in 2017, every hundred people have 102.5 mobile phones, there are about 770 million netizens, up to 997 million 4G users, and approximately 350 million users who have access to fixed broadband and mobile payments, ranked the first in the world.<sup>1</sup> In 2018, the direct and indirect jobs supported by the mobile ecosystem reached 8.5 million, contributing CNY 583 billion to government revenues; the mobile industry contributed CNY 5.2 trillion, about 5.5%, to GDP in China in 2018.<sup>2</sup>

Impressive as these statistics are, they are not enough to demonstrate the changes that infrastructure has brought to Chinese people, especially those living in remote and underdeveloped regions. It is said

that "people's travels are more convenient and goods flow more easily". The gradual popularization of telecommunications has bridged the urban-rural and inter-regional digital divide. High-speed railway and other low-carbon transport technologies as well as e-commerce platforms are not only expanding wealth and opportunities in China, modernizing lifestyles and production, but are also helping make China greener and more environmentally-friendly. Guizhou's experience in infrastructure development is both unique and broadly representative of infrastructure construction in China. Guizhou's uniqueness rests in the way it has employed the leapfrogging approach to the development of energy, water and waste-water, transport, and information infrastructure as well as local advantages in people, environment, and society to rapidly improve the rural environment, rural life, the rural economy, and even the urban-rural economy in spite of historical infrastructure, resource and environmental constraints. With technological advances, Guizhou is no longer limited by a vulnerable environment, but instead has turned it into an advantage to achieve environmentally-friendly development and cultural adaptation. Its experience with effective and sustainable development can provide confidence, inspiration, and replicability to other regions with resources shortages and geographical disadvantages.

Guizhou is representative in China because even though it is a region where infrastruc-

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1 National Internet Information Office, *Digital China Construction Development Report* (2017).

2 GSMA Intelligence, *The Mobile Economy China 2019* (2019).

ture lagged behind, it caught up with other regions in China in a relatively short period of time. Infrastructure was built in China later than in developed countries, but it has overtaken them in the last 20 years thanks to a massive use of resources, new technologies, high standards, and industrial progress. It is worth noting that the World Bank and other international organizations have contributed their unique strengths to infrastructure construction in Guizhou and other underdeveloped regions in China. In over 20 years of development for poverty alleviation in the province, the World Bank has focused mostly on supporting soft and hard infrastructure for industrial development, including rural road construction, information and communications infrastructure, logistical and warehousing facilities, and microcredit and production training for rural residents. Meanwhile, governments at all levels in China have been actively building partnerships with various commercial and social organizations at home and abroad, making it possible to sustain infrastructure financing.

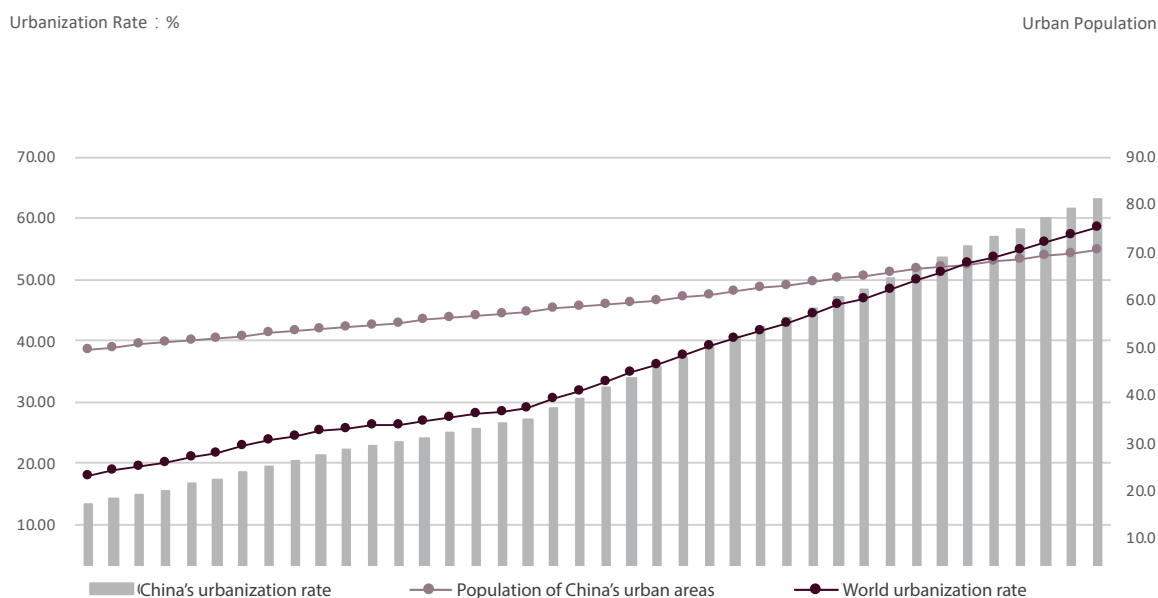
Since 1978, infrastructure has been built in China surprisingly fast and on a gigantic scale, first prioritizing urban infrastructure, then rural infrastructure, from basic infrastructure such as water and electricity to development infrastructure such as medical care and education, and from hard infrastructure such as transport to information infrastructure such as the Internet. And at the same time, various types

of infrastructure have increasingly been integrated, and cooperation between the government and private capital in infrastructure and public service delivery has become increasingly diverse. There is still much work ahead in the development of China's infrastructure, such as making infrastructure planning systems more rigorous, diversifying the sources of investment, making urban-rural and inter-regional development more equitable, and using technological advances and social innovation to avoid negative environmental and ecological impacts. Only then can China's infrastructure network deliver a greater multiplier effect and become more sustainable.

### **3.4: Urbanization Development Strategy, from Building Small Towns to Big Cities and City Clusters**

As countries develop, their populations tend to migrate to cities due to more employment opportunities, higher wages, better infrastructure and public services, smoother social mobility and more diverse social participation, more easily available in an urban environment. Cities attract labor and capital, contributing to higher levels of productivity, stronger innovation capability and greater economic dynamism. Cities are generally the main drivers of economic growth. Urbanization is a sign of and a key path to modernization.





**Figure 3.4 Urban population and urbanization rate (China, 1978-2017)**

Source: China data from the China Statistical Yearbook 2018, world urbanization data from the World Bank, World Development Indicators.

However, urbanization does not necessarily translate into sustainable human development. Industrial, housing and resources capacity and ecological carrying capacity may become insufficient or inadequate to accommodate the rising population, and unemployment, homelessness and excessive consumption of resources often become serious problems. These harm health and the overall well-being of urban residents, in which low-income groups are often the primary victims. In 2018, 55% of the world's population lived in urban areas,<sup>1</sup> which means

cities have become the habitat for most people. By 2050, the population living in cities is estimated to grow to nearly 70%. In view of this, the United Nations has incorporated "Make cities inclusive, safe, resilient and sustainable" into the 17 SDGs of the 2030 Agenda to alleviate poverty, inequality and damage to the ecological environment during the process of urban development.

Over the past four decades, China has recorded one of the world's fastest urban development, and the largest population transfer from rural to urban areas. Urbanization has been a main engine driving China's economic boom over the past 40 years of the Reform and Opening Up. Yet China has managed to avoid a "big city

1 United Nations Department of Economic and Social Affairs, Revision of World Urbanization Prospects (2018). Retrieved from: <https://www.un.org/development/desa/publications/2018-revision-of-world-urbanization-prospects.html>

malaise" as serious as experienced in the urbanization process of some other developing countries. In this sense, reviewing China's urbanization process will be instructive for developing countries, especially low-income ones with dense populations.

China's urbanization process started in 1978 and can be divided into the following three stages, according to the focus on different aspects of urbanization in each period. The first stage lasted from the early period of the Reform and Opening Up to 1992 and focused on small town development. At the beginning of the Reform and Opening Up, when labor flows were relatively restricted, the labor force released by rural reforms was largely absorbed by township and village enterprises that flourished in the 1980s. Rural residents "left the land but not their hometowns" and engaged in non-agricultural work in their county of origin. This small town-based urbanization model eased the pressure of rural surplus labour transfer and laid the foundation for "city- and town-ization" with Chinese characteristics rather than "urbanization". "City- and town-ization" is the most widely used Chinese term for what in most countries is referred to as urbanization. The difference between the two phrases reflects China's emphasis on small town development, rather than on large and unregulated development of urban agglomerations. The smaller dispersed counties and towns have played a significant role in absorbing surplus agri-

cultural labor owing to their greater flexibility. In the process, human development was achieved, although differences between small towns and big cities in terms of education, medical care, employment and public services remained. Hence, the overall human development level did not reach its full potential in this first stage of urban development. The production mode and lifestyle of these towns were still far from those of conventional "cities", limiting some of the opportunities typical of large urban environment.

The second stage of Chinese urbanization, from 1992 to 2011, recorded rapid city- and town-ization driven by economic restructuring, a booming export-oriented economy and a further relaxation of restrictions on labor movements. An important driver for the acceleration of city and town development at this stage was the establishment of China's market economic system and its accession to the WTO, which facilitated the development of the private sector, and an inflow of foreign investment, creating a large number of employment opportunities in cities and towns. A batch of cities in the Yangtze River Delta and the Pearl River Delta grew rapidly, built around the manufacturing industry. Another driver was the gradual *hukou* system reform (see Box 3.1) that has offered more and more freedom for farmers to move to cities and take full advantage of the new opportunities.

One critical step in this process was the



liberalization of grain and cooking oil purchase and sale in 1993, prior to which internal migrants had great difficulty in obtaining food. While migrant workers continued to face other restrictions on access to urban public services, this step facilitated a freer migration between urban and rural areas for the Chinese people. After that, large cities like Shanghai started to explore the residence permit system, granting limited public services to rural residents who were employed, lived or went to school regularly in the cities. By 2011, China's permanent urban population exceeded that of the rural areas for the first time, reaching 51.3%.

The fast development has inevitably resulted in poor sustainability and inclusive-

ness, with sub-standard urban and rural land use of urban construction land during the expansion phase. There were problems caused by insufficient urban absorption and carrying capacity as well. For example, megacities with populations exceeding 10 million such as Beijing and Shanghai have shown "big city malaise" symptoms such as traffic congestion, water and land resource shortages and air pollution, hampering further human development.

To address these new challenges, the third stage of urbanization, featured a new concept of urbanization, focusing on quality enhancement and "people-centred urbanization". This phase began with the 18th National Party Congress in 2012. This new approach to urbanization



**Picture 3.6 Concept Overview of Chengdu Park City.**

*Source: Chengdu Planning and Natural Resources Bureau*

development emphasizes coordination, inclusiveness and sustainability. To this end, three major approaches have been adopted. First, national urban development planning focused on achieving coordinated development between large, medium and small cities and small towns and that of urban and rural areas, through urban-rural integration and city clusters at its center. Second, the reform of important systems such as the household registration and the social security system accelerated, promoting “people-centred urbanization”, and advancing “all-round development”, social fairness and justice. The main measure is to gradually break the shackles limiting the move of the agricultural population, eliminating, for example, *hukou* differences in social welfare, expediting the equalization of public services, and easing the restrictions on urban registration except for some megacities. Third, urban planning and construction are being improved, new types of cities, including green, smart and humanistic ones are being built, and local governments encouraged to adjust measures to their local conditions and leverage their natural, economic, social, historical and geographical advantages in planning for and developing prosperous, coordinated, liveable and sustainable new cities and towns. After the “New-type urbanization” Plan was put forward, NDRC announced three batches of pilots and many localities began to formulate their own new urbanization plans as well. Sichuan Province

took the lead in piloting park city development in the country, with Chengdu, the central city of the Chengdu-Chongqing City Cluster and the provincial capital of Sichuan Province, leading in this new phase.

In 2018, Chengdu started the construction of a “park city”, exploring a new city mode of harmonious and unified “people, city, environment and business” development, pioneering a new path for sustainable urban development in the new era. The park city development is people-oriented and is committed to create a complex of organic integration of parks and urban spaces, production and living ecological spaces, and natural, economic and social resources, to be translated into economic benefits and higher living standards.

The Park City Plan aims to lead the transformation of citizens’ lifestyles towards sustainable human development. Coordinating the three patterns of production, life and ecology, Chengdu has shifted its urban development model from industry-based to people-centred, from production-oriented to life-oriented, so as to satisfy citizens’ “desire for a better life”. With a focus on the Tianfu Greenway and green space, it has built new living and consumption areas as well as comfortable and pleasant recreational and socializing areas. It has synergized space, city scale and business to develop a city in the park. With district greenways as the skeleton and city and community-level greenways

crisscrossing each other, the Tianfu Greenway System connects communities in the city, integrating public space and ecological environment, and guiding the rational urban layout of population, productivity, infrastructure and public services for sustainable growth and quality development of the city. Chengdu has also enhanced its urban green transportation system that integrates rail transit, public transportation and non-motorized transportation, promoting green transportation and life in an all-round way.

The Park City Plan also aims to develop a new economy and new economic driving forces, creating an innovative ecological chain leading to a virtuous cycle of ecological industrialization.

It also aims at transforming social governance approaches for the government, society and citizens to build a modern law-based, for-the-public-good platform of cooperation and co-governance.

Just over one and half year since President Xi calls for construct park city in Chengdu, the city has significantly promoted its progress in becoming more liveable and greener. More specifically, Chengdu extended its park city feature not only to be people oriented, but also preserves ecological civilization and make people, industry, environment in the city to be more coordinated and united. A few guidelines and policies have efficiently be formulated by municipality government to ensure fa-

vorable institutional support.

The overall progress of China's urbanization over the past four decades' Reform and Opening Up can be measured qualitatively and quantitatively.

Quantitatively, the number of China's permanent residents in urban areas has grown from 171 million in 1978 to 824 million in 2018 (see Figure 3.4), and its proportion of the total population has increased from 17.3% to 58.5%, above the world average in 2017. Besides the growth in urban population, the urban built-up area has been expanded to 56,200 square kilometres, up from 47,000 square kilometres in 1981.

Measuring the quality of urbanization is also vital for a sustainable development assessment. The overall economic strength of urban areas has increased. The GDP of urban areas in 2016 accounted for over 80% of national GDP. With urbanization, the industrial structure is also changing, with the share of added value of the service sector in urban areas exceeded 50% in 2014 and continues to grow. Services have now become a pillar industry in cities. Major cities in China have met the standard of developed countries in terms of their Human Development Index. The distribution of China's urban centers is also more diverse and rational, as their spatial structure continues to improve, and the number and size of cities in central and western China are increasing.

China's urban clusters continue to develop rapidly, China has the largest number of cities and megacities of any country in the world. According to joint research by the Development Research Center of the State Council and Baidu Map, China had 17 urban clusters as of December 2017. Beijing, Shanghai, Guangzhou and Chengdu are driving a new wave of fast urban cluster growth. The Yangtze River Delta cluster that is composed of 30 member cities including Shanghai, and those in Jiangsu, Zhejiang and Anhui are growing the fastest. The cluster, with an area of 359 thousand square kilometres, 220 million residents and GDP of CNY 19.5 trillion, has been included among the six largest urban clusters in the world.

China's cities have seen considerable improvement in public infrastructure, townscape, urban civilization, business environment, public life and innovation capability. As the development of urban and rural areas is integrated, talent, land, capital and information are flowing in both directions more freely.

Last but not least, cities are playing a key role in driving human development. Cities are providing more people with employment income and social participation. The per capita disposable income of urban residents by the end of 2017 was nearly 15 times that of 1978, and the consumption of housing, durable consumer goods, automobiles, and tourism services have all increased substantially over the past 40

years. New lifestyles and consumption patterns including online shopping/entertainment/food-ordering and network-based bike-sharing are becoming more common, and the urban housing and social assistance systems help provide standards of living to the most vulnerable. Meanwhile, rural residents and migrant population are both able to enjoy the results of urbanization. The entry barrier for rural populations to reside in urban areas is being lowered; they have gained more income from non-rural labor and social security including urban resident health care and subsistence allowances is developing as well. The progress made in IT and transportation infrastructure expands the coverage of urban amenities, and more products/service/information from urban areas are going to be delivered to rural areas and farmers.

Over the past 40 years, the size of China's urban population has increased by over 700 million people. Approximately 16 million people come from rural areas to cities each year, a figure that is almost equal to the total population of the Netherlands. As described above, it has not always been a smooth process, but is the result of considerable effort and painful experience. There are still issues that remain to be addressed, including lower urbanization levels of cities that continue to restrict residents according to their household registration status. China's urbanization process is transiting from fast urbanization to a process that focuses more on structure

and quality, from small town development to big city and city cluster growth. Today, people-oriented cities are a high policy priority, and new models such as “park city, green city, smart city and innovative city” for more “scientific, human-oriented and sustainable” urbanization are emerging. Putting people’s welfare at the center of urban development is the way in which cities can fully support sustainable human development. Much progress has been made, but more remains to be done.

### **3.5: The Reform of State-owned Enterprises and the Establishment of a Market Economy System**

State-owned enterprises (SOEs) are enterprises whose capital is wholly or partially owned by the government, and directly or indirectly controlled by the government. They exist and play important roles in all economies and are a key mechanism for economic and social resource allocation. SOEs can also play a positive role in making up for market failures. In classical command economies, such as the one that existed in China before the launch of the Reform and Opening Up, SOEs are generally the core of the modern economy, dominating all heavy and much of light industry. Having a job in an SOE in those days was known as having “an iron rice bowl” – an unbreakable source of income and other benefits. The managers of the

SOEs were among the most privileged members of society, and their enterprises generally had secure access to investment finance, low cost inputs such as electricity and fuel, and so on.

Under the planned economy system, SOEs were known as “state-run enterprises”. The current term “state-owned” was first adopted in the mid-1980s, when distinctions between multiple forms of ownership first became an important question. Before the Reform and Opening Up, SOEs were in an absolute dominant position in China as one of the main organizational structures of China’s economy and society. By 1978, China had established a fairly rudimentary, but complete and independent industrial system, with few links to the outside world. Among the more than 377,000 industrial enterprises across the country, 78% were collectively-owned enterprises and 22% were state-owned industrial enterprises. The collective industrial sector differed in some fundamental respects from state-owned; collective enterprises were generally under the supervision of local governments, rather than state, and had more residual claim to profits, in theory. They were concentrated in labor-intensive production. That sector also underwent reform, including with the flourishing of rural TVEs described earlier in this chapter, but is not the subject here.

In 1978, there were 95.14 million urban employees across the country, 24% of which were in state-owned economic



institutions. Total industrial output value was CNY 423.7 billion, 77.6% of which was produced by SOEs. At that time, all enterprises were state-owned, and therefore all urban employment opportunities and output value were effectively generated by SOEs. SOEs also assumed social functions covering not only employment but also pensions, medical care, housing and the education of employees' children. In a manner of speaking, every aspect of life was closely interwoven with SOEs.

The reform of these enterprises was therefore one of the core tasks, and the most challenging, in the transition to a market-based economy. The need for reform was clear, but equally clear was the need to handle it in a way that would not throw large numbers of enterprise workers into poverty, or disrupt the supply of key industrial products and services. The experience of many former command economies who underwent a more rapid transition to private ownership starting in the late 1980s was not attractive to Chinese policy-makers, as it was frequently characterized by corruption and social disruption.<sup>1</sup> Over the past four decades of the Reform and Opening Up period, as the market economy deepened, balancing social equity and economic efficiency has become a fundamental question in the reform of SOEs.

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1 See, for example, Chrystia Freeland, *Sale of the Century: Russia's Wild Ride from Communism to Capitalism* (Crown Business, 2000).

Early in the Reform and Opening Up period, SOEs had many challenges and difficulties. For instance, local governments and enterprises did not have autonomy in business management, and egalitarianism prevailed in distribution. Therefore, the SOE reform launched in 1978 prioritized the expansion of enterprise autonomy in operations, allowed enterprises to keep part of their profit and began to implement a contract responsibility system in industry. In 1984, the Chinese government began to reform the urban economic system, stating explicitly that it would separate government functions from enterprise management and ownership from management. The contract responsibility system was fully implemented, and SOEs started to transform into relatively independent market entities. This reform spurred economic growth. From 1978 to 1985, GDP grew, and SOEs remained the dominant non-agricultural economic entity in China, as evidenced by the increase of SOE employees from 33 million in 1978 to 42 million in 1988 and in the surge of total output value from CNY 330 billion to CNY 1.04 trillion. However, it should be noted that although SOEs expanded in scale, they had much less progress in increasing efficiency.

As the Reform and Opening Up continued, the external business environment also changed. The non-state-owned economy emerged and expanded rapidly; foreign investment came to China and the mar-

ket economy expanded. The ownership structure and national economic structure that formed under the planned economy system in China were severely challenged. From 1980 to 1995, the proportion of state-owned industries dropped from 51.4% to 29.8%, and SOEs were no longer the dominant entity in the national economy. Compared with private businesses, SOEs were inefficient but took up a large share of labor and capital resources; the problem of high investment but low output became increasingly serious as did the issue of redundant staff. It became clear that control of SOEs needed to be liberalized so they could be reinvigorated and develop further. Under these new economic and social conditions, the establishment of a modern enterprise system adapted to the new economic and social context was linked to the sustainable development of SOEs, the continuous improvement of economic efficiency, rising employee incomes, and other core issues. In 1993, China initiated the modern enterprise system reform targeting SOEs. To meet the general requirements for the establishment of a unified, open and competitive modern market system, the government set a policy of "invigorating large enterprises while relaxing control over small ones". The government tried to develop a collection of large enterprise groups through restructuring and debt/equity swaps, and restructured a number of small SOEs through mergers, contracting and sales to form a competition mechanism

under the principle of survival of the fittest.

Driven by multiple factors, SOE reform peaked in 1998. At that time, SOEs were weighed down by excessive staff redundancy as a result of the inertia of the traditional system, institutional burdens and an internal management system that could not adapt to the fierce competition of the market economy. There was also excess capacity in many sectors. In the meantime, the Asian financial crisis broke out, weakening global demand and further negatively impacting Chinese SOEs, most of which suffered massive losses. By the end of 1997, only 34.1% of SOEs nationwide were profitable and overall SOE Return on Equity was only 1.7%. The rate of non-performing loans of commercial banks exceeded 20%. SOEs were not contributing to economic growth and many could barely cover employee salaries and benefits. Medical care coverage evaporated. The state had attempted to revitalize SOEs before, and a limited amount of state-owned capital had to be used to rescue enterprises without any hope of turning around losses. The large amount of spending on subsidies for SOEs was ineffective, resulting in losses of government capital. In this light, SOE reform was deemed imperative.

In 1998, following a suggestion from Premier Zhu Rongji, the Chinese government developed a three-year plan to extricate most large and medium-sized state-owned loss-making industrial enterprises from this situation and turn their losses



into profits or at least reduce their losses. To achieve this goal, local governments, departments and relevant enterprises intensified economic reform, enterprise restructuring, technological transformation and enterprise management, mergers and acquisitions were encouraged, bankruptcy regulated, staff were let go and efficiency increased. At that time, the most influential policy measures were the three “master cards”. The first was policy-mandated bankruptcy. Enterprises that had no hope of becoming profitable were allowed to declare bankruptcy. After liquidation, their assets would be primarily used to help staff find new jobs and secure their livelihoods, rather than pay off bank debts. The second was debt-equity swap. For enterprises whose products or services were in demand but had heavy debt, asset management companies were founded to convert debt to equity, cut their debt ratios and optimize the asset structure of state-owned banks. The government established four state-owned asset management companies who bought high-interest SOE debt off lenders in exchange for equity in the SOEs. The third was technological transformation. The state provided discounted bank loans to support profitable enterprises in good conditions to ramp up technological transformation. These sweeping measures resulted in 20 million SOE employees being laid off, tens of thousands of small and medium-sized SOEs restructured, thousands bought out and hundreds entering bankruptcy. By the end of

2000, state-owned and state-controlled industrial enterprises across the country increased profits to over CNY 200 billion, and only 27.2% of them were unprofitable. Out of 6,599 unprofitable enterprises, 4,799 leveraged various means to become profitable, a success rate of 72.7%.

As noted above, historically SOE employees had been a privileged group, with the “iron rice bowl” employment system and with a broad and generous package of social services provided by their employer. Ending those arrangements was one essential step in making SOEs more competitive in a market economy; however, this had to be done in ways that would protect the interests of the employees and avoid major disruptions to urban society. As the reforms were implemented the Chinese government also launched a series of supporting measures to protect SOE employees. At the macro level, as part of the overall reform of the economy, the government transferred responsibilities for social security from enterprises to the state. This was the start of the still ongoing process of developing an overall coordinated socialized social security system and safety-net that was also expanded to include employees at private enterprises helped boost employee mobility in a multi-ownership economy. Housing reform (see Case Study 3.6) was launched to separate ownership of employee housing from enterprises.

Laid-off workers were a particular concern,

and in 1993 the government launched China's first social protection scheme to assist them. According to the China 1999 Human Development Report, the number of laid-off workers increased sharply in these years, from 3 million in 1993 to nearly 18 million in 1998.<sup>1</sup> The increasing number of laid-off workers from state-owned enterprise and collectively-owned enterprises not only created pressure on the overall labor market but also drove a rise in urban poverty, a relatively new phenomenon at that time. In 1998, to specifically address the problems caused by laid-off workers, the Ministry of Human Resources and Social Security requested that all local governments build up a system to ensure basic living standard for laid-off workers and provide living allowances for them. In addition to the allowance for laid-off employees and unemployment insurance, the government launched the "Urban Minimum Living Standard Assistance" programme, also known as *dibao*, to assist both laid-off workers and other urban poor households. This was first piloted in Shanghai in 1993, site of some of the most sweeping SOE reforms, and by 1999 spread to all cities, eventually providing support to over 22 million urban poor individuals.<sup>2</sup> The *dibao* programme, together with unemployment

insurance and the living allowance for laid-off employees, set up a workable but fairly basic "safety-net" to support the implementation of essential SOE reforms.<sup>3</sup>

The reform of SOEs, in turn, opened up opportunities to expedite the development of the social security system. Re-employment schemes for laid-off workers were also an important component of the three-year plan for SOE reform. Re-employment Centres for laid-off workers provided basic living allowances to laid-off workers, ensured that major social security benefits were not cut off and provided training and help finding new job opportunities. With these supporting measures in place, although SOE reform did impact many former employees, it did not get out of control.

After the reform, SOEs became more like modern enterprises with increased efficiency and influence. They continued to support economic and social development. After China became a member of the World Trade Organization (WTO), China's SOEs began to deeply integrate into the global economy. In response to new changes, the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) was founded in 2003, and the reform of the regulatory framework of state-owned assets began.

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1 UNDP, *China Human Development Report: Transition and the State* (China Financial and Economic Publishing House, Beijing, 1999).

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3 Athar Hussain, "Social welfare in China in the context of three transitions", *How Far Across the River*, Nicholas C. Hope et al., eds. (Stanford, Calif., Stanford University Press, 2003).

SOEs truly became independent competing entities, the function of owners and managers were genuinely separated and the role of the government shifted from controlling enterprises to managing assets. During this period, the types of SOEs were more clearly defined. According to the Guidelines of the CPC Central Committee and the State Council for Deepening the Reform of State-owned Enterprises of 2015, SOEs are divided into those dedicated to public welfare and for-profit entities. For-profit entities can be categorized as entities in fully-competitive industries and fields or those in other industries and fields. In this classification reform, a “one-size-fits-all” approach was avoided. For example, the goal of reforming public welfare SOEs was to better leverage the social responsibility of SOEs to improve livelihoods, boost social services and increase operational efficiency. In general, since the 18th CPC National Congress in 2012, the focus of China’s SOE reform has been “to let the market play a decisive role in the allocation of resources and the government better serve its duty”, and an integrated policy system has thus come into being: deepening the reform of the regulatory framework, staging a new round of mixed ownership reform, and readjusting layout strategies to remove excess capacity. SOE reform was thus deepened.

As reforms went further, China’s SOEs have been largely transformed into modern enterprises, incentives have been established

and operational efficiency has improved. They have become pillars propping up economic growth and bolstering social welfare. The scale and profitability of SOEs continue to grow. From 1978 to 2016, the original value of SOE fixed assets had an average annual growth of 12.4%, and the total industrial output of SOEs increased by 13.3% on a yearly basis. The number of SOEs increased and then was cut back, falling from a peak of 118,000 in 1995 to 19,000 in 2016. SOEs are augmenting their international influence. The number of Chinese SOEs on the list of Fortune’s Global 500 rose from 3 in 1995 to 83 in 2018. SOEs are spending more on research and development (R&D) with numerous independent innovations, thus supporting national scientific and technological progress. The goals of the classification reform have largely been achieved, mostly concentrated in industries affecting the economic lifeline and people’s livelihoods. SOEs are still an important driving force in China’s economic and social growth, contributing to tax revenues, creating employment and fulfilling social responsibilities. In recent years, the Chinese government has begun to transfer state-owned assets to social security funds, which is a typical case of fulfilment of social responsibility.

Local governments have also been exploring approaches to SOE reform, with some noteworthy results. One example is Qingbaijiang District in Chengdu, the capital of Sichuan Province.

Qingbaijiang District was the first industrial zone in southwestern China established during China's First Five-Year Plan (1953-1957). Supported by two large SOEs (Sichuan Chemical Works Group and Chengdu Steel Plant), the district developed into the largest metallurgical and chemical engineering base in Sichuan Province. For a long period of time, the economic and social growth of the district was closely linked to these two large SOEs. In their most prosperous days, these two large SOEs contributed to over 70% of local total industrial output. The social life of SOE staff and their families were closely bound up with the enterprises as well. The first waves of SOE reform at Qingbaijiang District were similar to what was described above. For example, Sichuan Chemical Works Group had to lay off many redundant personnel and shed many social responsibilities such as employment, education and medical care. The Group was restructured into a joint-stock limited company in the 1990s, and non-productive departments were gradually separated from the Group.

The advent of the 21st century marked the end of the era when high energy consumption and pollution were considered acceptable costs for economic growth. When Qingbaijiang District entered the next stage of industrialization, a new wave of transformation was needed. In 2014, the district began industrial adjustment and shut down the Pangang Group Chengdu Steel and Sichuan Chemical Works Group,

two of its leading enterprises. In the same year, Sichuan Chemical Works Group withdrew from the natural gas chemistry industry. In 2015, Pangang Group Chengdu Steel shut down all production lines. The "two giants" propping up the old industrial zone completely ceased operations.

Facing strong pressure to accelerate reform, Qingbaijiang built on the advantages of its ports and solid industrial foundation to revamp the SOEs and push for industrial transformation and upgrading. Their first move was to "leave the plan and expand the market", that is to abandon the remaining planned economy aspects of the SOE sector and pursue market-oriented development. By pushing through reform of large SOEs and rationalizing government-market-enterprise relationships, the district rejected the influence of the planned economy and pursued market-oriented development. Developing and exploiting the regional industrial cluster, innovation and spillover effects were now a focus. After Sichuan Chemical Works Group withdrew from the natural gas chemistry industry, it sped up the construction of new energy bases and supporting logistics. It is currently promoting construction of an industrial base together with Huading Guolian Power Battery Co., Ltd., to encourage development in the new energy sector. After the shutdown of smelting at Pangang Group Chengdu Steel & Vanadium Co., Ltd., corporate governance was restructured and branch





**Picture 3.4: Gate of Chengdu Steel factory in 2000.**

*Photo by: Wu Xueping*



**Picture 3.5: New Phoenix city, Qingbaijiang district, Chengdu**

*Photo: Bai Guibin*

companies were encouraged to corporatize. A new non-steel firm, “Jwell 56”, was established, and efforts were launched to strengthen the power and functions of the boards of directors there and at other non-

steel enterprises. An organizational structure basically in line with the standards of modern enterprises was established. Jwell 56 has developed into the largest e-commerce platform for bulk commodities in

southwestern China. Its annual revenue soared by more than 180 times to CNY 16.3 billion in 2018 from CNY 90 million in 2014. The company designed a development model based on an industrial Internet platform, which is highly replicable and transferrable. SASAC designated it a “typical innovative development case”. The company made the list of SOE reform “Dual Top 100” overseen by the Office of the Leading Group for State-owned Enterprises Reform under the State Council. Second, the district cut excess capacity and promoted production. The development of Chengdu International Railway Port Investment and Development Co., Ltd. directly boosted industrial restructuring and upgrading at Qingbaijiang. The Smart Industrial City is moving ahead with 55 infrastructure projects with a total investment of CNY 8.9 billion. This industrial park is located at the two old industrial bases, providing more impetus for the transformation and upgrading of the old industrial bases. Modern logistics, composite materials and new energy materials enterprises have fostered industrial agglomerations. Third, it streamlined administrative control and strengthened government services. The district has comprehensively streamlined administration and delegated power to invigorate the market by streamlining administrative power. It has established a district-level approval and business environment bureau, implemented an “Internet + government services” plan, and instituted a district-level bureau of

comprehensive law enforcement to optimize the business environment. These measures are intended to support the role of enterprises as entities of innovation and transform scientific and technological achievements into tangible productivity.

This series of reform measures have been very successful. First, enterprises, particularly those engaged in rough machining, such as steel refining and ammonia nitrogen fertilizers, have been able to systematically reduce excess capacity. Second, energy conservation and emissions reduction have been achieved through the strict control of the development of highly-polluting industries with high energy consumption. After the original business activities of Sichuan Chemical Works Group and Pangang Group Chengdu Steel were shut down, the district saw a reduction of a total of 30,000 tons of sulphur dioxide, 1,600 tons of nitrogen oxide, 260,000 tons of carbon dioxide, and a savings of 1.2 million tons of coal. The amount of sulphur dioxide cut alone was 36% of the total emissions of Chengdu City. The influence on the ecological environment will further human development. Third, it has prompted the optimization of the industrial structure. Both Sichuan Chemical Works Group and Pangang Group Chengdu Steel have entered into new industries, and thus stimulated the exponential growth of local industries of advanced materials and intelligent equipment. Fourth, the economy has

grown steadily. The shutdown of the two large enterprises did not affect the overall strength of Qingbaijiang, but instead pushed up local GDP. The district was honored as one of the “Top 100 Municipal Districts with Strong Comprehensive Strength in China” for seven consecutive years. Fifth, the approach to reform and innovation have produced some excellent case studies for the rest of the country. A total of 57 cases of reform achievements have been identified, and the experience of some pilot projects have been shared nationwide. Sixth, human settlements have been improved. The district has adopted the principle of park cities to guide construction and has built public supporting infrastructure in education, health and transport. Seventh, redundant staff have been absorbed into other industries. Since most enterprises were reformed in the same period, the district was under heavy pressure to help numerous laid-off workers find jobs while employment capacity had shrunk. Qingbaijiang was successful in managing this transition by developing high-quality social services and industries that could support and then reabsorb workers as industrial transformation and upgrading took place. For example, the district helped 5,475 workers out of 6,642 employees whose social security contributions were made in Qingbaijiang to get re-employed. Industrial upgrading also created new job openings to facilitate the reform of SOEs.

The SOE reform at Qingbaijiang District is an outstanding case of SOE reform in China and has provided a good example for SOEs to push through reforms under new circumstances. During the process, the district has reduced pollution, saved energy and cut emissions, promoted the reform of mixed ownership, invigorated SOEs and provided a more sustainable development model for human society.

The reform of SOEs in China has been an important factor in China’s human development achievements during the Reform and Opening Up era. The country’s ability to manage its transition from an SOE-dominated economy to a market-driven economy with dynamic, competitive and innovative private businesses, and minimize the problems of unemployment, industrial decline and environmental degradation that have plagued many transition economies is extremely noteworthy. SOE reform did not prioritize privatization, but instead prioritized boosting efficiency and profitability and thereby made an important contribution to sustained rapid economic growth. This growth enabled the rapid expansion of investment in human development at the household, local and national levels. Clearly defining the boundaries of SOEs and continuous efforts to open up the market has helped the private economy to develop faster and support a healthy market economy. The growth of SOEs and the private economy has generated



considerable tax revenues for the Chinese government. Infrastructure construction, the provision of public services, and the improvement of social security in close connection with human development are all supported by tax revenues. As well, SOEs have taken on a new type of social responsibility, in place of the “iron rice bowl” SOE culture of the command economy era. SOEs dedicated to public welfare offer public services for non-profit purposes. The SOE reform has also expedited a series of supporting reforms. The separation of an array of social services from the SOEs and explicit recognition that the former was the responsibility of government, and thus the right of all Chinese people, was an extremely important step in creating a more equitable society, without large structural gaps between urban SOE employees and the rest of the population. The new social services, such as the dibao, have now spread to rural areas and other population groups. The establishment of a sound social security system is inextricably connected with SOE reform, and social security has evolved from providing welfare exclusive to institutional employees to one accessible to more people (e.g. medical insurance has achieved universal coverage) with higher efficiency and greater equality.

### **3.6: Universal Access to Housing through Housing System Reform**

Housing is a basic material requirement for human survival and development, and the right to housing has been recognized as an integral part of basic human rights. In the Universal Declaration of Human Rights of 1948, the General Assembly of the United Nations declared that everyone has the right to adequate housing, as part of the right to an adequate standard of living. “Adequate” is defined differently in different countries,<sup>1</sup> but generally, at a minimum, includes security of life and property. Apart from survival, housing is what people rely on when they seek employment opportunities and livelihoods; housing provides shelter for people when they suffer setbacks and crises; housing, as an asset, provides residents and owners with disposable resources. When housing is combined with family, it gives people a sense of stability and happiness. The fundamental importance of housing was further reinforced in the 2015 approval of the 2030 Sustainable Development Agenda, which includes SDG 11 on sustainable cities, and its first indicator: “By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.”

For individuals, housing not only provides material security but also emotional support. For a country and society, housing is not only an economic issue but also a livelihood issue. Housing issues arise in

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<sup>1</sup> UN General Assembly, *Universal Declaration of Human Rights* (217 [III] A) (Paris, 1948).

different forms in different regions and different stages of economic growth. Mature economies like the US, Japan and Hong Kong SAR have been battered by real estate bubbles which have resulted in losses to their national economies and to people's well-being. Less developed countries struggle with housing shortages, including overcrowding in cities and poor housing quality in rural areas, low-income communities, and for extremely vulnerable groups displaced by war and disasters. At the same time, the production and consumption of housing are characterized by extensive externalities. The building of houses per se creates jobs and drives economic growth. Proper housing planning facilitates the effective use of infrastructure and ecological protection. Basic housing also plays a role in ensuring better health conditions and lower crime rates. In the metropolises of some countries, slums are known for high rates of violent crimes and poor health conditions which can be attributed to harsh living environments. Therefore, governments of different countries have formulated housing policies in line with their respective national and social conditions. They set out to promote the development of the real estate market by means of land, tax, finance and other policy tools and thereby drive macro-economic growth; at the same time, they consider housing as a quasi-public good and incorporate housing policy into social policy to respect, protect and support individuals to acquire affordable and suitable dwell-

ing places through monetary subsidies or physical distribution.

Living in peace and working in contentment are values recognized across the world. It is also part of the dream of the Chinese people since ancient times and part of their "family culture". For Chinese people, housing not only represents a place where they can settle down and get on with their work, but also symbolizes family, wealth and a stable life. On that account, the Chinese people have a strong craving for a house of their own.

Before the Reform and Opening Up period, the People's Republic of China had implemented a public housing distribution system characterized by "unified management, unified distribution and rental arrangements". All types of enterprises and public institutions built houses aligned with national investment plans for infrastructure construction and then allocated houses to their employees, who only paid symbolic rent. The cost differentials were then covered by these enterprises and public institutions. Although it appeared that the housing needs of urban residents were addressed by the government, there were many underlying problems. First, there was inequality. Since state-owned enterprises and public institutions were in charge of building houses for their employees, their performance and local economic development levels determined the housing levels of their employees. Only a small number of employees engaged in

high-income sectors or institutions could enjoy better housing conditions. Even within the same institution, the administrative ranking of employees was linked to their housing conditions: higher rankings had larger houses with better conditions. Secondly, residents did not have ownership of their property and the right to develop was restricted as well. Since housing distribution was linked to employment, residents only had the right to use their houses without ownership, so once they left the institutions they worked for, they had to hand over their houses, limiting labor mobility. Thirdly, the overall level of housing security was low. Due to total reliance on the government for funding for the employer-based public housing distribution system, and poor government finances and the poor performance of the national economy, the living conditions and supporting facilities at the time could only satisfy basic housing demand with poor liveability, with limited personal choice and inadequate privacy.

In the late 1970s, a large number of educated urban youth who had been sent to the countryside during the Cultural Revolution returned from rural areas to their hometown in cities. Meanwhile, the second round of baby boomers entered childbearing age. These two factors led to soaring urban populations nationwide, further highlighting the contradiction between housing demand and supply in urban areas. By the end of 1977, the per

capita urban floor space of residential buildings was merely 3.6 square metres, lower than that of 1950 (4.5 square metres). Seen from a micro perspective, this employer-based public housing distribution system could not meet demand both in terms of quantity and quality and the welfare provision was minimal. From a macro perspective, the low-rent physical distribution system began to reveal signs of financial unsustainability in the late 1970s. As a result, housing system reform was launched at that time.

From 1979 to 1997, the Chinese government conducted pilot reforms of subsidized housing sales, housing rental allowances, and renting-first and buying-later schemes. Of all the efforts, the Housing Provident Fund system established in 1994 marked the emergence of a new housing system.<sup>1</sup> However, these experiments did not run deep enough to address the fundamental distribution mechanism, and employer-based public housing distribution remained the main source of housing for urban residents. As China was hit by the Asian financial crisis in 1997, the State Council issued the Circular of the State Council on Further Deepening the Reform of Housing System and Accelerating Housing Construction on July 3, 1998, putting forward an urban housing policy

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1 State Council, Decision of the State Council on Deepening the Reform of Urban Housing System, No. 43 (1994). Retrieved from: [http://www.gov.cn/zhuanti/2015-06/13/content\\_2878960.htm](http://www.gov.cn/zhuanti/2015-06/13/content_2878960.htm)

**Table 3.1 Major indemnificatory apartment policies in China**

Type	Beneficiary	Form
<b>Urban areas</b>		
Housing Provident Fund	Active staff of all types of enterprises and public institutions, social organizations and groups	Employers and employees jointly make contributions to a personal housing pool to be spent on houses or apartments
Low-rent apartments	Urban households receiving subsistence allowances	Provides low-rent apartments by means of subsidy and provision of houses at a low rent
Public rental houses	Lower middle-income groups, new employees without houses and migrant workers	Provides public rental houses to lower middle-income households at a rent lower than the prevailing market rent
Affordable houses	Middle and low-income households	Provides affordable houses whose price, areas and buyer qualifications are determined by the government
Renovation of shanty towns	Residents, mostly middle and low-income households living in urban and state-owned industrial and mining shanty-towns	The government organizes the purchase of commercial houses or purchases commercial houses and then allocates them to these households or the government gives subsidies
<b>Rural areas</b>		
Renovation of dilapidated buildings	Rural impoverished households, including families in dire poverty, those receiving subsistence allowances and impoverished families with disabled people	The government provides subsidies to support households renovating dilapidated buildings, and to install heating and other facilities
Relocation	People living in areas with extremely harsh natural conditions	Following the principle of respect for free will, the government organizes moves to places with better living and production conditions

framework that sought to “provide the high-income group with market-oriented housing, the middle-income group with affordable housing and the low-income group with low-rent housing.” In the latter half of 1998, China put an end to housing

distribution. This move meant that the employer-based public housing distribution system that had prevailed for nearly half a century since the founding of the People’s Republic of China came to an end. Instead, China ushered in an era of commercial

housing, as the market replaced the government as the main supplier of houses. Like reforms in many other sectors, the housing system reform was built on local pilot projects in which Shenzhen played a path-breaking role in many ways.

Shenzhen, one of the first places to implement the Reform and Opening Up policy, was troubled by acute housing issues under the unreformed housing system. A large group of highly motivated cadres and staff had arrived in Shenzhen to build and work in the special economic zone, but the local housing supply system was unable to meet their housing needs. When most parts of the country were still debating “whether houses should be commodities”, the municipal government of Shenzhen had already pioneered housing system reform.

In January 1980, China's first property company, the Shenzhen Special Economic Zone Real Estate & Properties (Group) Co., Ltd. was founded. It learned from and brought in property development experience from Hong Kong regarding the pre-sale of commercial houses, bank mortgage loans and instalment plans. In 1984, China's first community of commercial houses named Donghuliyuan was completed. It was also the first community to provide property management services in China. In June 1988, Shenzhen issued China's first systematic plan for housing system reform titled Plan of Shenzhen Special Economic Zone for Housing System Reform. The implementa-

tion of the plan helped meet multi-layered housing demand, including from staff of government departments and public institutions of Shenzhen, foreign businessmen and private entrepreneurs, migrant workers, urban floating population and middle and low-income groups.

In 1992, the Bureau of Housing of the Shenzhen Municipality was awarded the UN Habitat Scroll of Honor.

After the comprehensive housing system reform began, China's real estate industry grew rapidly and housing demand from urban residents soared. However, the market-based housing supply model meant that families and individuals had to be able to purchase or rent their own housing. With land and housing speculation on the rise and some local governments selling land use rights at a high price to increase their revenue, urban housing supply grew much faster than residents' income. During the reform, the housing polarization of Chinese urban residents became increasingly manifest: high-income groups benefitted from a rich market supply; middle and low-income groups were either incapable of purchasing houses on their own and hence lived in shantytowns in cities, forest areas or reclaimed areas, or had heavy housing mortgage loans; migrant workers and many others had no fixed dwelling place or lived in formerly rural areas absorbed into the city in what then became known as “urban villages” with poor housing conditions. Catch phrases like

“dwelling in a pigeonhole”, “ant tribes” and “mortgage slaves” are vivid reflections of the housing problems of different groups of urban residents.

Rural residents, who had not been covered by the public housing policy system over the years, now began to face housing problems as well. It was a tradition in rural areas to build houses for individual families, so quantity was not an issue. Rather rural housing construction was not systematically planned, and it was quite common for rural residents to build houses without prior permission. This not only had a negative impact on the aesthetics of the rural environment but also wasted land resources. Furthermore, the quality of houses in rural areas was generally poor; building materials, interiors, water and electrical appliances were deficient compared with their urban counterparts. Earthquake resistance, flood control, wind protection and fire prevention were lacking as well. Also, there was a large number of extremely vulnerable and marginalized groups in China’s urban and rural areas facing special housing issues, such as people living in places with poor living conditions or in fragile ecological environments. They had no way to improve their living conditions on their own.

The Chinese government addressed varying housing difficulties and anxieties throughout the reform. In addition to using various macro-policy tools to control irrational housing prices, it established an affor-

able housing (security) system. In terms of housing financing, the government put in place the Housing Provident Fund system in 1994 to ease the burden of home buying and rental on consumers by splitting housing expenses between individuals and enterprises, thus increasing housing affordability. A more direct housing security method was the establishment of free or low-cost social housing. In this way, a targeted and multi-layered system of guaranteed housing (as seen in the following table) was established for urban and rural residents, the most vulnerable groups, the sandwich layer between low-income and high-income groups, urban natives and migrants. In addition, the provision of emergency shelter transfer and post-disaster rehabilitation and reconstruction has become institutionalized in disaster relief to groups suffering from housing damage and safety hazards in natural disasters.

Commercial housing policy and affordable housing policy played a substantial role in improving housing conditions. The home ownership ratio of registered<sup>1</sup> urban residents rose to 92.8% in 2017 over 9.4% in 1984,<sup>2</sup> and 22.1% of urban households had more than one house in

1 I.e. urban residents with urban hukou – see Box 3.1

2 2017 data from the Survey and Research Center for China Household Finance, Analysis of Housing Vacancy in China’s Cities and Towns in 2017. 21 December, 2018 Retrieved from: [https://chfs.swufe.edu.cn/Upload/2017%E4%B8%AD%E5%9B%BD%E5%9F%8E%E9%95%87%E4%BD%8F%E6%88%BF%E7%A9%BA%E7%BD%AE%E5%88%86%E6%9E%90%E7%AE%80%E7%89%88-1221\(1\).pdf](https://chfs.swufe.edu.cn/Upload/2017%E4%B8%AD%E5%9B%BD%E5%9F%8E%E9%95%87%E4%BD%8F%E6%88%BF%E7%A9%BA%E7%BD%AE%E5%88%86%E6%9E%90%E7%AE%80%E7%89%88-1221(1).pdf)



2017; from 1978 to 2017, the per capita floor space of residential buildings for urban and rural residents increased by 30.2 square metres and 39 square metres respectively.<sup>1</sup> From 2008 to 2017, a total of 38.96 million houses were built as dilapidated neighbourhoods were renovated nationwide, housing approximately 100 million people. It can be difficult to precisely measure living conditions, but enormous progress was made in this respect as well. For example, from 2013 to 2017, the proportion of farmer households living in housing structures made of reinforced concrete or brick-and-concrete structures in rural areas rose from 55.7% to 65.0%; the proportion of households with home-based piped water supply increased from 60.9% to 74.6%; the share of households using sanitary toilets climbed up from 35.6% to 45.0%.<sup>2</sup> Moreover, under the “New Rural Construction” and “Beautiful Rural Construction” schemes, a number of village houses with local cultural features, historical and cultural traditions and with ethnic minority cultural characteristics were emerging in the countryside as well.

1 Xinhua News Agency, “Figure: Living conditions and quality of urban and rural residents have witnessed significant progress since the reform and opening up”, 7 September, 2018. Retrieved from: [http://www.gov.cn/xinwen/2018-09/07/content\\_5320141.htm](http://www.gov.cn/xinwen/2018-09/07/content_5320141.htm)

2 “National Bureau of Statistics per capita floor space of residential buildings in rural areas increased 38.6 square metres over the past 40 years of the reform and opening up”, *Economic Daily*, August 31, 2018. Retrieved from: [http://www.ce.cn/xwzx/gnsz/gdxw/201808/31/t20180831\\_30175442.shtml](http://www.ce.cn/xwzx/gnsz/gdxw/201808/31/t20180831_30175442.shtml)

The above data suggest that commercial housing reform has opened up new opportunities and more freedom for Chinese urban and rural residents to build, purchase, lease and rent houses, respecting their property rights to use, gain returns from and transfer houses, and incentivizing them to work hard for these opportunities and rights. Government-backed housing policy and affordable housing have cushioned the housing polarization brought about by the development of a housing market, and accordingly promoted the right to adequate housing for different groups struggling with housing issues. Policies for affordable housing, homes with property rights shared between the government and occupiers, and the Housing Provident Fund targeted at middle-income groups in urban areas have increased the availability of home ownership and eased financial burdens, providing space for young people to make choices about their career development and families in particular, counteracting intergenerational wealth divides. Ensuring universal access of the most vulnerable groups to housing showcases social equity and justice; providing public housing with favorable policies to non-local residents symbolizes urban inclusiveness. For rural residents, enhanced housing quality and supporting facilities, and better planning of rural residential communities are improving their quality of life and health, while narrowing the urban-rural housing gap. Relocation, as a means of poverty



reduction, can also protect ecologically fragile areas. Apart from improving basic living conditions, the economic effect of housing is emerging as well. It helps protect traditional villages and those with special cultural characteristics (e.g. ethnic minorities), and supports the development of farmer hostels and entertainment with favorable policies, making rural residential houses more attractive and opening up new opportunities for farmers to increase income.

China's housing system reform over the past 40 years can be seen as an exploration of the question of "whether houses are commodities or social security." From another perspective, this reflects a constant awareness of the inherent tension between the wish to exploit the potential economic contribution of rapid housing market development with the concern for meeting the most fundamental human needs of the population. During the process, the Chinese government has realized that houses are both commodities and social security, neither of which can be neglected. The reform to commercialize housing has remedied inherent deficiencies in the employer-based public housing distribution system under the planned economy, and replaced the planned housing distribution system with a market-oriented one. This has provided the Chinese people with more space and freedom in terms of access to housing, opening up new opportunities for them to improve housing conditions

and quality of life on their own, generating a sense of security, dignity and happiness brought about by having both a type of fixed asset and a residence at the same time, improving the overall social welfare level. Admittedly, China's housing supply system still faces many risks and challenges. These, together with market failures will inevitably result in housing differentiation. However, the central government now employs well-defined policies and principles of housing supply and demand regulation; a series of housing security policies have made up for the deficiencies of the market; the recent proposal that states that "housing is for living in, not for speculation" reiterates the residential nature of housing. The new concepts of housing development reveals clues to future directions and prospects for China's housing system reform. The progress made to date holds the promise of eventually achieving the aim of "universal access to housing".

### **3.7: Comprehensive Poverty Alleviation and Human Development**

Among the 17 Sustainable Development Goals jointly formulated by the member states of the United Nations, poverty eradication, SDG<sup>1</sup>, is a fundamental one. Poverty has been widespread throughout the world for a long period of time. In spite of the spread of human wealth and technology, not all countries, especially developing

countries, have been able to achieve decisive results in this area. We still have a long way to go to eradicate poverty.

When it comes to poverty, people tend to focus on basic survival needs, while neglecting development issues. This is reflected in the traditional use of income-based measures for poverty. However, the human development concept emphasizes that poverty is far more than that. It is essentially about being excluded from basic opportunities and choices necessary for human development, and it is these opportunities and choices that can create an enabling environment for people to enjoy long, healthy and creative lives.<sup>1</sup> Low income results in a lack of basic human development capabilities such as illiteracy, malnutrition, and lack of sanitation; it also means lacking the ability to acquire, communicate, apply and create knowledge and information, and also lacking the rights, opportunity and means to acquire this ability. Inadequate development capabilities, in turn, aggravate lack of income. Therefore, any meaningful, comprehensive anti-poverty strategy framework to reduce poverty must be centred around the improvement of human development capabilities.

China's extraordinary achievements in poverty eradication during the Reform and Opening Up have garnered world attention. According to China's current ru-

<sup>1</sup> UNDP, *Human Development Report 1999* (New York, Oxford University Press, 1999).

ral poverty standards, at the end of 1978, the rural poverty rate was approximately 97.5%; an estimation based on the total registered rural population suggests there were 770 million rural impoverished people; by the end of 2018, the rural poverty rate stood at 1.7%, and the size of the rural impoverished population was 16.6 million. From 1978 to 2018, a total of 750 million rural residents were lifted out of poverty, equivalent to more than 18 million people lifted out of poverty annually; the rural poverty rate dropped by 95.8 percentage points, equivalent to 2.3 percentage points annually.<sup>2</sup>

The history of poverty reduction in China can roughly be divided into the following stages. The first stage, from 1978 to 1985, is characterized by market-oriented poverty alleviation through industrial development. The establishment of the household responsibility system and changes to the distribution system for agricultural products, the promotion of market-oriented price reform, and the quick emergence of township enterprises unleashed rural productive forces and motivated farmers to earn more income to

<sup>2</sup> National Bureau of Statistics of China, "Poverty alleviation and development achievements attract the attention of the world", *Economic and Social Development Achievements in 40 years of the Reform and Opening Up Series: IV*, 03 September, 2018. Retrieved from: [http://www.stats.gov.cn/ztc/ztfx/ggkf40n/201809/t20180903\\_1620407.html](http://www.stats.gov.cn/ztc/ztfx/ggkf40n/201809/t20180903_1620407.html) and National Bureau of Statistics of China, "Rural population in poverty decreased by 13.86 million in 2018", 15 February 2019, Retrieved from: [http://www.stats.gov.cn/tjsj/zxfb/201902/t20190215\\_1649231.html](http://www.stats.gov.cn/tjsj/zxfb/201902/t20190215_1649231.html)

improve their living standards. According to the poverty standards of the government at that time, the number of impoverished people dropped rapidly from 250 million to 125 million. During the second stage, from 1986 to 2000, the Chinese government began large-scale development-oriented poverty alleviation focused on poverty-stricken counties. As government-backed poverty reduction became more standardized and institutionalized, special poverty-relief institutions were set up; the goals of poverty alleviation shifted from ensuring that people were sufficiently fed and clothed to lifting people out of poverty; this emphasized the utilization of the resources of poverty-stricken areas and national preferential policies to develop corresponding industries, helping impoverished people escape poverty through industrial development based on local conditions. The third stage, from 2001 to 2012, features mass participation in poverty alleviation, while targeting destitute villages. With differentiated development and enhanced comprehensive national strength, domestic poverty problems became more complex. The Chinese government began to implement a policy for mass participation in poverty reduction at the village level, combining the concepts of “local conditions” and “human-centred development”. This was the first time that civil society organizations and the public were included into poverty alleviation

efforts.<sup>1</sup> The fourth stage started in 2013 and was focuses on targeted poverty alleviation. With its goal of building a moderately prosperous society in all respects, the Chinese government targeted both regions and individuals for poverty alleviation endeavors in a bid to eradicate poverty comprehensively before 2020.

From the perspective of human development, although poverty alleviation in China was very successful, traditional poverty alleviation methods before the targeted poverty alleviation policy of 2013 had some deficiencies. First, the design and approval of poverty alleviation projects was top-down. Local government departments sat back and waited for instructions from departments at higher levels. As a result, the needs and wishes of impoverished people were neglected. Secondly, the methods and procedures of traditional poverty alleviation projects were complex; the formulation of policy and projects were too broad and abstract for impoverished people to understand. Procedures and requirements proved hard to follow for the poor, who were typically less educated and less experienced in seeking development and had small social networks with limited access to information. Third, due to insufficient resources, impoverished people’s capacity for human development

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1 Tian Fengshao, “From the institutional division to the coordinated governance: The practice and reflection of Lankao County poverty alleviation”, *China Agricultural University Journal of Social Sciences Edition*, vol. 5 (2017).

was constrained by such factors as the lack of employment opportunities, education, arable land, good planting conditions, etc. Consequently, impoverished people were less motivated and less likely to participate in poverty alleviation projects. There were some institutional causes as well. For example, government departments were fragmented, leading to the separation of industry, infrastructure and public services and accordingly rendering the results of poverty alleviation short-lived.

Building on past experience, the Chinese government began to explore comprehensive poverty alleviation driven by multiple goals with a wide range of methods. While seeking to reduce the number of people suffering from absolute poverty through economic growth, it laid greater emphasis on ensuring that vulnerable groups did not slip back into poverty and creating a favorable environment for the sustained progress of human development. It saw poverty as a multi-dimensional phenomenon and focused on developing capabilities and providing more opportunities for impoverished people. In November 2015, the Chinese government issued the Decision on Winning the Fight against Poverty, which states that the country should formulate supporting measures in the fields of education, culture, science and technology, medical and healthcare, social security and employment, industrial development, ecological environment, and infrastruc-

ture. Afterwards, relevant departments issued corresponding policies for targeted poverty alleviation in line with their respective functions and responsibilities. For instance, the Ministry of Education and the Ministry of Finance proposed implementing poverty alleviation through education by strengthening and improving the construction of school infrastructure for compulsory education in destitute areas; the Ministry of Civil Affairs, the Ministry of Finance, the Ministry of Human Resources and Social Security, the former National Health and Family Planning Commission and the State Council Leading Group Office of Poverty Alleviation and Development jointly proposed providing medical aid for major and serious diseases to families and populations covered by subsistence allowances, populations in dire poverty, registered poverty-stricken families and populations, low-income severely disabled people, and families reduced to poverty by serious illness.

Lankao County, Henan Province, which was lifted out of poverty in 2017 is a case in point. Located in Kaifeng City, Henan Province, Lankao County is 1,116 square kilometres and has a total population of 830,000 people of which 620,000 are agricultural, accounting for 74.7% of its total population. The county is one of the 31 national-level destitute counties in Henan Province. In June 2014, the county identified 115 poverty-stricken villages, accounting for 25.6% of its total villages, 23,000

impoverished households and 77,000 impoverished people, making up 9.3% of its total population.<sup>1</sup>

Lankao adopted multiple measures to reduce poverty in a comprehensive manner. First and foremost, it provided targeted assistance to different types of impoverished people. For families already lifted out of poverty, the county used six measures, namely supporting them with insurance and agricultural industrialization, providing subsidies to migrant workers, subsidizing university students, renovation of dilapidated houses and the Dewdrop Project to consolidate the outcomes of poverty reduction. For ordinary impoverished households, apart from the above six measures, it also implemented medical and health-care subsidies, grants for primary and middle school education, photovoltaic (PV)-based poverty alleviation,<sup>2</sup> increasing household income and micro-loans, and supporting the integrated development of farm production, animal farming and agricultural product processing to ensure these households will not slip back into poverty. For extreme poverty households, besides the above nine measures, they all received subsistence allowances; people under 60 received temporary assistance; if

land per capita was less than one mu (approx. 666.7 square metres), they received a CNY 500 subsidy.

In general, comprehensive poverty alleviation consists of the following. First, infrastructure improvement. The building of infrastructure is an effective tool to reduce poverty. For example, transport infrastructure helps increase short-term employment opportunities in non-agricultural sectors for impoverished workers; it reduces the costs of agricultural production and transportation, and the costs of transferring surplus rural workers to locations where they can find jobs; it improves the accessibility of rural areas; and promotes the reshuffling of agricultural industrial institutions. All these are indispensable for human development. From 2014 to 2017, Lankao worked on the development models of “transport + poverty alleviation” “transport + industry” and “transport + tourism” to build rural roads with a total length of 861 km and establish the Lankao Passenger Terminal of the Xuzhou-Lanzhou High-speed Railway. Likewise, energy infrastructure satisfies energy requirements for industrial development and farmers’ production and domestic needs. Specifically, power facilities are taken as a top priority.

Second, the county builds on industrial development to encourage entrepreneurship amongst poor people. Although economic indicators are not the only evaluation standards for poverty

1 Li Qinying, “Study on targeted poverty alleviation through insurance — ‘Lankao Model’ ” *Financial Theory and Practice*, vol. 5, No. 466 (2018).

2 National Energy Administration, “Poverty alleviation project by installation of solar PV panels in poor households”, 17 October, 2014. Retrieved from: [http://www.nea.gov.cn/2014-10/17/c\\_133723326.htm](http://www.nea.gov.cn/2014-10/17/c_133723326.htm)





**Picture 3.8: Overview of Lankao county**

*Source: People.com*

reduction efforts, economic growth is still the basis and precondition for such efforts. Economic growth brings about widespread improvement of financial situations and creates more jobs and sources of income for poor people. The development of the local economy paves the way for the improvement of rural public facilities and provision of public services to rural residents, including poor people. Poverty alleviation through developing local industries provides motivation and opportunities for poor people and sets a foundation for them to develop.

In reducing poverty through developing local industries, Lankao County improved relevant industrial support policies to encourage more market entities to seek win-win development in the tough fight against poverty. It leveraged government financing, and encouraged and guided enterprises, especially agricultural financial

institutions and insurance agencies, and agricultural industrialization enterprises, to participate in poverty alleviation-focused industrial development. Based on local development conditions of each destitute village, it drew up a “village-specific policy” with a commitment to sound planning and market operations. It identified models such as “leading enterprises + cooperatives + farmers”, to lift people out of poverty. It also established special cooperatives to help impoverished households realize complementary advantages in land, capital and labor, and enhance independent development and self-growth, and awareness of and capacity for cooperative development. It promoted the model of family farms as a new business entity, raising the organization level of the poverty-stricken population. Finally, it utilized new technologies such as e-commerce and photovoltaic electricity to speed up high value-added industries,

under models such as “PV-based poverty alleviation” “Internet + poverty alleviation” and “poverty alleviation through tourism”. In this way, it realized the integration of primary, secondary and tertiary industries and increased the income of farmers.

Third, job creation is used to increase incomes and encourage the independence of poor people. Jobs are important sources of income for impoverished households. The Lankao government delivered training sessions in professional skills, agricultural skills, entrepreneurship projects and industrial development at the township and village levels by mobilizing the resources of local bureaus of human resources and social security, enterprises, vocational schools and various kinds of professional training institutions. There were two training models. Organized skills trainings in the fields of farm production and animal farming technology, housekeeping services, e-commerce and rural tourism were complemented by special training and recruitment services, such as the Dew-drop Project and the Spring Breeze Action, to help the impoverished find suitable jobs. Moreover, the Lankao government created jobs in the public service sector, such as forest protection, road patrol and maintenance, greening, and sanitation, so that impoverished households could earn some income by providing services. At the same time, the local government reached an agreement with enterprises to prioritize this group of people in job openings so as

to increase their household income.

Fourth, the Lankao government developed education and healthcare services to enhance the ability of impoverished people to pursue human development, enable them to escape poverty, boost their resilience and reduce their vulnerability. The county-level government provided education subsidies of CNY 300 to 5000 depending on the educational level to local students from impoverished households every year. This helped prevent students from impoverished households from dropping out of school due to poverty and therefore limited the intergenerational transmission of poverty. For high school students admitted to university, the government issued an incentive policy of financial aid in addition to existing policies for university student aid and student loans. Illness is a prevailing cause of poverty in Lankao County (approx. 60%). Therefore, in order to address difficulties in seeking medical services, the local government provided critical illness insurance, chronic disease insurance and special disease insurance to poor people. For all insured urban and rural residents not covered by the medical insurance policy of 2016 across the county, it implemented a health insurance policy which enabled reimbursement of medical expenses not included in the rural social medical insurance scheme. Disease prevention has also become an innovative poverty alleviation measure of the county through the provision of healthcare



services. Impoverished households who maintain good sanitary conditions can get credits, which can be exchanged for household goods. These innovative measures enhance the human development of impoverished households.

Fifth, the government of Lankao adopted relevant policies to ensure that the basic needs of the impoverished population are met. Policy support and social security are two fundamental measures to eradicate poverty. It formulated policies for social security, such as elder care, healthcare, subsistence allowances and relief funds, and other special policies to remove inherent barriers to meet the basic needs and healthcare needs of poor people.

Sixth, inclusive pro-poor finance is a key instrument for poverty alleviation efforts. Funding for poverty alleviation is a heavy burden on counties. Limited financial funds for poverty alleviation alone cannot meet the financial needs of project implementation to combat poverty. Therefore, the government of Lankao combines government funding with financing to fully leverage the role of the latter in poverty alleviation. First of all, it adopted a model of “government funding + financing”, to optimize the tools of poverty reduction and leverage financial resources with government funding. For example, it used risk compensation funds to leverage loans for impoverished households worth ten times the government’s own spending; it worked with banks and other financial institutions

to explore mechanisms such as “direct financial subsidy + impoverished households” and “policy guarantee platforms + impoverished households”. It also stepped up basic financial support in poverty alleviation. The government of Lankao collaborated with banking institutions to support the anti-poverty measures, to strengthen insurance against all types of risks. For example, the government earmarked spending on insurance premiums and provided production and life insurance county-wide to impoverished households through commercial insurance companies, such as property insurance, life insurance, crop insurance and loan guarantee insurance. Finally, it provided financial support to impoverished households and industries involved in poverty alleviation through finance, guiding and supporting farmers to escape poverty on their own. Guaranteed by the local government, it encouraged financial institutions to provide credit to enterprises, farmers and many other entities engaged in the agricultural sector, further tapping the potential of finance to support poverty alleviation and development.

By adopting an array of measures to advance comprehensive poverty alleviation, Lankao County lifted local GDP from CNY 19.3 billion in 2013 to CNY 28.6 billion in 2017 in nominal terms; the per capita disposable income per year of urban and rural residents rose by 10.2% and 13.7% respectively. The number of local poor people has been dropping, down from 79,400

in 2013 to 7,000 in 2017 and incidences of poverty have also fallen, to 1.27% in 2017.<sup>1</sup>

This new round of targeted poverty alleviation in China, as represented by Lankao County, is recognizing the multiple dimensions of poverty. Therefore, GDP or income is no longer the only indicator of poverty reduction measures and performance assessment. It takes the level and capacity for human development into consideration. Moreover, there is social innovation for participation in poverty alleviation, such as encouraging enterprises and social organizations to get involved. Finally, more attention is being paid to the subjective consciousness and self-determination of poor people both in terms of poverty reduction policy and projects. Bottom-up efforts are creating a greater enabling force for the human development of poor people. The Chinese government will continue to play an active role in promoting human poverty reduction.

### **3.8: Special Economic Zones: From Experimental Zones to Innovation-Driven Development**

China's experience with special economic zones (SEZs) illustrates many of the features of the reform process that were highlighted

in Chapter 2. Facing very serious developmental challenges resulting from decades of economic isolation, the Party leadership was receptive to quite drastic reforms to open the country up. However, these reforms were first piloted in a few carefully selected areas, were then reviewed and scaled up within the pilot zones and then elsewhere in the country. In hindsight the overall change seems to have been extraordinarily dramatic and rapid, but the implementation process was gradual and closely managed.

Special economic zones (SEZs) are geographically defined areas which are authorized to implement special economic policies. After being cut off from the world before the Reform and Opening Up period, China experimented with the comprehensive reform of its economic development model. SEZs provided an experimental arena for the Reform and Opening Up, a starting point for gradual reform, and are inseparable from the whole Reform and Opening Up experience.

Widely recognized as the earliest, best and most influential SEZ in China, Shenzhen SEZ is representative. Its achievements and experience have also played a significant role in the whole process of the Reform and Opening Up in China.

At the end of the 1970s, the rigidity and stagnation of the planned economy and the need for reform were increasingly obvious. In 1978, the gross national product

<sup>1</sup> Li Qinying, "Targeted poverty alleviation through insurance: study on the 'Lan Kao Model'", *Financial Theory and Practice*, vol. 5, No. 466 (2018).

was 632 US dollars per worker, only 10% of the world average and 34% of the developing country average. Weak economic development also had a direct impact on standards of living, and poverty was rampant. Internationally, a new era of peace and development created a good environment for China to open up, and the international division of labor and industrial transfer also provided opportunities to do so.

The establishment of SEZs was one of the earliest steps in the Reform and Opening Up policy. Due to China's vast territory and regional diversity, isolation from the outside world during the planned economy period, as well as institutional differences with some developed countries, Opening Up under the conditions at that time needed to be implemented gradually. Therefore, the central government adopted a pattern of Opening Up that started first from the coastal areas and then went inland. They could "try first" in coastal areas and then after gaining experience, China could open up more widely. This would allow them to see how things were developing and control risks to avoid major mistakes. The establishment of SEZs as experimental zones and pilots was an extremely important decision at that time. The original intention was to implement special and flexible policies in certain areas in order to intensively and effectively utilize overseas funds and technologies to promote production, and develop trade and the economy in mainland China.

In 1979, Guangdong province suggested a creative Reform and Opening Up proposal known as "one step ahead". That year, the central government officially approved setting aside certain regions in Shenzhen, Zhuhai and Shantou in Guangdong province and Xiamen in Fujian province to pilot "special export zones" and stated that "special export zones can be set up in Shenzhen and Zhuhai on a trial basis first, and then Shantou and Xiamen can be considered after experience is accumulated". In 1980, the name of the special export zones was changed to special economic zones because of the name was considered more meaningful and they were formally adopted through legislative procedures.

Under this arrangement, Shenzhen SEZ became a development priority. The first step was to start the construction of urban infrastructure, develop and build a number of industrial zones represented by the Shekou Industrial Zone and introduce foreign capital and advanced technologies, at which point industry started to take off. The construction of educational and cultural facilities such as Shenzhen University and libraries marked the beginning of cultural activities. An overall plan for urban construction and economic and social development was formulated, the administrative system of the SEZ was improved, and relevant supporting regulations were enacted. The second step was to reform the wage, infrastructure construction, labor and

employment, price, enterprise, employment insurance and cadre personnel and government agency systems with a market-oriented approach, starting with the reform of the infrastructure management system and price system. The third was to open up Sha Tau Kok and other ports, as well as open up the financial sector and introduce a number of overseas banks. This period was mainly characterized by partial reforms and individual breakthroughs, as well as reforms driven by Opening Up. These reforms broke the traditional planned economy system, removed some obstacles to Opening Up and to the development of SEZs, and generated an important demonstration effect on the reform of the national economic system. During this period, Shenzhen SEZ gradually eradicated the constraints of the traditional planned economy, introduced a market economy, and achieved remarkable economic growth. From 1980 to 1984, Shenzhen's average annual economic growth rate was as high as 58% (the average national annual growth rate was 10%).

After the initial reform, Shenzhen SEZ pioneered new approaches in economic and other fields. In 1986, Shenzhen SEZ entered a new stage of developing an export-oriented industrial economy and comprehensively promoting market-oriented economic reform. Externally, foreign capital and technology were utilized to develop "three types of foreign-funded enter-

prises" and build infrastructure; internally cross-regional, cross-industrial, multi-level and multi-form horizontal alliances were implemented and a large number of internally-linked enterprises were established. At this stage, Shenzhen took the lead in transforming government functions, implemented the shareholding system reform of state-owned enterprises and innovated the management system of state-owned assets. It reformed the financial system, established a multi-layer and open financial market, and set up a foreign currency swap center<sup>1</sup> and a stock exchange. It broke the traditional management system of state-owned land, deepened the reform of the price management system and paved the way for the establishment and improvement of China's factor market system. It reformed the housing system, further opened up and established bonded industrial zones, deepened the reform of the labor wage system and established a social security system. During this period, Shenzhen's GDP grew at an average annual rate of about 30%. Deng Xiaoping's speech given after his visit to Shenzhen in 1992 made Shenzhen's experience an important reference for the development of the socialist market economy.

In general, during this period, the most important position and achievement of SEZs as represented by Shenzhen lay in their

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<sup>1</sup> The center allows Chinese enterprises to swap their foreign exchange quotas and/or foreign currencies at a state determined rate by the Bank of China.

role as an experimental zone for China's reform and transformation from a planned economy to a socialist market economy. First, Shenzhen SEZ was a testing ground for economic transformation, where the market adjustment acted as a prelude to the implementation of a market economy in the whole country. Second, as a window of Opening Up, it gradually opened up the country, people, economy, culture, science and technology which had been closed to the outside world for a long time and played an essential role in learning from and utilizing foreign advanced technologies and management methods. Third, as a demonstration site and a center for scaling up, on the one hand Shenzhen jointly organized enterprises with inland China to promote the development of the latter; on the other hand, its experience played an exemplary role for the government and the people from inland provinces. In addition, fiscal revenues from Shenzhen, its investment in the interior and the large amount of employment that it provided all had a demonstration effect on other parts of China.

SEZs as an entry point for the Reform and Opening Up were also a creative measure, embodying the consistent commitment to "gradual reform". Priority was given to developing the economy through the establishment of SEZs, restructuring the economic system to address poverty in China, and thus gain popular support. More importantly, SEZs became experimental

zones for social transformation and institutional change. Piloting, creating experience, exploring different models and scaling up offered time and space for reform, avoided the potential problems that "shock therapy" might bring, and made institutional change in China relatively steady and stable. While the initial development of SEZs depended to some extent on a variety of special preferential policies, as the policies of the SEZs gradually radiated inland, economic system reform became a common policy focus in the whole country. Under policy and system convergence, the inland provinces began to follow the reform measures of Shenzhen SEZ, with even more flexible and open measures. The original advantages of the SEZs began to weaken in this process, and Shenzhen also faced pressure to transform and upgrade itself.

From 1993 to 2002, Shenzhen began to change from being policy-driven to being innovation-driven, and began to focus mainly on improving quality and increasing its advantages in innovation. First, Shenzhen continued to deepen the implementation of a market economy system and pushed forward system transformation, with a focus on the development of the market system, the reform of state-owned enterprises and the reform of the government administrative system. Second, Shenzhen developed high-tech industries and high-end services such as finance and international trade





**Picture 3.9: Shenzhen skyline at night.**

Source: <http://699pic.com/>

to promote industrial upgrading. Third, Shenzhen expanded and deepened opening-up focused on expanding international markets. Fourth, Shenzhen encouraged the development of diversified ownership structures, especially private enterprises, which came to play a dominant role in the Shenzhen economy. Fifth, Shenzhen promoted and strengthened regional cooperation, especially “Shenzhen-Hong Kong cooperation”. During this period, Shenzhen’s economy continued to maintain an average annual growth rate of about 20%.

Since 2003, as more comprehensive reform began, the role of innovation and science and technology in economic and social development and the improvement of residents’ human development levels have become more important in Shenzhen.

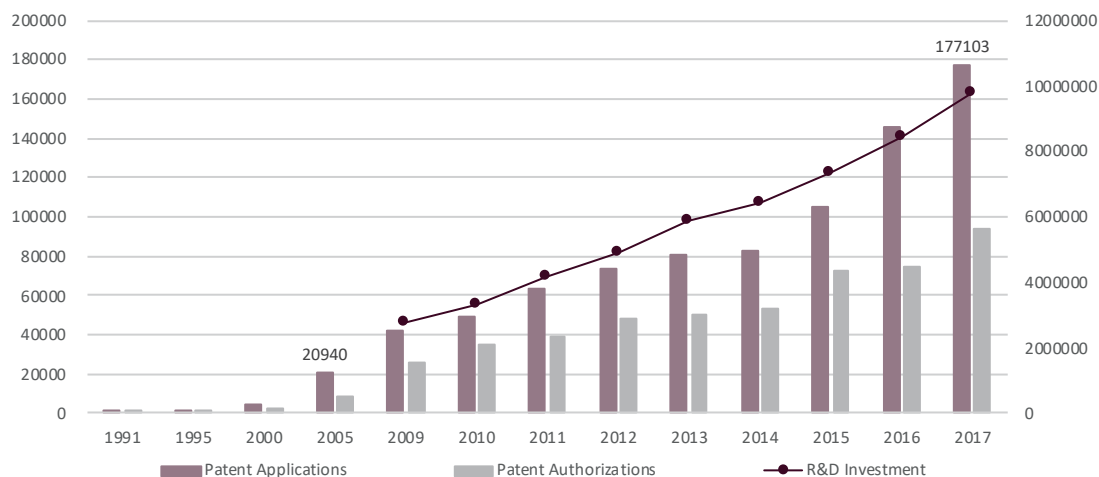
In 2008, Shenzhen was listed as the first National Innovative City Pilot. Economic performance and innovation indicators show the results of Shenzhen’s innovation drive. In 2017, Shenzhen’s gross output value was CNY 224.9 billion, an 8.8% year-on-year increase, which was 1.9% higher than the national economic growth rate. The added value of the city’s emerging industries was CNY 918.7 billion. The rate of contribution by scientific and technological progress in Shenzhen has increased to 60%, and a transformation from applied technological innovation to key, core and cutting-edge technological innovation is gradually taking place. In 2017, total investment in R&D was CNY 97.7 billion, accounting for 4.3% of regional GDP, 3.5 times that of 2009. In 2017, the total num-

ber of patent applications in Shenzhen reached 177,000, the total number of authorized patents was 94,250, and the number of PCT international patent applications under the Patent Cooperation Treaty was 18,926, indicating strong capacity for innovation (see Figure 3.5). The leading level of technological innovation has enabled industrial development in Shenzhen to achieve the “three 70%”: advanced manufacturing accounts for 76% of industrial added value, advanced manufacturing and modern services account for more than 70% of GDP, and modern services account for nearly 70% of total services. Shenzhen has the largest scale and concentration of strategic emerging industries of all cities in China.

Shenzhen’s demonstration role as an exemplary SEZ cannot be ignored. Shenzhen’s experience in innovative ecological

and industrial technology innovation is an example for other regions in China to enhance the scientific and innovative nature of human development as well as provide stronger impetus and promise for human development.

Shenzhen’s innovation has been rooted in large part in the assemblage of a broad-based and highly skilled human resource base, making Shenzhen’s innovation-driven development possible. Talent ultimately drives innovation and talent is the key resource to support the development of innovation. Shenzhen has established an array of incentive mechanisms that stimulate the innovative capacity of enterprises, accelerate the development of urban innovation and also galvanize the initiative of talented individuals who are drawn to Shenzhen as a place to fully realize their potential. Shenzhen attracts college and



**Figure 3.5 Number of patent application, authorized patent application and R&D investment in Shenzhen (1991-2017)**

Source: Shenzhen Statistical Yearbook 2018.



university graduate students from all over the country. In addition, with a highly competitive talent introduction policy it also attracts a variety of domestic and international entrepreneurial and innovative talents.

The capital market has become an important source of financing for Shenzhen's innovation. Financial innovation has made technological innovation possible. Technological innovation requires a large amount of investment in research and development, human capital and materials and at the same time faces considerable uncertainty with technological risks, market risks, management risks, product risks, etc., which calls for financial innovation to provide financing services and diffuse innovation risks. Shenzhen has gradually established a financial support system to meet the needs of innovative development, becoming one of the regions with the most active local venture capital, the largest number of venture capital institutions, the largest total amount of managed local venture capital and the best entrepreneurial atmosphere. By the end of 2016, there were already 46,000 venture capital and private equity institutions in Shenzhen with a registered capital of over CNY 2.7 trillion, one third of the country's total. At the same time, the Shenzhen government has itself set up an entrepreneurship and innovation guiding fund to direct more private capital into the innovation field.

Market-oriented independent innovation led by enterprises integrates production and research to effectively promote the transformation of scientific and technological achievements. Enterprises can closely combine technological innovation with market demand, make efficient use of innovative resources, and accelerate the transformation of innovative resources into economic development. As of October 2017, there were 10,988 high-tech enterprises in Shenzhen that had met the government's criteria on innovation and use of intellectual property to be designated as "national level high tech enterprises". The role of enterprises in innovation in Shenzhen has been continuously strengthened. R&D personnel and funding mainly come from enterprises (since 2009, enterprise R&D funding and personnel account for more than 80%, and more than 90% in most years, of the total). The proportion of enterprises with R&D departments is also increasing, reaching 44.9% in 2017 (see Table 3.2). A large number of China's best-known high-tech enterprises, such as Huawei, Tencent and DJI, with world class levels of innovation capacity and large sales to both domestic and international markets, are headquartered in Shenzhen.

A healthy environment for innovation creates enabling conditions for scientific and technological innovation. Shenzhen provides infrastructure, innovation bases, high-tech parks and other supporting facilities for entrepreneurship and innovation;

more importantly, it provides preferential tax policies, intellectual property protection policies, entrepreneurship and innovation support policies and other institutional support. The transformation of the Shenzhen municipal government's functions and corresponding industrial policies have provided fertile soil for the development of scientific and technological innovation.

From its origin as a policy-driven development, economic and social system reform pilot to its current status as China's leading innovation-driven development center, Shenzhen has been fulfilling the expected role of a SEZ, i.e. experimentation and demonstration. As comprehensive reform has deepened in Shenzhen, livelihood issues have also received more attention.

**Table 3.2 Science-and-technology activities of industrial enterprises above designated scale in Shenzhen**

Year	2009	2011	2013	2015	2016	2017
Number of enterprises with R&D activities	1018	841	1009	1304	2117	3507
Percentage of industrial enterprises above designated scale	12.1%	14.8%	15.5%	19.9%	31.9%	44.2%
Number of enterprises with R&D departments	630	673	457	830	2147	3562
Percentage of all industrial enterprises above designated scale	7.5%	11.8%	7.0%	12.7%	32.4%	44.9%
R&D expenditure (CNY10,000)	2,590,000	3,888,917	5,329,402	6,726,494	7,600,311	8,410,974
R&D as a percentage of prime operating revenue	1.77%	1.93%	2.39%	2.69%	2.84%	2.73%
Number of R&D personnel	128,208	155,912	187,045	174,953	202,684	232,421
R&D expenditure for new products (CNY 10,000)	2,936,794	4,780,146	5,849,360	8,722,544	10,902,729	13,402,850
New products output value (CNY Billion)	279.5	575.6	658.6	887.2	1049.8	1280.2

Source: Shenzhen Statistical Yearbook 2018

This has included the reform of the social management system and social security system, protecting the interests of low-income groups such as migrant workers, improving the housing security system, introducing an indicator system for net welfare and livelihoods, and directing public financial resources to livelihoods and welfare.

The development of SEZs from experimental zones for the Reform and Opening Up to zones for innovation-driven development has been a driver of human development in many aspects. First, SEZ success provided governments at all levels with significant revenues, improved infrastructure and public services, created enormous employment opportunities and increased incomes. As part of HDI measurements, Shenzhen's income index is the first in the country. Second, typical of China's approach to reform, the gradual reform represented by the SEZs has struck a balance between encouraging innovation and avoiding serious negative repercussions. The process of social innovation in China's pursuit of human development reflects "problem-driven" features, i.e. promoting the level of human development through constant exploration and correction. This type of gradual reform can undoubtedly minimize the costs of trial and error in system innovation. This mechanism of allowing mistakes in a certain region and within a certain period of time can encourage the government and all sectors of society to engage in social inno-

vation to seek higher levels and quality of human development. From this perspective, SEZs have played their role well as pilots. Third, the role of scientific and technological innovation in promoting human development cannot be ignored. Progress in science and technology has continuously increased social productivity, provided a material foundation for human development and met people's needs. Building an innovative social ecosystem, encouraging a culture of innovation, and accelerating the transformation and application of innovative achievements, in essence will not only contribute to the local economy, but also impact individual quality of life and to a certain extent promote social equality (e.g. Internet-based remote education and telemedicine). From this perspective, Shenzhen's experience in encouraging innovation and creating an innovative city is also the result of its piloting as a SEZ. At present, judging from the overall Human Development Index, the average years of education and life expectancy per capita in Shenzhen can continue to be improved (especially compared with its income level). Next, Shenzhen needs to invest more resources to provide inclusive education, further improve health conditions and raise the level of human development in a more comprehensive way.

### 3.9: The Green Transition: Balancing Economic, Social and Environmental Development

Human development requires a close connection with nature. Indeed, human survival is impossible without a supportive natural environment. However, the global development model of the industrial era has often resulted in production activities that pursue economic growth and wealth accumulation at the cost of damaging the natural environment. The process of industrialization and urbanization has often led to the pursuit of growth at all costs, destroying “lucid waters and lush mountains”, leading to crises threatening overall human development.<sup>1</sup>

In the 1950s, the smog generated by fossil fuel combustion killed large numbers of people in London, UK, the birthplace of the industrial revolution. Many countries, including the US, the center of technological innovation, extensively used chemical insecticides to boost agricultural production, which not only killed pests but significantly reduced biodiversity and put the natural ecological system at risk, giving rise to the “Silent Spring” phenomenon.<sup>2</sup>

1 Jon Excell, “The lethal effects of London fog”, BBC, December 22, 2015. Retrieved from: <http://www.bbc.com/future/story/20151221-the-lethal-effects-of-london-fog>

2 Eliza Griswold, “How ‘Silent Spring’ ignited the environmental movement”, *New York Times*, 21 September, 2012. Retrieved from: <https://www.nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html>

With time, Western industrialized countries came to realize that a green transformation could help address threats to the environment, and the development concept began to change accordingly with both the public and governments. In the 1970s, environmental protection movements sprang up, and a series of “green” solutions were proposed, including such concepts as “zero growth”. The concept of “zero growth” sought to halt economic development to limit environmental pollution. However, attempts to deal with one country’s pollution problems took the form of, in effect, exporting pollution to other countries, by transferring heavily polluting industries and waste abroad, often to developing countries where environmental standards were looser and disposal costs were low. It made developing countries the “pollution harbor” of developed countries. Overall, sacrificing development opportunities or transferring pollutants are not appropriate options for anyone.

For all these reasons, China has needed to find a new path for green transformation; different from that of the advanced economies of the West and different from other former centrally planned economies.

China has little leeway in addressing environmental challenges; the country’s large population and economy put great pressure on its natural resources. For example, per capita arable land in China is 0.086 hectares, ranking 174 out of the 250 coun-

tries for which the World Bank publishes these data. One interesting comparator is India, with a population almost the same size as China's and total land area only 34% of China's. India, though, has arable land per capita of 0.118 hectares, 37% higher than China's.<sup>1</sup> China's water resources are also low compared with those of the great majority of other countries.

During the Reform and Opening Up period, with the expansion of the economy and population, China began facing ever more daunting environmental challenges. It has become the world's largest emitter of greenhouse gases, some areas are struggling with severe air pollution, and many cities are experiencing water shortages as well. There is an increasing number of endangered species in China, and some places are threatened by serious ecological degradation. The positive impact of social development and economic growth has been lessened, and in the future could be completely undermined by environmental threats to public health, climate change and the loss of humanity's natural heritage. Environmental pressures have caused the Chinese government to reflect on traditional development models and to develop the concept of ecological civilization. The Chinese government has set up a specific goal to "let the people have access to

clean drinking water, breathe clean air and enjoy a better working and living environment".<sup>2</sup> These goals are now driving China's economic and social transformation and green development, emphasizing overall economic and social development and the harmonious co-existence between humanity and nature. To that end, ecological civilization has been incorporated into the "Five-in-One" Plan (economic construction, political construction, cultural construction, social construction and ecological civilization construction set out at the 19th National Congress). China is set to become an important participant, contributor and leader in the construction of a global ecological civilization, and contribute "China's wisdom" to address global environmental issues.

The green transformation of China has some differences from what was experienced in most industrialized countries. China has gone through three stages since the start of the Reform and Opening Up:<sup>3</sup> the first stage is best characterized as one of "ecological degradation and emergence of pollution" (1978-1991). With the rapid development of township enterprises and the export-oriented economy, industrial land expanded and industrial pollutants exceeded the carrying capacity of the en-

1 The World Bank, "Arable land (hectares per person)" (2016). Retrieved from: [https://data.worldbank.org/indicator/AG.LND.ARBL.HA.PC?most\\_recent\\_value\\_desc=false&view=map](https://data.worldbank.org/indicator/AG.LND.ARBL.HA.PC?most_recent_value_desc=false&view=map)

2 Third Session of the Tenth National People's Congress, Report on the Work of the Government (2005).

3 Pan Jiahua, "From ecological imbalance moving towards ecological civilization: A transformative process of green development over 40 years of reform and opening-up", *Urban and Environmental Studies*, vol. 4 (2018)

vironment. Meanwhile, reform changed the relationship between urban and rural areas, and between workers and farmers, as enhanced agricultural productivity released many people from the land and lessened ecological pressure on agricultural land. At this stage, awareness of industrial pollution increased and the government issued environmental and ecological protection legislation.

The second phase is described as “aggravated pollution, with some ecological restoration” (1992-2001). During this phase, as the Reform and Opening Up accelerated, the rapid expansion of industrial production made environmental pollution worse. Efforts to prevent and control environmental pollution also sped up, but were insufficient to solve the problem. Towards the end of this period, though, in the agricultural sector, several projects reconverting farmland to forests, lakes and grassland were launched (1998) to limit continued destruction of fragile ecologies. Some rural areas showed signs of recovery. In the industrial sector, pollution prevention and control focused on improving regulation of pollutant standards, and some ecological restoration was implemented in the forms of investment in and construction of projects using newer and efficient technology. These were all important steps in the right direction, and reflected growing awareness of the importance of environmental sustainability. But environmental problems continued to worsen, overall.

In the following ten years, China entered the stage of “increased appreciation of ecological issues but continued worsening of pollution” (2002-2011). As China became a member of the World Trade Organization (WTO) in late 2001, the country launched domestic reforms and further opened up to the global economy. External demand played a pivotal role in driving economic growth. As China gradually moved towards later stages of industrialization, although overall pollution continued to worsen, the trend began to slow and the discharge of some key pollutants peaked and began to fall. The priorities for pollution prevention and control shifted from emission standards to control of the total quantity. China also increased investment in ecological protection. As a result, the number of natural conservation zones and the value of ecological assets have increased.

After 2012, China entered the stage of “enhanced ecological environment and pollution reduction”, emphasizing “green and harmonious development”. As China’s economy enters the “New Normal” and the Reform and Opening Up deepens, the quality of the ecological environment gradually stabilized and improved somewhat.

The Chinese government has begun working towards an ecology-oriented transformation of traditional industries and the industrialization of ecological protection. It is aiming to shift away from the linear model



where raw materials are manufactured into products while generating waste, to a circular model where raw materials are processed to become products and then turned into raw materials once again. The current emphasis on supply-side structural reforms and the ongoing revolution of energy production and consumption hold the promise of bringing about fundamental changes in China's economy and society. New industrial forms, including high-tech, high-end manufacturing and Internet finance are growing rapidly, which can boost the structural shift to less resource intensive, polluting industries. The green transformation of production and consumption models and of the industrial structure aims at a radical change in lifestyle, focusing on low-carbon traveling, green communities and environmentally-friendly cities among others innovations.

To achieve the goals of greenhouse gas emissions reduction, the Chinese government considers the green transformation of the energy structure as an important part of the construction of an ecological civilization, and a great opportunity to accelerate the transformation of economic development and readjustment of the economic structure. Hydrogen, a clean and high-quality renewable alternative to traditional fossil fuels can play an important role in energy production and consumption. Hydrogen has certain characteristics that can help it contribute to the reshuffling of the global energy structure:

easy to store, easily convertible, with potentially rich reserves and zero emissions at the point of use. Developed countries and enterprises are showing some interest in the development of hydrogen-consuming industries, and in making them a new economic growth point.

The development of hydrogen-consuming technology and industries is of interest in China as well, as part of its progress in the development and use of renewable energy technology. Rugao City in Jiangsu Province became one of the first areas to develop hydrogen industries as a clean alternative to fossil fuels. It now has the highest degree of enterprise agglomerations and the most complete hydrogen industrial chain in China.<sup>1</sup> By developing green energy industries, the city has facilitated local economic transformation and upgrading and opened up new employment opportunities for local residents. At the same time, it is contributing to China's environmental development and to that of the world, a "triple win" of economic, social and environmental gains. Rugao City is surrounded by industries that supply considerable hydrogen as a by-product, providing cost advantages in the develop-

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1 "Rugao hydrogen energy town: leading hydrogen energy industry to create a green hydrogen valley", *Jiangsu Financial Herald*, 10 April, 2019. Retrieved from: <http://www.jntimes.cn/newsdetail.htm?id=1904100010>.



ment of hydrogen-related industries.<sup>1</sup>

In the process of transforming such advantages into tangible outcomes, the support of the government of Rugao in the prospects of green and clean energy industries was of crucial importance. The local government has established a “Hydrogen industry development leading group” to coordinate and address problems arising from the development of hydrogen-related industries. It also created five platforms for customs clearance and logistics, product marketing, industrial agglomerations, technological innovation and achievements, and financial services. There has been heavy investment in the development of hydrogen-related industries, and in scientific and technological innovation. The local government has fostered a competitive business environment by providing targeted services to enterprises and has also issued policy documents, including the Implementation Options of Supporting the Development of Hydrogen-related Industries to create a favorable atmosphere for industrial agglomerations, providing institutional support to encourage and stimulate the development of such industries.

In 2018, the taxable sales value of local hydrogen-related industries reached CNY eight billion (USD 1.2 billion) with an esti-

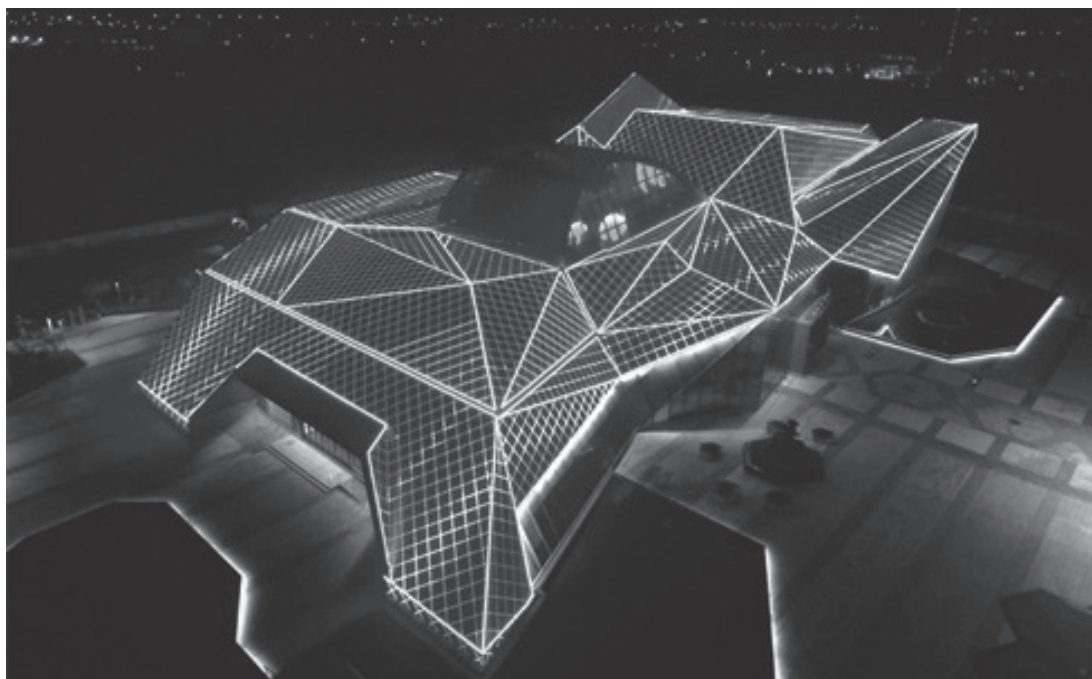
mated value of more than CNY 50 billion (USD 7 billion) by the end of the 13th Five-year-Plan period. Some 50 new-energy-vehicle enterprises across the city created nearly 17,000 jobs for local residents, and residents from neighboring areas and locally registered graduates have been seeking jobs there as well. In 2018, the per capita disposable income of local urban and rural residents was CNY 43,255 and CNY 20,166, higher than the respective national averages. Healthy industrial development has truly improved the economic status of local residents.

The development of hydrogen-related industries is also reshaping local residents' lifestyles. The integration of industrial and urban development has made hydrogen energy important to the town. Schools, neighborhoods and recreational areas are undergoing renovation and reconstruction in line with “hydrogen society”<sup>2</sup> standards.

In 2016, UNDP rolled out the Hydrogen Economy Pilot in China (Rugao Project), the only project of this type in China. It is also the permanent site of the International Hydrogen Fuel Cell Vehicle Congress (FCVC). International forums, media promotion, education, tourism and other supporting services such as the Pond and Lotus Folk Custom Park (Jianghai Hexiang

1 Xinhua Online, “Rugao Jingkai District: Winning the future of the hydrogen energy industry”, *Jiangsu Ifeng*, 19 September, 2016. Retrieved from: [http://js.ifeng.com/a/20160919/4985376\\_0.shtml](http://js.ifeng.com/a/20160919/4985376_0.shtml)

2 A “hydrogen economy” is one in which hydrogen is used as a low carbon fuel, particularly for heating, hydrogen vehicles, seasonal energy storage and long-distance transport of energy to build a low-carbon economy, and phase out fossil fuels and limit global warming.



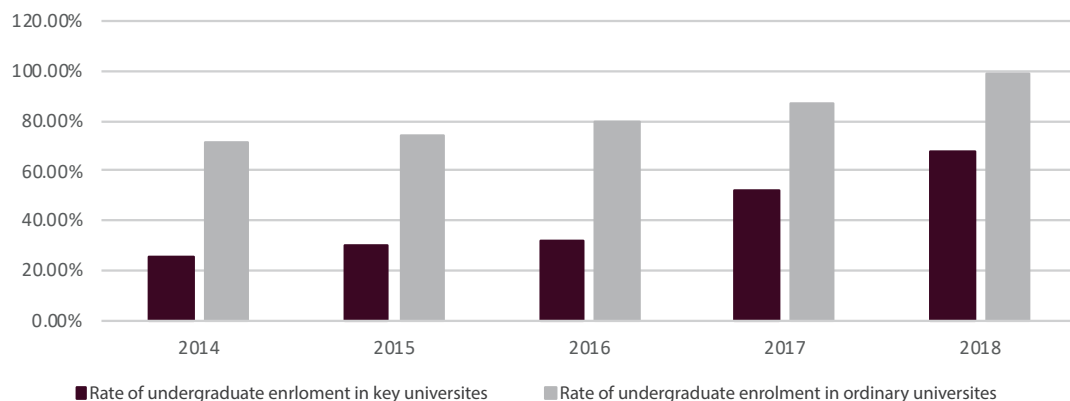
**Picture 3.10 Automobile exhibition Center in Rugao Hydrogen Town, Rugao City.**

Source: Official website of the Rugao City Government. [http://en.nantong.gov.cn/2019-09/27/c\\_410944.htm](http://en.nantong.gov.cn/2019-09/27/c_410944.htm)

Minsuyuan), Painting and Bonsai Garden (Huanyinyuan Penjingyuan) and Hongjuan Ecological Park which advocate for the integration of production, life and ecology have helped promote Rugao.

In Rugao, the traditional development path that traded pollution for economic growth is giving way to the development of new industries around alternatives to fossil fuels. While pursuing sustained economic growth, Rugao has also protected its environment, and has now been designated a “national ecological city” and a “garden city in China” as well as a “World Longevity City”. In 2018, the life expectancy of the

people with local hukou was 81.62 years, exceeding China’s average by 4.62 years and that of the US by 3.1 years, although still 2.6 years less than in Japan. Rugao also leads Jiangsu Province in education quality. It has won a number of honors, and been designated a model example in such education fields as reform of county management and recruitment of teachers for compulsory education, the implementation of national pilots in applying education resource public service platforms, preschool education, compulsory education, vocational education and community-based education in Jiangsu Province, and others. Green high-tech industries



**Figure 3.6 Undergraduate enrolment in Rugao City (2014-2018)**



**Picture 3.11: City centre of Rugao city.**

Source: Official website of the Rugao City Government. <http://en.nantong.gov.cn/Rugao.html>

driving the green economic transformation need a skilled workforce, which is one key factor driving Rugao's attention to education. Over the past five years, the rate of undergraduate enrolment in Rugao has been rising steadily to a level significantly higher than the national average.

Rugao, a small city with a population of one million, provides a good template for other small and medium-sized cities ex-

ploring county-level economic and social development solutions without environment destruction.

The 2030 Sustainable Development Agenda has set out a vision of harmony between people and nature: putting people first, respecting nature, and pursuing economic prosperity, social harmony and win-win cooperation. China's green transformation and construction of ecological

civilization aim to chart the country's own path toward a sustainable industrial civilization. The case of Rugao shows that green transformation can reasonably aim for a "triple win" of economic, social and envi-

ronmental development, while promoting the co-existence between people and nature, and can make a notable contribution to the global sustainability agenda.

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# Chapter 4





## Chapter 4

# Next Challenges for China's Human Development

This report documents China's great progress in human development in the 40 years since the launch of the Reform and Opening Up in 1978, and analyzes many of the factors that shaped that progress. Now as an upper middle income and high human development country, China is entering a new historical period and a new stage in its development, as its long-term goal of achieving a Xiaokang Society in all respects is expected to be attained in 2020 and a new long-term agenda is being formulated. As stated in the report delivered at the 19th National Congress of the CPC in 2017, the principal contradiction facing Chinese society has evolved to one "between unbalanced and inadequate development and the people's ever-growing needs for a better

life". Demands for democracy, rule of law, fairness and justice, security, a better environment and climate security are growing by the day. High-quality public services, ensuring livelihoods and well-being, promoting fairness and justice, enhancing people's freedom of choice, and making development environmentally sustainable and conducive to global climate change mitigation efforts, will be key both to meeting "the people's ever-growing need for a better life" and to China's efforts to promote healthy, sustained, inclusive, and coordinated human development. The world has also changed over this period; growing global environmental stresses, including the growing threat of global climate change, widening inequalities that are giving rise



to social instability in many countries, and the impact on labor markets of the new technologies of the Industrial Revolution 4.0, are all posing daunting human development challenges. 40 years of rapid development have provided China with a solid economic foundation and favorable material conditions. But China still faces a broad array of challenges—some of which are likely to become binding constraints in its efforts to foster higher-quality, fairer and more sustainable human development.

This chapter presents several of the most difficult groups of challenges: 1) environmental sustainability; 2) challenges in public service provision in the face of ever rising popular expectations and social demand; 3) challenges in income distribution; 4) challenges in establishing new drivers of economic growth consistent with China's current phase of development.

## 4.1 Challenges of environmental sustainability

The four decades of rapid economic growth that have brought so many improvements to the lives of the Chinese people have also placed tremendous strains upon the China's natural resources and environment. The environmental consequences of rapid growth have become an increasingly pressing concern for the Chinese government during these

years, and in recent years environmental protection has been made an urgent strategic priority. At the 19th National Party Congress in 2017, "winning the tough battle of pollution prevention and control" was named one of the three key "difficult battles" that must be fought in order to achieve a comprehensive Xiaokang Society by 2020 (see Box 2.1).

As a sign of the increased government effort to combat environmental degradation, in 2013 the Chinese government issued the Air Pollution Prevention and Control Action Plan, which has achieved impressive results. Between 2013 and 2017 the average concentration of PM10 across China's 338 prefecture or higher-level cities dropped by 22.7%, and the average concentration of PM2.5 in the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta declined by 39.6%, 34.3%, and 27.7% respectively. In 2018, the Chinese government released a Three-Year Action Plan to Win the Battle Against Air Pollution, aimed at reducing air pollutants and greenhouse gas emissions by adjusting industrial, energy, transportation, and land use structures.

However, going forward China will still need to respond to the increasingly grim challenge of environmental risks and energy supply imbalances, in order to create the conditions for sustainable human development. As the world's second largest economy, China's management of this challenge is extremely important beyond

China's borders as well; reduction of air pollution and other emissions contributing to climate change, management of water resources, combating marine pollution from plastics and other debris, and so on are all major global challenges which cannot be met without significant effort from China.

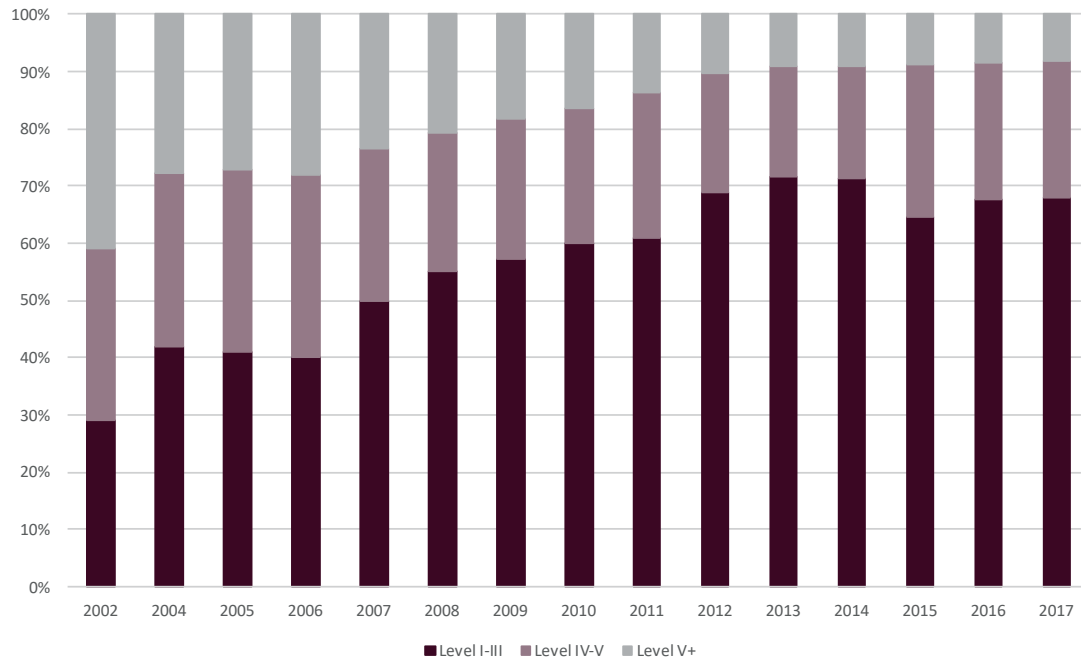
**Pollution of air, water, and soil are still ubiquitous, interlinked, and reflect years of cumulated impact.** Great progress has been made in China's efforts to prevent and control pollution in recent years, but multitudes of environmental problems accumulated over a long time are hard to resolve in a short period of time, and need a long period dedicated to environmental restoration. The environmental risks confronting the country going forward will become ever more complicated and difficult to forecast, posing increasingly significant impacts on public security, human health, and the environment.

For example, of the 338 cities at prefectural or higher level across China, only 99 were up to standard in air quality in 2017, while the remaining 239, more than 70% of the total,<sup>1</sup> were not. In the same year, of the 1,940 sites where surface water quality was tested across the country, 1,317 were classified in the I to III category,

1 Ministry of Ecology and Environment of the People's Republic of China, *Report on the State of Ecology and Environment in China*, 2017, 22 May, 2018.

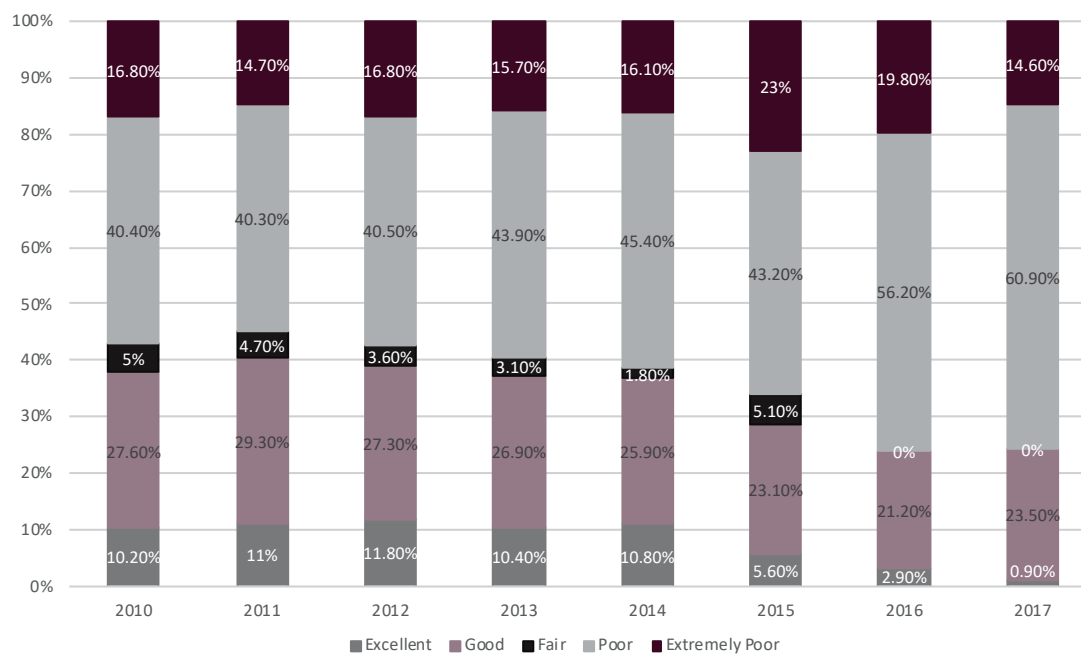
making up 67.9%; 462, or 23.8%, were in the IV and V categories, 23.8%, and 161 or 8.3% were in the inferior-V category.<sup>2</sup> As the underground water quality monitoring results obtained from 5,100 monitoring stations across China's 223 prefecture-level administrative regions show, the best, better, good, bad and worst levels in terms of water quality account for 8.8%, 23.1%, 1.5%, 51.8%, and 14.8% of the total respectively. As shown in Figure 4.1 and Figure 4.2, China's surface water quality has been improving from 2002 to 2017, whereas its underground water quality has been deteriorating from 2010 to 2017.

2 According to the environmental functions and protection objectives of surface water specified in the Environmental Quality Standards for Surface Water of the People's Republic of China, the quality of surface water can be categorized into: I, II, III, IV, V and V-. Grade I refers to good water quality, under which standard, underground water can be supplied for daily consumption after only disinfection, and surface water after simple purification (such as filtration) and disinfection. Grade II water can be supplied for daily consumption after routine purification (such as flocculation, sedimentation, filtration, disinfection, etc.). Grade III water can also be supplied for daily consumption after certain treatment. The water whose quality is under Grade III is inferior to be used as the source of drinking water. The water whose quality exceeds the Grade V standard is categorized into Grade V-, which cannot be basically used.



**Figure 4.1 China's surface water quality**

Source: Report on the State of Ecology and Environment in China, multiple years.



**Figure 4.2 China's underground water quality**

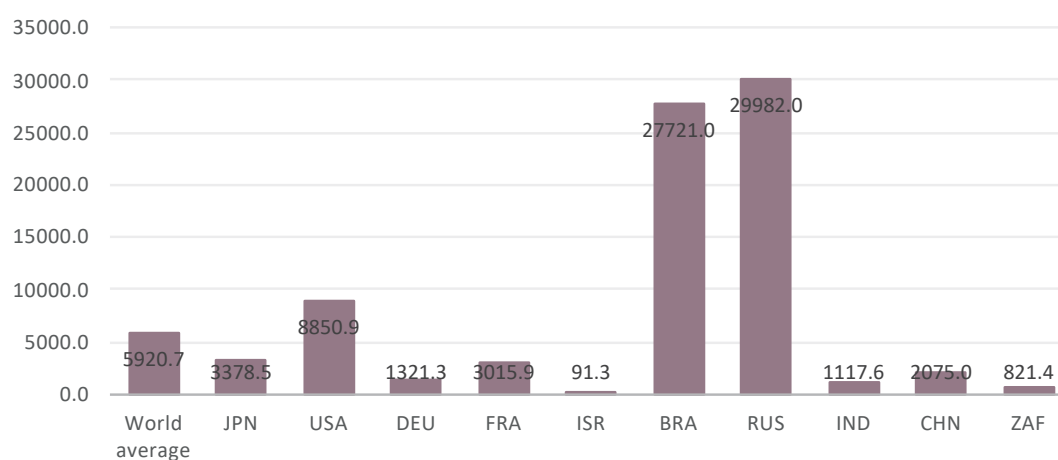
Source: Report on the State of Ecology and Environment in China, multiple years.

According to the results of China's first soil pollution survey, levels of pollutants in 16.1% of the land across the country exceeds safe limits. Specifically, slightly-polluted, mildly-polluted, moderately-polluted, and severely-polluted land accounts for 11.2%, 2.3%, 1.5%, and 1.1% of the total respectively, with the Yangtze River Delta, the Pearl River Delta, and the old industrial base in Northeast China having prominent soil pollution problems.<sup>1</sup>

The government's 2016 Action Plan for Soil Pollution Prevention and Control stated that while the country's overall soil pollution situation is good, some regions have quite serious soil pollution problems, hindering the efforts to build a Xiaokang

society in all respects.

The shortage of water is another challenge to China's sustainable human development. Given its sheer population and economic scale, China's natural water resources are in significant shortage. In 2017, China had 2,876.12 billion cubic metres of water, with per capita volume of 2,075 cubic metres/person, equivalent to only one third of the global figure per person in 2014, as shown in Figure 4.3. Water is unevenly distributed across China. The 60% of the population who live south of the Yangtze River have access to 81% of China's water, whereas the remaining 40%, those who live north of the Yangtze, have access to only 19% of the water.<sup>2</sup>



**Figure 4.3 Water volumes in China and other countries in comparison**

Source: Ministry of Water Resources. Report on China's Water Resources Statistics, World Bank. Data for China are from 2017, and for other countries and the global average are from 2014.

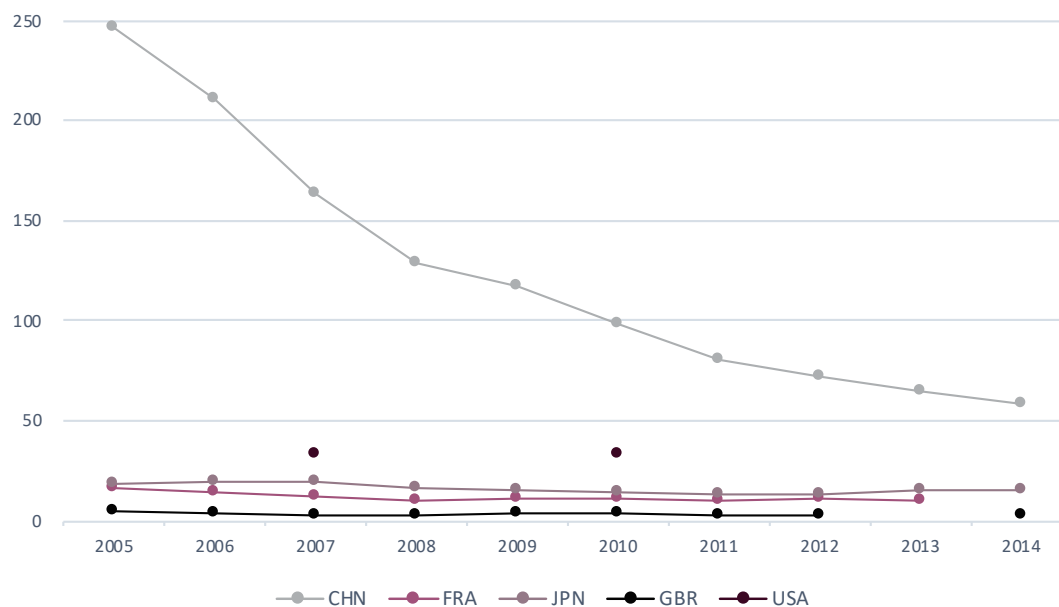
1 From April 2005 to December 2013, China's State Council decided to conduct the first national soil pollution survey on the land territory of the People's Republic of China (does not include Hong Kong SAR, Macao SAR, and Taiwan province of China), including all arable land, parts of woodland, grassland, unused land, and construction land, with an actual area of approximately 6.3 million square kilometres.

2 Jiang, Liping, *China Country Water Resources Partnership Strategy (2013-2020)* (World Bank, 28 May 2014). Retrieved from: <http://documents.worldbank.org/curated/en/388891468216271286/China-country-water-resources-partnership-strategy-2013-2020>

The World Resources Institute has developed indicators to measure water risks globally. Baseline water stress, as one of the indicators, is defined as the ratio of total annual water withdrawals (domestic, industrial, and agricultural) to available annual renewable water supply in a given area. A higher percentage means more water users are competing for limited water supplies. According to their estimates, China's water stress was reduced to some extent in some parts of the country from 2010 to 2015, but water stress in Northern

China was still greater than in Southern China.<sup>1</sup>

In contrast to the scarcity of water, China's water consumption per unit of GDP has been high. As Figure 4.4 shows, China's water consumption per unit of GDP decreased from 246.4 cubic metres/1,000 USD to 49.4 cubic metres/1,000 USD from 2005 to 2017, a level still well above that of the developed world. The high water consumption per unit of GDP is caused by not only China's industrial structure but its way of utilizing the water.



**Figure 4.4 Water consumption per unit of GDP, China and other major countries (cubic metres/1,000 USD)**

Source: National Bureau of Statistics, International Institute for Management Development (IMD), the World Competitiveness Yearbook.

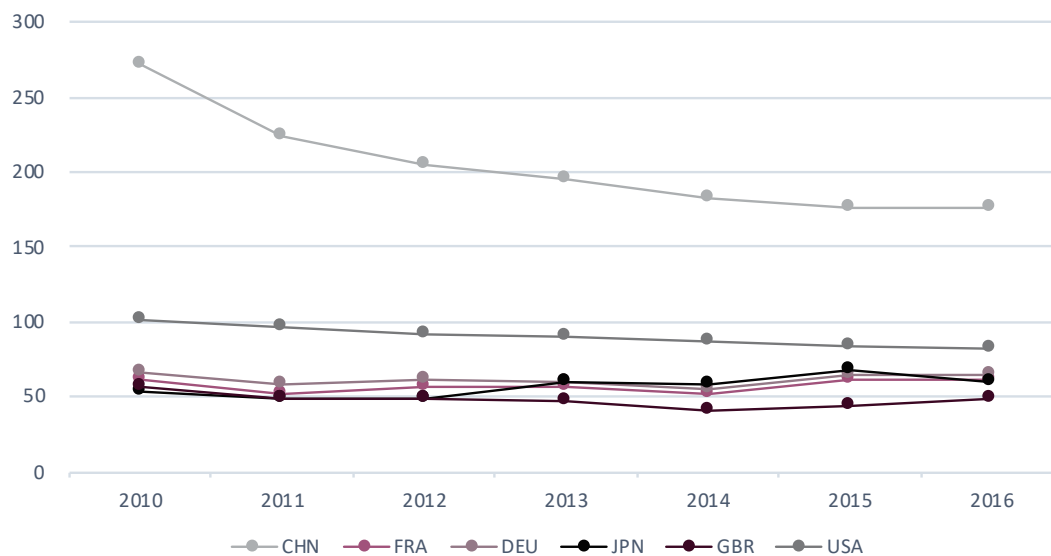
<sup>1</sup> "Water stress" refers to the ratio of total annual water withdrawals (domestic water, industrial water, and agricultural irrigation water) to usable surface water. High water stress is believed to be above 40%, and extremely high water stress is thought to be over 80%. Jiao Wang, Lijin Zhong and Ying Long, *Baseline water stress: China*, World Resources Institute, (June 2016).

This extensive use of scarce water resources is unsustainable and poses potential grave risks to economic and social development, food security, and to China's overall sustainable human development. How to raise the level of managing water resources, improve the efficiency of water utilization, and deal with water pollution pose a significant challenge to China's natural resources management going forward.

**China's energy use has been extensive, and now faces mounting resource availability and environmental pressures.** China's energy consumption accounted for 23.6% of the global total in 2018, making it the largest energy consumer across the globe.

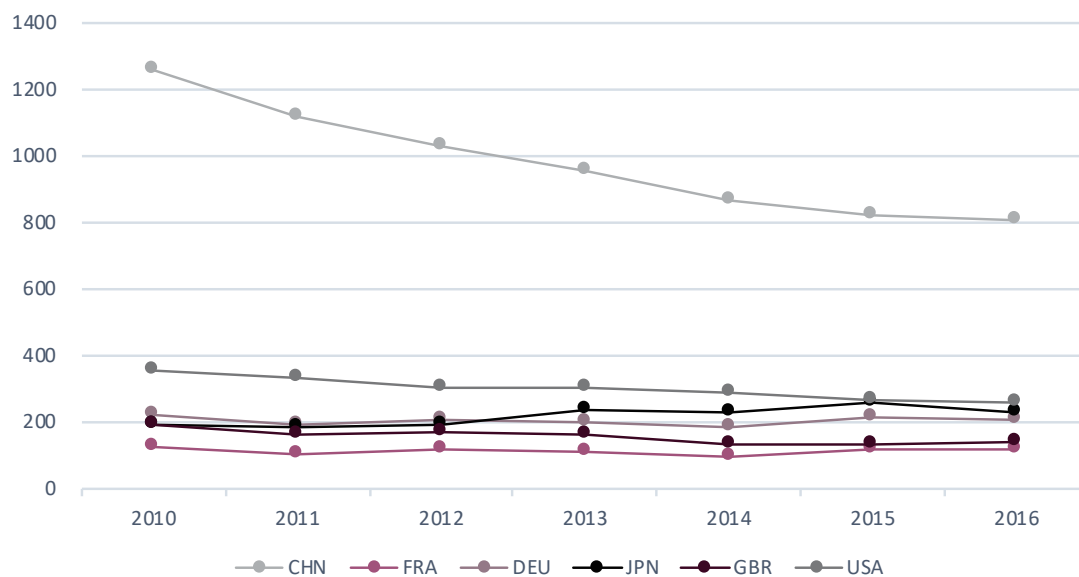
However, its energy use has still been ex-

tensive, leading to low efficiency of use and serious waste. For example, China's energy consumption per unit of GDP and industrial carbon emissions shows an overall declining trend, reflecting the progress made in China's efforts to help reduce emissions and environmental pollution from businesses through carbon markets in recent years. But the pace of reduction in energy intensity and emissions has slowed recently, leaving both still well above those of developed countries (see Figure 4.5). In 2016, China's energy consumption per unit of GDP stood at 175.85MTOE/1,000 USD, about 2.2 times that of the US and 2.7 times that of Germany (see Figure 4.6), reflecting the huge gap between China's extensive economic development at the current stage and the requirements of high-quality development.



**Figure 4.5 GDP energy intensity in major countries (unit: MTOE/1,000 USD)**

Source: International Institute for Management Development (IMD), *the World Competitiveness Yearbook*.



**Figure 4.6 GDP industrial carbon emissions in major countries (unit: ton/million USD)**

Source: International Institute for Management Development (IMD), *the World Competitiveness Yearbook*.

**Insufficient use of clean energy and clean coal technologies (CCT) has put substantial pressure on the environment.** As China is rich in coal but lacking in oil and gas, it has to rely heavily upon oil and gas imports, while coal is still expected to play a dominant role in energy use for some time to come. In 2018, it imported 460 million tons of crude oil, making up 69.8% of its total domestic use, and 90.4 million tons of natural gas, accounting for 46.4%.<sup>1</sup> Non-fossil fuels account for only 13.3% in its energy consumption mix, far lower than that of

<sup>1</sup> Wang Zhigang et al., *China's Oil and Gas Industry Development Analysis and Outlook Report (2018-2019)* (Beijing, China Petrochemical Press, 2019).

the developed world.<sup>2</sup> Coal as the primary energy source makes up nearly 60% in its energy consumption.<sup>3</sup>

Though most of the coal is consumed after conversion to electric power, coal consumption is still one of the main factors contributing to environmental pollution since commercially viable clean coal technologies are still in development and thermal power emissions are yet to be regu-

<sup>2</sup> *China Science Daily*, "The contradiction between 'imbalance' and 'inadequacy' of the energy economy is highlighted", 1 February, 2018. Retrieved from: <http://news.sciencenet.cn/htmlnews/2018/2/401886.shtm>

<sup>3</sup> *China News*. "In 2018, China's coal consumption the first time accounted for less than 60% of primary energy consumption", 21 January, 2019. Retrieved from: <http://www.chinanews.com/cj/2019/01-21/8735183.shtml>



lated.<sup>1</sup>Hence, how to increase the share of clean energy and efficiently use clean coal is a major challenge confronting China in its sustainable development.

In recent years, the Chinese government has supported clean energy development, and in particular introduced the Clean Energy Consumption Plan in 2018, proposing to ensure that 95% of electricity generated by wind can be used, wind curtailment rate-the ratio of curtailed electricity (due to grid or system stability/capability reason) to total wind generation-is kept at a reasonable level (5%), and that the solar photovoltaic and hydroelectric curtailment rate is below 5% by 2020. In spite of China's abundant hydroelectric, wind and light power storage capacity, the regions where resources are concentrated are not those that need resources, leading to unbalanced and inadequate distribution of clean energy. The overall installed capacity of China's wind and PV power generation has grown rapidly, far outstripping that of national power consumption, which has given rise to the gaps between clean energy supply and consumption.<sup>2</sup> Going forward, further steps will be needed to

make full use of clean energy, including regulatory changes and incentivizing feed-in tariffs.

Also, according to China's energy planning, nuclear power as a share of its energy consumption will increase further.<sup>3</sup> As the International Energy Agency forecasts, China will overtake the US and the European Union to have the world's largest nuclear power generation by 2030.<sup>4</sup> How to ensure sustained safe operations of nuclear power plants and proper disposal of nuclear waste and avoid environmental risks posed by nuclear accidents is also one of the challenges that China must be vigilant of. In addition, the financial viability of nuclear power when proper costing is applied to all these aspects throughout the relevant horizon when they remain in effect also required careful analysis.

**People have inadequate awareness of and participation in environmental protection.** Environmentally-friendly lifestyles and strong environmental consciousness are one key to environmental protection. As household income continues to increase, overconsumption and extravagance often appear, coupled with growing

1 China Energy News, "Supply-side reform in the energy industry", 11 January 2016. Retrieved from: [http://paper.people.com.cn/zgnyb/html/2016-01/11/content\\_1647122.htm](http://paper.people.com.cn/zgnyb/html/2016-01/11/content_1647122.htm)

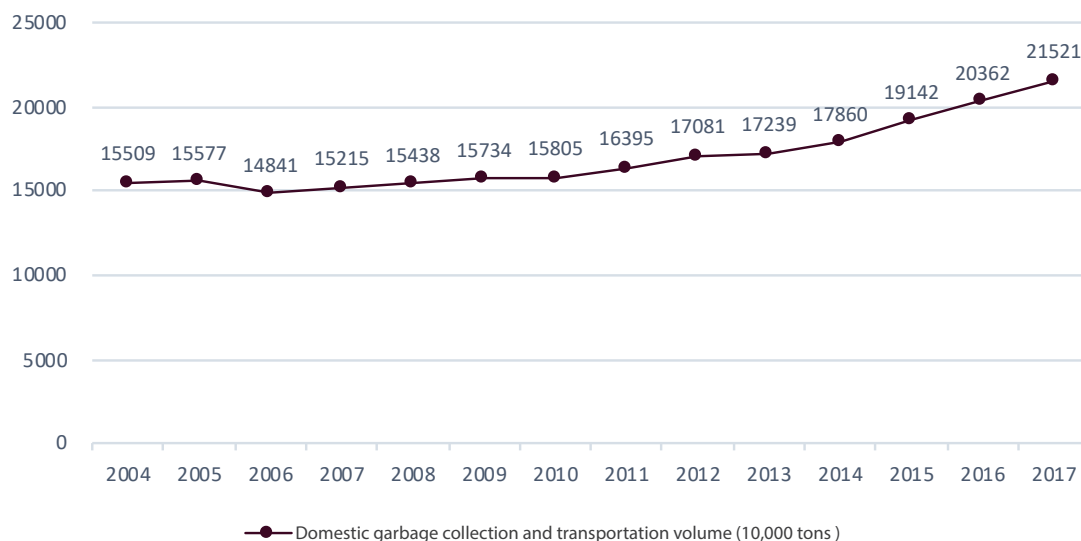
2 Xinhuanet, "Responsible comrades of the Electricity Department of the State Energy Administration answer reporters' questions on the Clean Energy Disposal Action Plan (2018-2020)", 21 January, 2019. Retrieved from: [http://www.xinhuanet.com/energy/2019-01/21/c\\_1124018557.htm](http://www.xinhuanet.com/energy/2019-01/21/c_1124018557.htm)

3 According to the 13th Five-year Plan of China's Electric Power Development, China's nuclear power installed capacity will reach 58 million kilowatts by 2020, with over 30 million kilowatts of nuclear power capacity to be installed.

4 International Energy Association, *World Energy Outlook: China Special Report* (December, 2016). Retrieved from: <https://www.iea.org/weo/china/cn/>

consumption of water and energy resources, putting pressure on the environment. The concept of green consumption and travel has not been universally accepted. In particular with the rapid development of new industries such as online shopping, express delivery, and take-away services, packaging, plastics, solid and water waste, and other garbage have surged. As Figure 4.8 shows, domestic garbage collection and transportation in Chinese cities have been on a gradual increase since 2004 and reached 215.21 million tons in 2017, an increase of 38% compared to 2004. In recent years, some cities, such as Shanghai, have started to introduce garbage classification management, as evidenced by the Regulations on Domestic Garbage Management

in Shanghai that will take effect in July 2019, aimed at mandatory classification management of domestic garbage by the end of 2020. The Programme of Pilot Building of Zero-Waste Cities was issued by the State Council in 2019, which encourages an urban development model that features environmentally-friendly ways of development and living, sustained reduction of waste and more utilization of waste as a resource, and minimized landfill, in a bid to reduce the impact of solid waste on the environment. China's ability to reduce the creation of solid waste and foster wide acceptance of environmentally-friendly lifestyles is a vital precondition for urban environmental protection.



**Figure 4.7 Domestic garbage collection and transportation in China's cities (2004-2017)**

Source: National Bureau of Statistics.

In addition, there were 325 million vehicles in China by the end of 2018, 187 million of which are privately owned, with over 40 vehicles for every 100 households,<sup>1</sup> and as a result vehicle pollution has become an important source of China's air pollution.<sup>2</sup> While public communications and advocacy related to the concept of green travel and greater use of public transport will be important, these should be complemented by concrete pricing and regulatory measures. International experience suggests that congestion pricing, toll roads, and carbon tax on fuel can all be parts of the solution by internalizing the costs vehicle users are imposing on others. China's ability to address these challenges will have great implications for China's own environmental sustainability, as well as at the global level.

**Investment in environmental governance is still insufficient.** As is shown in Figure 4.8, China's investment in environment pollution control has steadily increased in nominal terms from CNY 116.7 billion to CNY 953.9 billion from 2001 to 2017 (196.4 billion to 908.5 billion in real terms, using the GDP deflator to adjust for

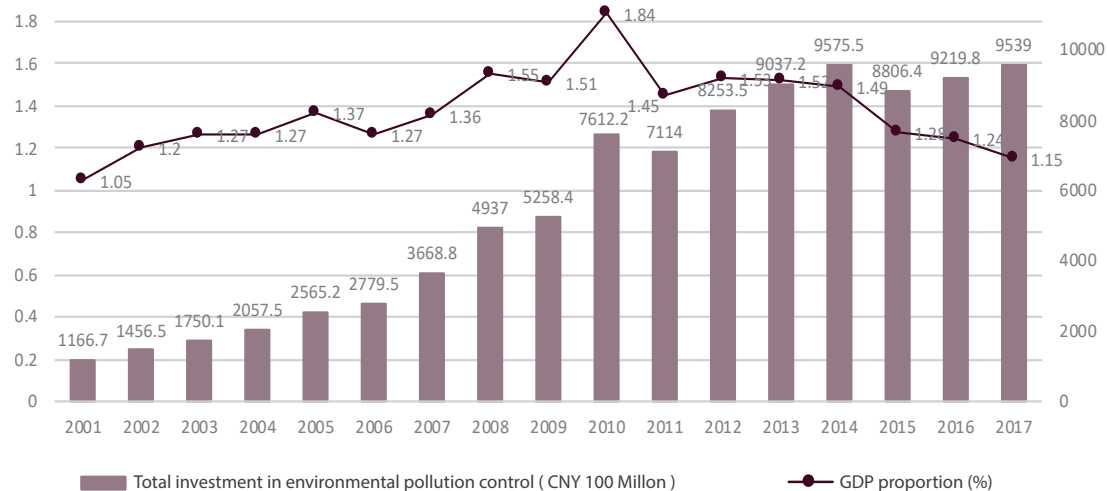
inflation<sup>3</sup>), but its share of GDP dropped from 1.84% in 2010 to 1.15% in 2017. As the World Bank estimates, if China's environmental protection spending as a share of GDP increases by 0.5% to 1% to reach a level that equals the standard for European high-income countries, then it can reduce the proportion of environmental degradation and resource loss costs in its gross national income by 6% by 2030.<sup>4</sup>

1 Xinhuanet, "China has 325 million motor vehicles", 1 January, 2018. Retrieved from: [http://www.xinhuanet.com/legal/2018-12/01/c\\_1123793884.htm](http://www.xinhuanet.com/legal/2018-12/01/c_1123793884.htm)

2 Ministry of Ecology and Environment of China, *China's Vehicle Environment Management Annual Report* (2018).

3 World Bank, *GDP deflator (base year 2010) for China*. Retrieved from: <https://data.worldbank.org/indicator/NY.GDP.DEFL.ZS>

4 World Bank, *China- Systematic Country Diagnostic: Towards a More Inclusive and Sustainable Development* (Washington, D.C., World Bank Group, 2018). Retrieved from: <http://documents.worldbank.org/curated/en/147231519162198>



**Figure 4.8 China's investment in environmental pollution control**

Source: China Environment Statistical Yearbook.

## 4.2 Challenges of public services provision

Provision of public services is the primary means by which government can meet its citizens' basic demands, promote comprehensive development, and uphold social fairness and justice. Over the past four decades China's investment in basic public services has increased dramatically.

China's public service system is growing ever more sophisticated, and public services in education, medical service, culture, sports, etc. have been expanded to cover more areas; however, they are not efficient or of high quality and suffer from inter-regional, urban-rural, and inter-group disparities. There is still a long way to go before demands for better public services can be met. China's public service system is making a transition from quantity-oriented to quality-oriented, from scale-

centred to structure-centred, and from addressing the existence of a service to addressing its quality. For many years all levels of government have prioritized economic growth over public service provision. They have gained abundant experience in pushing economic development, but still are relatively lacking in public service provision and social management capacity. A set of large challenges lies ahead in public service provision: inadequate quantity, structural contradictions, and rapidly growing pressure for improvement in quality.

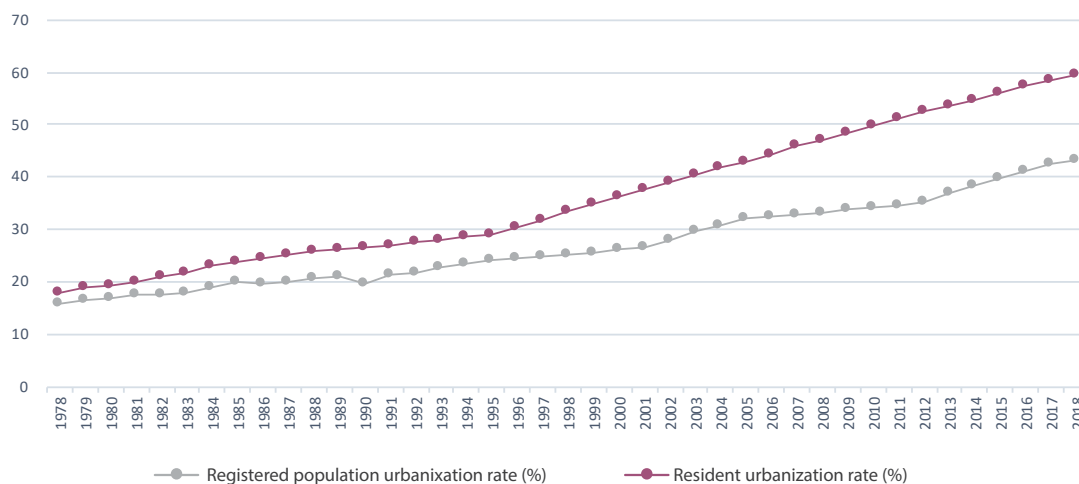
### **Rapid urbanization has been putting pressure on public service provision.**

China's urbanization rate reached 59.6% at the end of 2018, from less than 20% in 1978. Rapid urbanization has led to industrial and population concentration, especially massive population migration to cities, which has resulted in rapid increase

in demand for such public services as education, medical services, social security, public security, and infrastructure, greater than the scope of public service resources planned and allocated based on registered population, making the contradictions between supply and demand of urban public services increasingly acute. Such contradictions are not only about scope, which means urban public services cannot meet the demands of the migrant population, but also structural, which means they cannot meet the requirements of the migrant population structurally either, resulting in increasingly greater pressure on urban public services fiscal expenditure and increasingly greater difficulties in urban management.

As well, the problem of “half urbanization”

in the urbanization process has made the challenge of offering urban public services even more serious. As Figure 4.9 shows, by the end of 2018, China’s urbanization rate of the resident population has soared and reached 59.58% , whereas the proportion of the registered population was 43.37%, growing by much less, giving rise to a difference of 16.2 percentage points,<sup>1</sup> creating a huge “scissors difference”, known as the problem of “half urbanization”. It means that over 200 million people have lived in cities for over half a year as part of the “resident population” but do not have urban household registration (also known as hukou) and therefore are not entirely eligible to enjoy the same public services as their counterparts with local household registration.



**Figure 4.9 Urbanization rate gap between resident and registered population (1978-2018)**

Source: *China Population Statistical Yearbooks (multiple years)*, and the *National Economic and Social Development Statistical Bulletin*.

<sup>1</sup> National Bureau of Statistics of P.R. China, *Statistical Bulletin on National Economic and Social Development 2018* (China Statistics Press, 2019).

Rural migrant workers occupy a dominant proportion of the “half urbanization” group. By the end of 2018, China had 288.4 million rural migrant workers, 0.6% more than a year earlier, of which were 172.7 million rural migrant workers who work away from their registered township, up 0.5%; and 115.7 million local migrant workers (who work away from their village but stay within their registered township), up 0.9%.<sup>1</sup> This large population that lives in cities faces great institutional barriers to children’s education, medical and health services, social security, and employment. They are marginalized, as they are beyond the reach of the authorities of their hometown and at the same time unrecognized

and unpopular with the authorities of the cities they migrate to. As the 2018 Report on Monitoring and Survey of Rural Migrant Workers shows, of the overall rural migrant workers, only 2.9% had access to affordable housing, and 50.8% said they were confronted with some problems regarding their children’s access to education. Restrictions to local (kindergarten) schooling and high costs have still remained the two issues of greatest concern to rural migrant workers. Hence, how to offer more equitable public services and contribute to more efficient, inclusive and sustainable urbanization has become a challenge confronting Chinese decision-makers.

#### **Box 4.1 Low Efficiency in Public Services Caused by “Hollowing-Out” Across Rural Areas**

As China’s urbanization proceeds rapidly its rural labor force has gone through a dramatic transition. In the first years of the reform era those who stopped farming did not leave home, and found work in their hometowns. In the next phase they became a “floating population” who moved back and forth between their rural homes and urban areas. Now, more and more, whole families are leaving their rural homes and moving to cities. Especially young people from the countryside, a massive share of the rural population, are migrating to cities, and the rural resident population is gradually shrinking, with many villages having empty houses where only the elderly and young children are left, leading to serious imbalances in age composition, social and cultural structures, and economic and industrial landscapes in rural areas. Empty houses in rural areas, empty land, industries, and social communities are common, leading to the phenomenon of so-called “hollowed-out” land, population, industries, cultures, and infrastructure, resulting in stagnation and even regression of the politics, economy, culture, and social development in rural areas.

During the 11th and 12th Five-year Plan periods the central and local governments invested

1 *ibid.*

considerable public resources to improve the public facilities and services in rural areas, such as building “rural libraries”, “rural roads that connect one village with the other” and “integrated cultural services centres”, etc. However, as urbanization accelerates, rural areas have been gradually deprived of “development vigour and vitality”, with many rural public services facilities left unused and wasted.

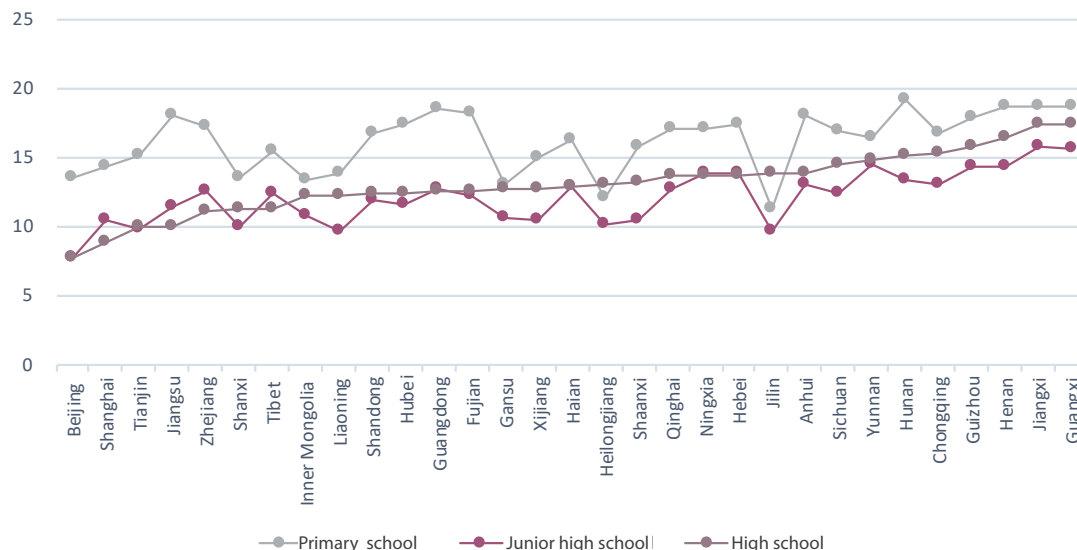
**Unbalanced allocation of public service resources has exacerbated urban-rural, inter-regional, and inter-group differences in public services and hindered the efforts to deliver equitable public services.** As a result of economic, natural and social factors, China’s public service resources have long suffered from extremely unbalanced allocation, especially in the areas of education, medical services, and culture. High-quality resources are now increasingly concentrated in cities and Eastern China, where they are again increasingly concentrated in a few public institutions for a minority of people, which hampers the attempt to offer equitable public services. Due to strong economic development and fiscal capacity, megacities and metropolises in the country offer more diverse public service resources with more functions than small and medium-sized cities and rural areas.

For example, by the end of 2017, some municipal libraries in Sichuan have not yet reached the standard for second-level libraries in Western China. Four districts in Leshan, Neijiang, and Yibin still have no libraries. The average actual usable area of

34 public libraries in the Tibetan regions of the province is only 650 square metres, far below the average provincial level of 2,944 square metres. Public libraries’ annual expenditure per capita on books is only CNY 0.6, far below the national average of CNY 1.43. In 2016, China’s per capita public book collection is 0.65, with Shanghai having the highest figure of 3.17 and Henan the lowest of 0.28.

Educational resources are another example. There is a problem with unbalanced and unfair allocations of educational hardware facilities and high-quality teachers. As shown in Figure 4.10, the student-teacher ratio in primary, middle, and high schools in China’s midwest is by and large higher than the one in its eastern provinces. Likewise, huge urban-rural and inter-regional gaps also remain in the distribution of China’s public resources, including medical and health services, social welfare, and road traffic.





**Figure 4.10 Student-teacher ratios in primary, middle, and high schools in China in 2017**

Source: statistical yearbooks of various provinces.

**Box 4.2 Unequal Opportunities for Public Education and Health Services Between Urban and Rural Areas**

Although the Compulsory Education Law has played a significant role in promoting education equality, urban-rural inequality in opportunities for education has intensified in senior high school and higher education. Research based on national sample survey data found that when urban or rural background, gender, father’s occupation, and father’s education years were the same, (i) urban-rural inequality in opportunities for primary education has been on the decline, with the inequality measure narrowing from 4.9 to 1.5 for those born after 1980 compared to former generations; (ii) there have been no changes for junior secondary education; but (iii) there was a continued rise in urban-rural inequality for senior high school education, with the inequality measure for those born after 1960, 1970, and 1980, respectively standing at 1.9, 2.5, and 3.9. Finally, a slight rise has been seen for university education, with those born after 1980 in urban families 1.7 times more likely than their counterparts born in rural families to have a university education.<sup>1</sup>

Significant differences remain in education provision between rural and urban areas, be it physical facilities (school dormitories, teaching facilities, and equipment), or teachers. Rural areas suffer from severe shortages in their education budgets, a far cry from urban areas, re-

<sup>1</sup> Li Chunling, “The trend of education inequality by year (1940-2010): re-investigation into the unequal opportunity for education in urban and rural areas”, *Sociological Study*, vol. 29, No. 2 (2014).

sulting in unfair educational resources distribution, and level of education. In recent years, the dropout and turnover rates in rural areas have increased again to some extent.<sup>1</sup> As a survey in Shaanxi, Gansu, Hebei, and Zhejiang indicates, 17.6%-31% of students in junior high school in some rural areas have dropped out of school.<sup>2</sup> From the perspective of allocation of teachers, young teachers in rural areas have been migrating to cities on a large scale as a result of low wages and bad working environments, contributing to a widening urban-rural gap in the quality of compulsory education.

China's medical and health services have made significant progress since the beginning of Reform and Opening Up, but they still suffer from low coverage and unequal urban-rural development. There is a persistent urban-rural gap in aggregate spending on medical and health services. Rural areas are beset with smaller quantities of medical and health resources than cities, low-skilled medical workers, and unsophisticated medical facilities. There is still a strong need for rationalization of the division of investment and quality of services between township, county and provincial capital hospitals and clinics. Statistics show that health workers at village health centres generally have low academic qualifications, professional titles and skills.<sup>3</sup> From the perspective of the government's investment in medical institutions, the majority of fiscal funds have been allocated to urban hospitals vis-à-vis significantly inadequate fiscal funds to rural medical institutions. Only 17% of rural migrant workers have access to medical insurance meant for urban workers.<sup>4</sup>

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1 Chen Bin, *The approach to equalization of basic public services in urban and rural areas in China*, State Information Center, 21 August, 2017. Retrieved from: <http://www.sic.gov.cn/News/455/8383.htm>

2 Yaojiang Shi, et al., "Dropping out of rural China's secondary schools: A mixed-methods analysis", *The China Quarterly*, vol. 224 (December, 2015).

3 According to the China Health Statistical Yearbook, for all the health workers in township medical centers in 2017, only 12.4% had a bachelor's degree or above, only 15.3% had intermediate professional qualifications or above, and only 15.5% had an appointment position.

4 Beijing Youth Daily, *Only 17% of migrant workers have urban health insurance*, 21 November, 2017. Retrieved from: [http://www.xinhuanet.com/comments/2017-11/29/c\\_1122026863.htm](http://www.xinhuanet.com/comments/2017-11/29/c_1122026863.htm)

Unbalanced distribution and allocation of public service resources results in an unbalanced flow and transfer of talents that leads to unbalanced urban-rural development, which not only goes against the original intention of offering equitable public services but is detrimental to narrowing the inter-regional development gap and increasing high-quality urbanization. Megacities and metropolises provide people with more job opportunities and higher-quality public services that in turn attract higher-quality labour. Small cities and rural areas will face even greater constraints as they are relatively weak in their ability to allocate public service resources. The “war of seizing talents” among cities in recent years is just a case in point about the prevalent inter-regional gap in public services.

**Public services have achieved relatively high coverage rates, but there is still ample room for improvement in terms of coverage levels, service quality, and efficacy.** In recent decades, China has steadily increased its fiscal investment in public services, in particular the basic public services to meet people’s basic needs, as shown in Figure 4.11. Based on the principles of wide coverage, basic level, sustainability, and development, the Chinese government has delivered a relatively high degree of coverage of public service facilities, offering lots of basic public services not seen before. But at the same time, there is still considerable room for

the country to invest even more and cover more areas. In 2016, although enrolment ratios in the national medical insurance system were high, reimbursement rates were still relatively low, one reason why the government only accounted for 58% of the national total health expenditure, far below that of the world’s average of 74.2% (the average for low-income and high-income countries were 24.1% and 79.9% respectively).<sup>1</sup> In 2017, its government appropriation for education as a share of GDP was 4.14%,<sup>2</sup> whereas the world’s average was about 4.8%, of which the figures for low-income and high-income countries were 3.9% and 5.2% respectively.<sup>3</sup> Also, insufficient investment in public cultural activities leads to outdated public cultural facilities. According to the standard of the International Federation of Library Associations and Institutions, every 50,000 people should have a library, with an effective service radius of 4 kilometres. In 2017, there was only one library for every

1 World Bank, *Domestic general government health expenditure (% of current health expenditure)*. Retrieved from: <https://data.worldbank.org/indicator/SH.XPD.GHED.CH.ZS>

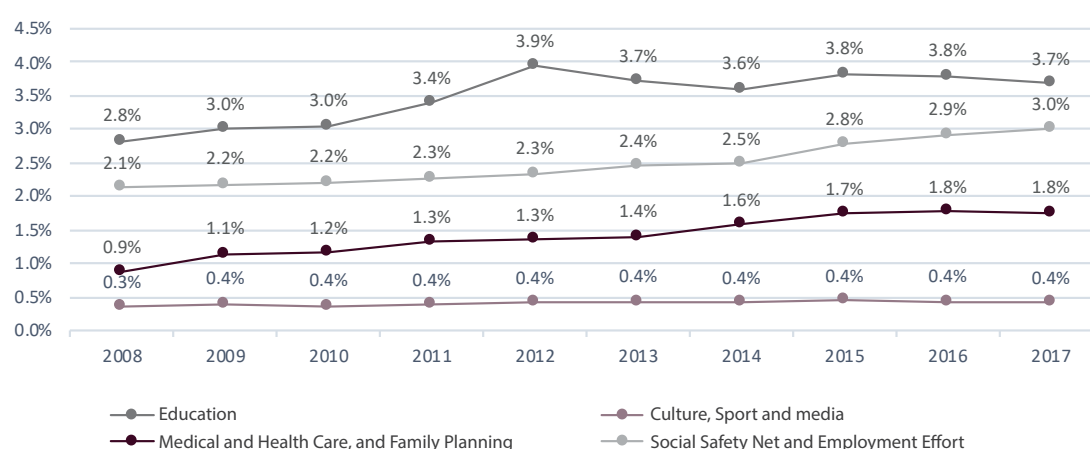
2 Ministry of Education of the P.R. China, *Statistics on the National Education Funds in 2017*, Retrieved from: [http://www.moe.gov.cn/srcsite/A05/s3040/201810/t20181012\\_351301.html](http://www.moe.gov.cn/srcsite/A05/s3040/201810/t20181012_351301.html) Government appropriation for education includes state budgetary funds for education, taxes and fees collected by governments at all levels that are used for education purposes, education funds for enterprise-run schools, income from school-run enterprises, work-study programmes and social services that are used for education purposes.

3 World Bank, “Government expenditure on education, total (% of GDP)”. Retrieved from: <https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS>

440,000 people in China, with an average radius of approximately 57 kilometres.

In January 2017, China's State Council issued the Programme for Equalization of Basic Public Services During the 13th Five-year Plan Period, confirming that all Chinese citizens enjoy the right to have

fair access to generally equal basic public services, and requiring that basic public service system be improved, that new progress is made in ensuring that people enjoy their rights to education, employment, medical and elder care, and housing, and that the goal of equalizing basic public services is generally realized by 2020.



**Figure 4.11 National government expenditure on public services (% of GDP)**

Source: *China Statistical Yearbook*.

### Box 4.3 High Coverage for Public Education and Medical Services

Nine-year compulsory education is basically universal throughout China, with the consolidation rate<sup>1</sup> reaching 93.8% in 2017.<sup>2</sup> The senior high school gross enrolment rate has reached 88.3% in 2017.<sup>3</sup> Higher education has evolved from a form of elite education to mass education. There were only 625,300 college students in China's regular institutions of higher education in 1977. The gross enrolment rate was less than 1%. By 2018, the number of students in all types of higher education was 37.79 million with a gross enrolment rate of 45.7%.<sup>4</sup>

1 This is the percentage of entering students who complete the programme; it is a considerably stronger standard than "enrolment" rate.

2 Ministry of Education of the People's Republic of China, *China Education Development Statistical Bulletin 2017*. Nine-year compulsory education proportion refers to the percentage of students in the graduating class of junior secondary school over the number of students at the first grade of primary school.

3 *ibid.*

4 *ibid.*

In medical and health services, China's basic medical insurance covered more than 1.3 billion people by the end of 2018, which accounts for over 95% of the total population. As of 2017, the average life expectancy in China reached 76.7 years, infant mortality rate had fallen to 6.8%, and the maternal mortality rate declined to 19.6/100,000, reflecting better health outcomes in China in terms of these indicators than the averages of many middle and high-income countries.

However, poor overall planning and inefficiency are still challenges in the public service system. First, the implementation of public services depends on the discretionary decisions of government offices and the subjective interests of the officials delivering the service, leading to a gap between the services and public demand for them, especially in the central and western regions. For example, the Rural Library Programme has reached almost every village in the country, but many libraries go unused as the books offered do not match the interests of the left-behind women and children. Second, it is common for the focus in public service provision to be on hardware, i.e. facilities, rather than operations. There is funding and support for building large-scale and high-standard facilities across the country, whereas service personnel, the development of programme content, and provision of high quality and efficient daily services are underfunded. Some public service institutions are just empty shells as a result. Third, there is a lack of coordination among the local level programmes implemented by

departments in charge of culture, sanitation, education, civil affairs, social security, employment generation and so on, leading to fragmentation, overlaps and waste of resources. It is difficult to centralize public spending in these sectors in a planned way, which is undermining effectiveness in achieving the goals of these programmes.

### Box 4.4 Quality Evaluation of Education Services at All Levels<sup>1</sup>

Monitoring reports of the compulsory education system issued by the Ministry of Education have found that students' values are becoming more and more positive, their behavior norms are good, and academic achievements and overall physical health are good. However, the Report identifies the following problems for students in the compulsory education system: students' comprehensive abilities are relatively weak; obesity, myopia and lack of sleep are issues in physical well-being; artistic quality needs to be improved; a large portion of students attend tutorial classes after school and are under heavy academic pressure; some of the curriculum provisions and content are not coherent; there needs to be more focus on improving teaching skills and professional quality for some teachers.<sup>2</sup>

Senior high school education and higher education also needs to be improved. For example, according to the Ministry of Education, the proportion of large classes in regular senior high schools is still too high. In 2017, the average number of students in regular senior high school classes in China was 52 with the proportion of large classes at 30.3%.<sup>3</sup> Some problems in the quality of university education are identified as follows: the classification of disciplines and specialities needs to be further optimized; the quality of scientific research and the out-of-school application ratio of achievements are low; the cultivation of talents with creativity lacks momentum and innovation and entrepreneurship education in colleges are inadequate; there are insufficient high level teachers and innovative teams as well as teaching funds and practice resources; majors and specializations have insufficient relevance to employment and there is an imbalance between learning experiences and employment satisfaction of students from different kinds of colleges.<sup>4</sup>

Private schools, especially non-profit schools, can effectively supplement state-run schools and therefore play a useful role in enhancing education quality. Though the Chinese government has already issued a series of laws and policy documents such as the Private Education Promotion Law, Implementing Rules of the Law on the Promotion of Private Education, Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010-2020), there are still many challenges in the development of private education. At present, the overall scale of China's private education remains small and of mixed quality. Protecting the labor rights of teachers in some private schools is difficult and ascertaining the legal personhood and property rights of private schools is often unclear.<sup>5</sup>

1 Basic Education Quality Monitoring Center of the Ministry of Education, *China's Compulsory Education Quality Monitoring Report* (2018).

2 *ibid.*

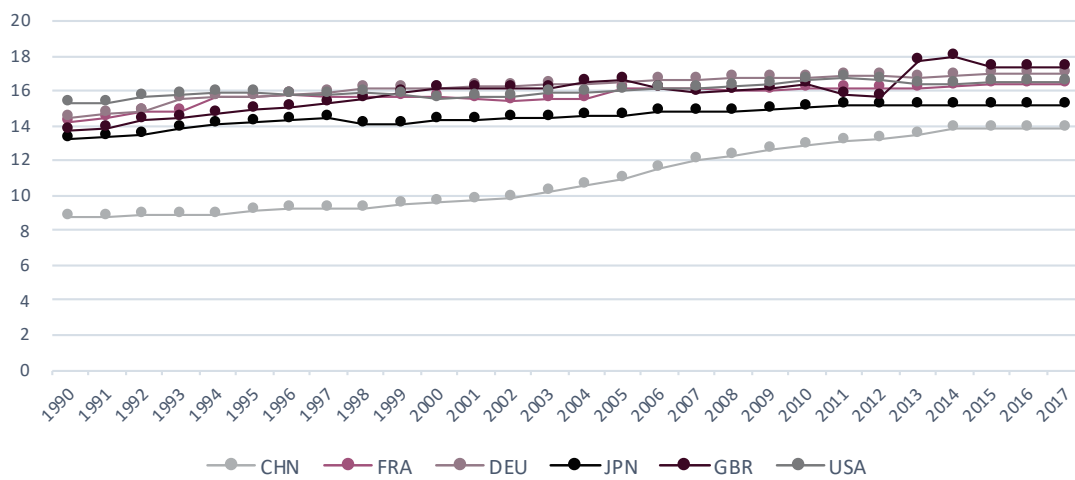
3 Ministry of Education of China, *High school education*, 1 November, 2018. Retrieved from: [http://www.gov.cn/guoqing/2018-11/01/content\\_5362728.htm](http://www.gov.cn/guoqing/2018-11/01/content_5362728.htm)

4 Basic Education Quality Monitoring Center of the Ministry of Education, *op cit.*

5 She Yu, "Private education: achievement, problems and challenges", *China Economic Times*, 17 July, 2015.

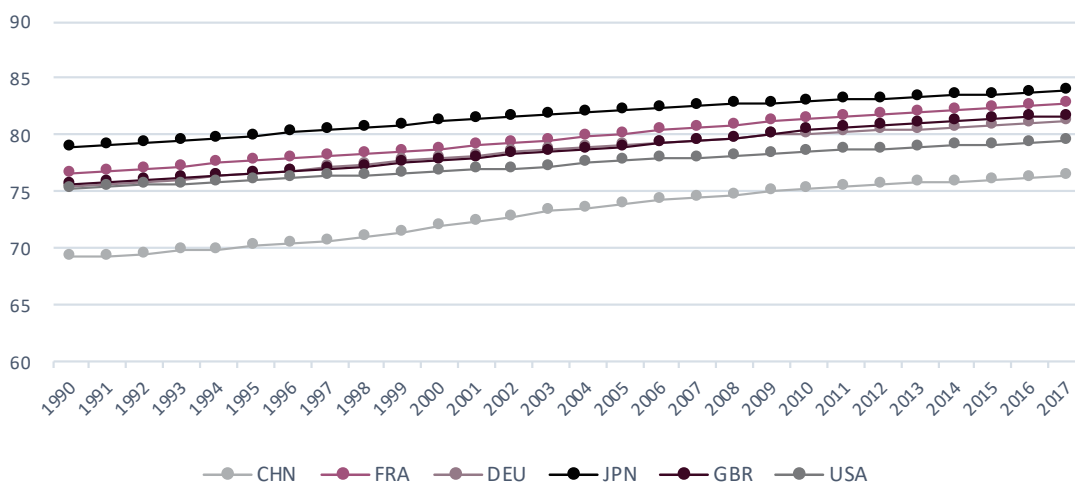
The public service system faces challenges as it transforms itself from a service focused on guaranteeing basic needs to full life cycle services. Access to education opportunities and improvement of people's health greatly bolster human development. But compulsory education and public health programmes alone cannot satisfy citizens' increasingly higher

demands for high quality education and health care. As shown in Figure 4.12 and 4.13, China's education and health levels have been rising in the past three decades. However, compared with countries of advanced human development, China still lags behind in its education and health sectors to some extent.



**Figure 4.12 Comparison of expected years of education in major countries**

Source: UNDP Human Development Data (1990-2017).



**Figure 4.13 Comparison of per capita life expectancy in major countries**

Source: UNDP Human Development Data (1990-2017).



The United Nations 2030 Agenda for Sustainable Development has set the goal of “ensuring inclusive and equitable quality education and lifelong learning opportunities for all” (SDG 4). This is a much more ambitious goal than the earlier Millennium Development Goal 2, which only called for the universalization of primary education, one example of the ways in which the 2030 Sustainable Development Agenda demands more from the global community than previously. China’s nine-year compulsory education system built around traditional curricula and diploma-centred approaches can no longer satisfy citizens’ demand to continuously enhance their scientific and cultural capacity. The key to establishing a life cycle education service system is to extend public education at the beginning and at the end. First, compulsory education should start earlier, and include kindergarten education, to address the current situation faced by so many households who find it difficult and expensive to send their children to kindergarten. It should also be lengthened to include senior high school education and vocational education to continuously enhance professional skills and employability so that more opportunities are accessible to citizens for their self-development to enhance their likelihood of productive employment. This is particularly important because future developments in emerging technologies such as AI will place increasingly higher demands on the knowledge system, professional quality and skills.

Therefore, public education should now also include provisions for continuing education that include skills training for workers who have already left school. However, vocational education in China is still not at a level that can meet the country’s needs, and there is a mismatch between the skills schools are providing, the needs of employers and the demands that today’s society places on young people entering the work force.<sup>1</sup>

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1 Ministry of Education of China. *Vocational education embraces the golden era*, 3 February 2018. Retrieved from: [http://www.moe.gov.cn/jyb\\_xwfb/moe\\_2082/zl\\_2018n/2018\\_zl16/201802/t20180227\\_327950.html](http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2018n/2018_zl16/201802/t20180227_327950.html)

### Box 4.5 Developing Preschool Education

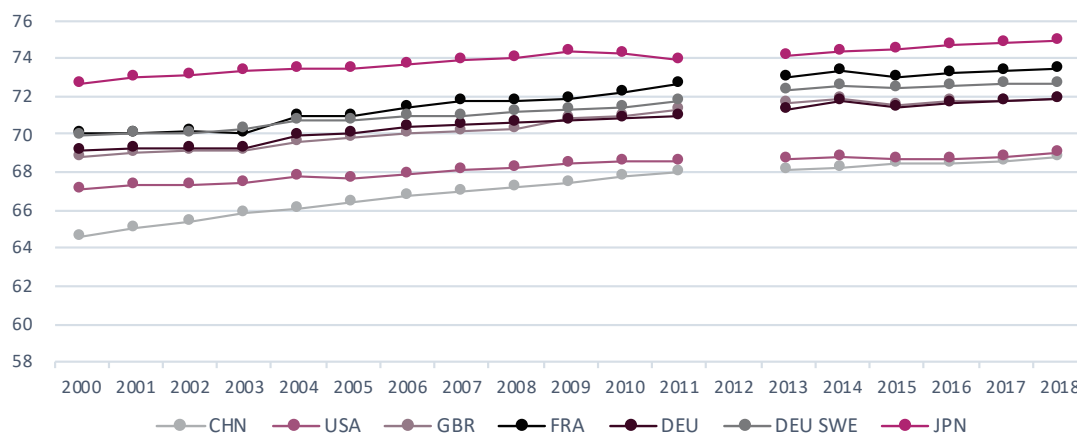
In recent years, the Chinese government has focused increasing attention on the development of preschool education. In 2017, the gross preschool enrolment rate of children of the appropriate age reached 79.6%.<sup>1</sup> The Suggestions for Deepening Reform and Regulating Development in Preschool Education by the State Council of the Central Committee of the CPC issued in 2018, made explicit that “as the beginning of a lifelong education, preschool education is an indispensable part of the national education system and a major contributor to public welfare.”

China’s preschool education still falls short in many ways from meeting steadily increasing and more diversified public demand. First, public kindergartens are in short supply. In many cities, parents often say that “getting into kindergarten is hard” and “getting into kindergarten is expensive.” Second, existing kindergartens are of mixed quality. Due to the lack of uniform standards and supervision, there are problems with kindergarten buildings and administration. Third, the overall quality of the teaching staff needs to be improved. There is a tendency to prioritize investment in hardware over software investment in many kindergartens. The status and treatment of teachers in kindergartens need to be enhanced. All these problems are restricting improvements in the quality of China’s preschool education.<sup>2</sup>

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1 Ministry of Education of China, *Preschool education and special education*, 21 January, 2019. Retrieved from: [http://www.gov.cn/guoqing/2019-01/31/content\\_5362730.htm](http://www.gov.cn/guoqing/2019-01/31/content_5362730.htm)

2 Hong Xiumin, “Don’t let the quality of the teachers to be the bottleneck of preschool education”, *Guangming Daily*, 23 January 2018. Retrieved from: [http://epaper.gmw.cn/gmrb/html/2018-01/23/nw.D110000gmr\\_20180123\\_1-02.htm](http://epaper.gmw.cn/gmrb/html/2018-01/23/nw.D110000gmr_20180123_1-02.htm)



**Figure 4.14 Comparison of healthy life expectancy of major countries**

Source: International Institute for Management Development (IMD), *World Competitiveness Yearbook*.

Being healthy is not only the basis for people's development but also an important indicator of the prosperity of a nation. As Figure 4.14 shows, China's Healthy Life Expectancy (the number of years lived in self-assessed good health)<sup>1</sup> has been on the rise since 2000. In 2016, it reached 68.7 years surpassing the US to rank 37th among 183 countries.<sup>2</sup> However, China still lags behind other major developed countries. With rising levels of chronic disease and an aging population, it will be a major challenge for China to further improve the health and quality of life of the Chinese

1 Healthy life expectancy here is a form of health expectancy that applies disability weights to health states to compute the equivalent number of years of good health that a newborn can expect and it captures the health conditions of an aging society. See: [https://www.who.int/gho/mortality\\_burden\\_disease/life\\_tables/hale\\_text/en/](https://www.who.int/gho/mortality_burden_disease/life_tables/hale_text/en/)

2 World Health Organization, *World Health Statistics 2018: Monitoring Health for the SDGs* (Geneva, World Health Organization, 2018).

people. As life expectancy increases in China, the country's population has undergone a classic epidemiological transition as well. Chronic non-communicable diseases have now become the leading cause of premature mortality. According to the Report on Chinese Residents' Chronic Diseases and Nutrition (2015), in 2012, hypertension prevalence rates among those 18 years old and above were 25.2% and the diabetes rate was 9.7%, both markedly higher than in 2002. As the population ages, China's cancer incidence and mortality rates are rising as well.<sup>3</sup> According to the statistics of the International Agency for Research on Cancer, there were 18.1 million new cases of cancer and 9.6 million

3 National Health and Family Planning Commission (present-day National Health Commission) et al. *Three-Year Action Plan of China's Cancer Prevention and Control* (2015-2017). Retrieved from: <http://www.molechina.com/file/201628031028363407676.pdf>

deaths from cancer in 2018 globally, of which 3.8 million new cases and 2.3 million deaths occurred in China,<sup>1</sup> 21% and 24% of the respective global totals. The report to the 19th CPC National Congress in 2017 emphasized that China will improve its national health policy, and ensure the delivery of comprehensive lifecycle health services. To that end, healthcare services should shift from the traditional focus on “serving patients and treating diseases” to “providing health services and preventing disease”. Premier Li Keqiang noted in the 2019 Report on the Work of the Government that “We will take action in cancer prevention and treatment, and promote preventive screening, early diagnosis and treatment, and breakthroughs in cancer research. We will improve prevention and treatment of common chronic illnesses. Outpatient medicines for treating high blood pressure, diabetes, and so on, will be made reimbursable under the medical insurance scheme.” Controlling risk factors of chronic diseases, strengthening health education, standardizing diagnosis and treatment, and coordinating treatment and prevention are all important in developing a lifecycle approach to healthcare. This will require the government to change how medical and healthcare services are conceptualized and to speed up the development of a lifecycle-oriented healthcare

1 F. Bray et al., “Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries”, *CA: a cancer journal for clinicians*, vol. 68, No. 6 (2018).

system.” In order to realize the comprehensive lifecycle health of the people, it is of vital importance to control risk factors of chronic diseases, strengthen health education, regulate standard diagnosis and treatment, and promote coordination between prevention and treatment services. On that account, the government should change its principle of medical and healthcare services and speed up the development of a lifecycle health service system.

**The challenge of satisfying demand for high-quality and diversified elder care services needs to be met.** An aging population increases demand for nursing services and healthcare, and accordingly, puts more pressure on elder care and medical services. At present, 90%, 7% and 3% of senior citizens are accommodated in home-based facilities, community-based elder care centers and nursing homes respectively. By the end of 2017, there were 29,000 registered nursing homes for senior citizens in China with a total of 7.448 million beds, which covers around 3% of China’s total senior citizens.<sup>2</sup> This coverage is around 5%-7% of the total senior population in major countries. The distribution of China’s nursing homes for senior citizens is uneven as well. While some areas are in short supply, others have a lot of vacancies. For example, the Beijing Municipal #1 Social Welfare Institution, located in Huay-

2 Ministry of Civil Affairs of China, *2017 Statistical Report on Social Service Development*. Retrieved from: <http://www.mca.gov.cn/article/sj/tjgb/2017/201708021607.pdf>

anbei Alley, Chaoyang District, is known for easy access to transportation, professional medical personnel, and low prices. It is also covered by medical insurance. It provides services in assisted living, elder care, comprehensive care and medical care. There are about 100 vacant beds available each year, but the number of people on the waiting list has exceeded 10,000. In comparison, private nursing homes for senior citizens provide high-quality services at high fees, so they are only affordable for a small group of people. Consequently, they have persistently high vacancy rates. In the nursing system that provides rehabilitation, elder care services, and chronic disease management to senior citizens, there are not enough nurses and caregivers to satisfy demand. Apart from hundreds of thousands of fresh graduates from nursing schools each year, workers in their 40s and 50s are the mainstay of caregiving services. Most of them are from rural areas, less educated and not well trained. Wages are low and turnover is high.

China's population is entering the stage of accelerated aging. The expanding and increasingly diversified needs for elder care cannot be satisfied by the government alone. Therefore, there is a need for effective coordination between the government, market, society and families. In recent years, the Chinese government has released a set of policies to address issues raised by an aging population. For instance, in April 2019, the General Office

of the State Council issued Opinions of the General Office of the State Council on Promoting the Development of Elderly Care Services, to encourage market entities to engage in the provision of elder care services, improve the quality and capacity of such services and satisfy demand for diversified and multi-layered senior care. Elder care services and the combination of medical care and elder care services have become a focal area for the P3 model pushed by China in recent years. Many enterprises or social organizations are involved in elder care services through the P3 model providing quality and diversified services to middle and high-income senior citizens. Leveraging market-oriented or quasi market-oriented approaches to provide elder care services to middle and high-income households allows the government to spend more public resources on middle and low-income seniors. However, many private partners in China's P3 elder care projects are investors or property developers and not professional elder care service providers. Consequently, these projects focus on financing and construction, without enough attention paid to operations. This, along with limited government capacity and poor institutional development, is constraining the healthy development of a diversified elder care service system.

As the aging process accelerates in combination with China's special family structure (four grandparents, two parents, one child), the dependency ratio will continue

to grow rapidly. Furthermore, as the working-age population shrinks, the financial sustainability of the pension system will be severely challenged. It is projected that, from 2015 to 2050, total spending on elder care, medical care, nursing, welfare and facilities will rise by 18.9 percentage points from 7.3% to 26.2% of GDP,<sup>1</sup> imposing a heavy burden on families and the government. The challenge for China as its society ages is how to address problems of elder care and medical care associated with the aging phenomenon, especially the financial challenges of insufficient pension funding and unbalanced supply-and-demand structure of elder care resources.

Improving human development also means enhancing scientific knowledge, cultural quality, and the subsistence and development capacity of the country's residents. Therefore, it is imperative to provide better public services. The 13th Five-year Plan calls for creating new methods for the provision of public services, increasing the supply of public services, achieving the goal of equalization of basic public services and meeting more diversified needs for public services. Achieving a comprehensive Xiaokang society by 2020 will mean that expectations for higher standards of living will increase demand for the provision of public services in education, health and culture. By then, it is expected that the

first goal in public services, "creating services where none existed" will have been achieved, and the challenge will evolve from "whether" a service exists to "is the service good". High-quality public services are important means to meet diversified demands for services, promote broad development and safeguard social justice and equity.

### 4.3 Challenges of economic development

Although economic development is not the main objective of human development, a reasonable rate of economic growth is a necessary condition to enhance human development capabilities. China's economy has slowed down from a high growth rate in the early years of the reform to the current medium and low speed, and its economic development is now transitioning into new modes, higher quality, more sustainable and more dynamic. Making this transition successfully will be of great importance for further promotion of China's human development.

China's gross domestic product (GDP) at constant prices has grown at an annual average rate of 9.5% from 1978 to 2017, well above the approximately 2.9% annual average growth rate of the global economy in the same period, ranking first among the major economies. But with very rapid economic growth came a host of adverse impacts, such as low capital output

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1 Liu Yuanli, Zheng Zhongwei, Rao Keqin, Blue Book of Elderly Health: Annual Report on Elderly Health in China (2018), Social Sciences Academic Press (2019).



efficiency, excessive costs for environment and resources, and severe overcapacity which have led to unbalanced, uncoordinated, and unsustainable development. Also, rapid and excessive growth put substantial pressure on public services and infrastructure, sharply constraining improvements in quality of life. Since the introduction of the 13th Five-year Plan, China has abandoned its high-speed growth strategy and reined in its economic growth at intervals, in a bid to deliver more sustainable growth. For example, China's economy started to slow down in 2015, with an annual average growth rate of less than 7%. But it has to overcome the following challenges before high-quality economic development can be achieved.

**China is facing the challenge of improving economic efficiency.** Its economic efficiency has still remained at a relatively low level. Its GDP in 2018 is CNY 90.03 trillion (or about USD 13.6 trillion), but its GDP per person employed in PPP terms in the same year is USD 32,848.3, far below that of the US, France, Germany, Japan, the UK, and other major developed countries, as shown in Figure 4.15. Its agricultural, industrial, and service sectors have a GDP per person employed (in terms of PPP) of USD 8,478, USD 37,913, and USD 32,562 respectively in 2016, all still at relatively low levels. Total Factor Productivity (TFP) is not only an important indicator for measuring the efficiency of resources allocation,

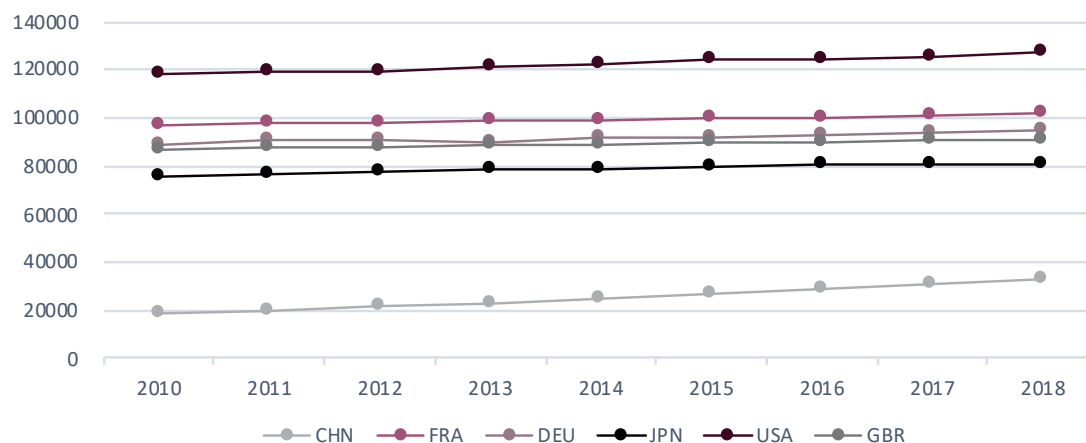
exploitation and utilization, but a driver to promote high-quality development. According to some scholars' estimate, the average growth rate of China's TFP will stay at a level slightly higher than 2% or so,<sup>1</sup> which makes it hard to drive high-quality economic development.

With less pollution, low energy consumption, and high value-added, the service sector can create a lot of jobs and drive other related sectors to develop, which holds the key to optimizing the industrial structure, improving the overall efficiency of the economy, and promoting sustained economic growth. China's service sector has been continually rising as a share of GDP in recent years, reaching up to 52.2% in 2018. But its GDP per person employed in the service sector is only about 1/3-1/4 of that of the US, Japan, France, and Germany (on a purchasing power parity basis),<sup>2</sup> and its employment in the service sector accounts for 44.9% in 2017, far behind that of the US, the UK, Canada, Japan, and Germany, etc. whose figures range from 70% to 80%. Undersupply, inefficiency, and weak job creation are the key hindrances to economic transition and up-

1 He Jianwu, "Correct TFP measurement helps contribute to high-quality development" in Liu Shijin, ed., *China's Ten-Year Economic Growth Outlook (2018-2027): Medium Speed Platform and High Quality Development* (Beijing, China CITIC Press, 2018).

2 China's GDP per person employed in the agricultural sector is about 1/3 - 1/9 of that of the US, Japan, France, and Germany, and its GDP per person employed in the industrial sector about 1/3 - 1/4 of that of the US, Japan, France, and Germany (in PPP terms).





**Figure 4.15 GDP per person employed of major countries (Unit: USD, PPP)**

Source: International Institute for Management Development (IMD), *World Competitiveness Yearbook*.

grading. Taking the financial sector as an example, in 2017, China's banking assets accounted for 245.8% as a share of GDP, ranking it 3rd in the world, and its stock market was valued at USD 4.9 trillion, also 3rd in the world. However, there is still much room for improvement in terms of its financial service efficiency (the capacity of its stock market to provide businesses with adequate financing), regulation, risk control, and protection of stock investors' rights and interests, etc., ranking 40th, 42nd, 47th, and 51st respectively among 63 economies surveyed in the Executive Survey of the IMD World Competitiveness Yearbook 2019.<sup>1</sup> China's financial sector is big but not strong, which makes it still less efficient in offering financial service to its real economy.

<sup>1</sup> IMD World Competitiveness Center, *IMD World Competitiveness Yearbook: 2019* (International Institute for Management Development, June 2019).

China is seeking more sustainable economic growth drivers. From the perspective of the main drivers of economic growth, the marginal contribution of traditional investments and exports to economic growth is weakening, while final consumption is gradually rising as a proportion of economic contribution, as shown in Figure 4.16. In 2018, China's gross capital formation stood at CNY 39.66 trillion, accounting for 44.8% of GDP, and contributed 32.4% to its economic growth. China's trade surplus in 2018 was CNY 2.3 trillion, CNY 521.7 billion less than that of 2017, and its net exports were reduced to -8.6% as a contribution to economic growth. In the same year, final consumption was the main driver of economic growth contributing 76.2% of the total. But underconsumption is still expected to be a significant challenge to China's economic growth going forward. Consumer

spending in 2017 accounted for 53.7% of GDP, lower than that of major developed countries which range from 72.7% to 84.2%,<sup>1</sup> of which household consumer spending makes up 39.3% as a share of GDP and government consumer spending 14.4%. Hence, underconsumption, especially household underconsumption, will be a major constraint to China's steady economic development in the future.

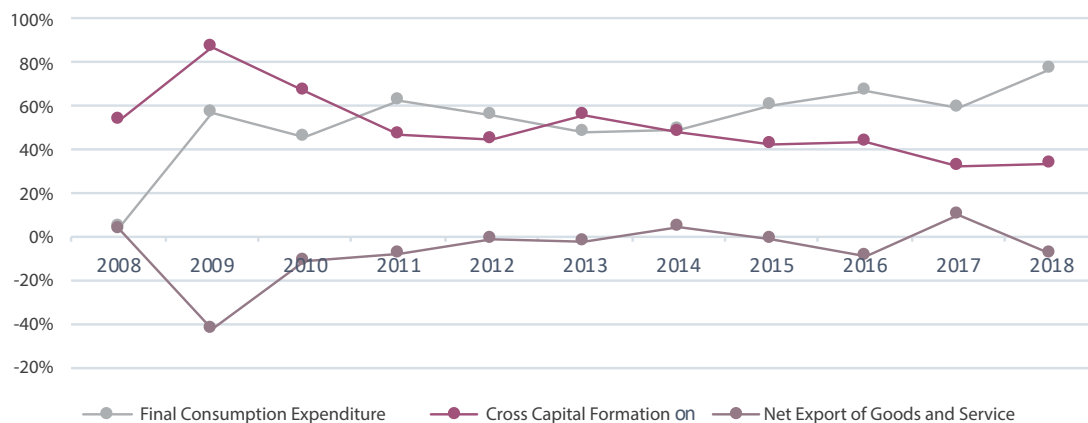
There is a need for innovation-driven high-quality economic development. With a focus on scientific and technological innovations, the government has made the implementation of the innovation-driven development strategy a basic state policy, and enhanced its capacity to innovate in science and technology by reforming the scientific and technological system, improving the science and technology incentive system, optimizing policies to support science and technology, and increasing scientific and technological input. As a result, China's scientific and technological input has seen a sustained growth over the past 10 years, bridging the gap between itself and developed countries, as shown in Figure 4.17. China's R&D expenditure makes up 2.15% as a share of GDP in 2018, outstripping that of 15 countries in the European Union with an average of 2.1%.

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<sup>1</sup> 2017, consumption as a share of GDP: 83.2% (US), 84.2% (UK), 78.5% (France), 72.7% (Germany), 73.6% (Japan), 73.06% (OECD average). IMD World Competitiveness Center, *ibid.*

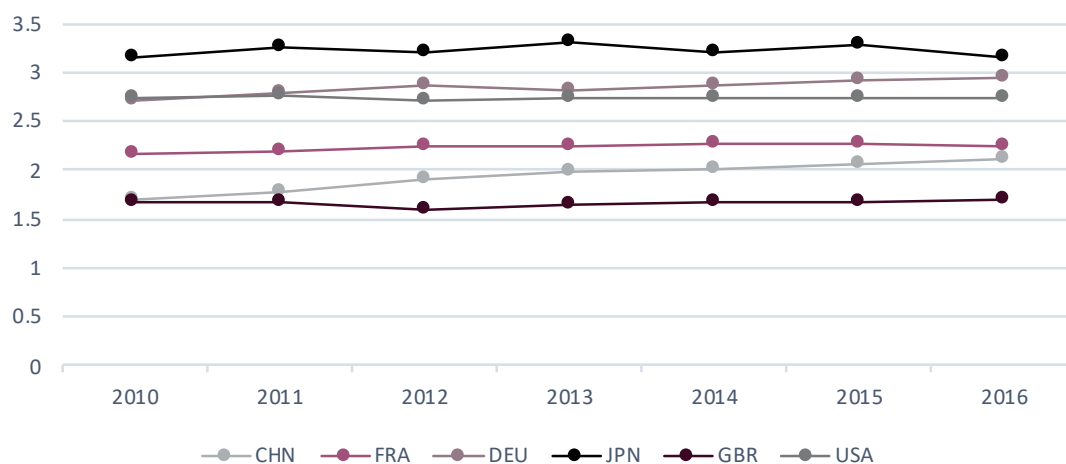
However, China's inadequate input in basic research has restrained the enhancement of its ability to innovate. In the new round of scientific and industrial revolutions, with knowledge, technology, and industrial innovations undergoing deep integration, basic research is increasingly becoming an important source of and driver for scientific and industrial revolutions. But China's basic research input as a share of its R&D input is still relatively small. The proportion in 2016 was only 5.2%, far below those of major innovation-oriented countries that range from 15% to 25%. As the Global Innovation Index released by the World Intellectual Property Organization (WIPO) indicates (see Figure 4.18), China still lags far behind the high-income economies that include the US, Japan, and Germany in terms of scientific and technological innovations, especially in high-quality patents and essays.

**Impact of an aging population on economic development.** First, an aging population has had adverse impacts upon labour supply. The proportion of China's workforce from 16 to 59 years of age has been on a gradual decline in recent years, as shown in Figure 4.19. Even greater drops are expected after 2030. Labor shortages caused by an aging population may result in a drag on economic growth that leads to higher unemployment, posing a negative impact on income increases. Also, to avoid the bankruptcy of the pension system, the retirement age will need to rise. This will



**Figure 4.16 Contribution of three types of demand to China's GDP (Unit: %)**

Source: National Bureau of Statistics of China, China Statistical Yearbook.



**Figure 4.17 R&D expenditure as a share of GDP in comparison (Unit: %)**

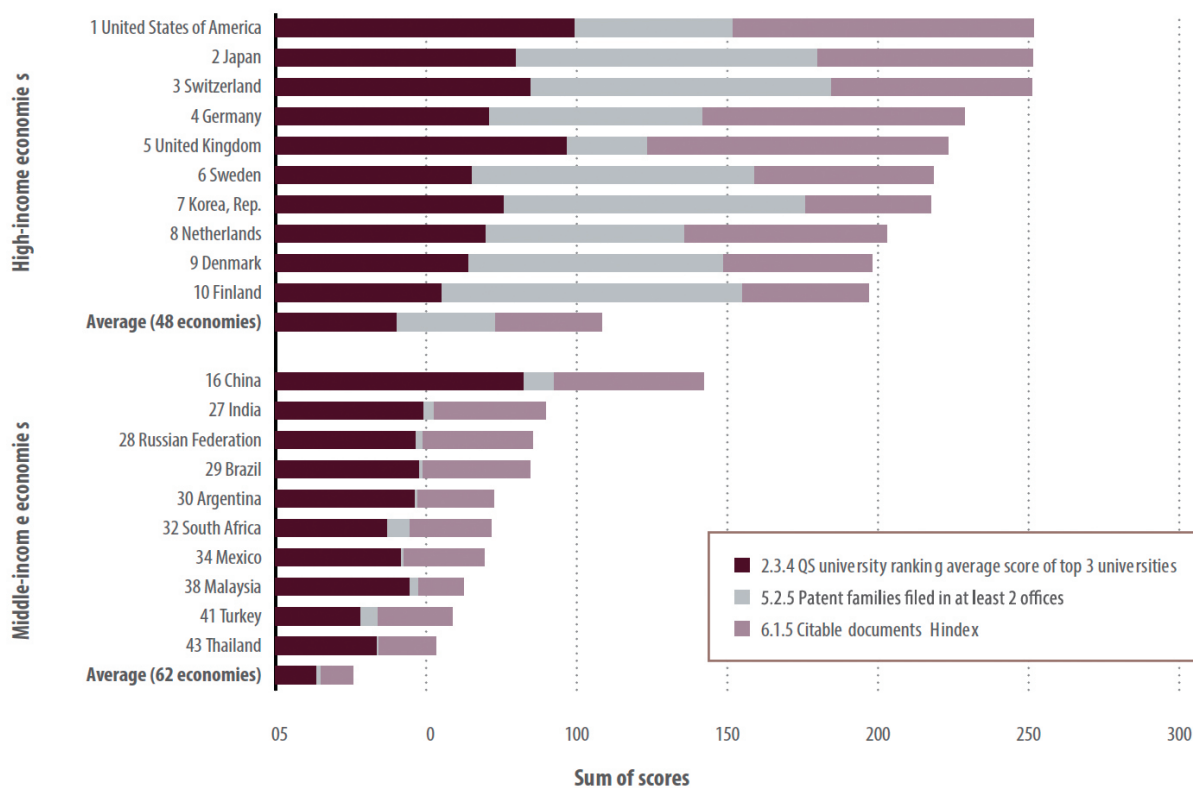
Source: International Institute for Management Development (IMD), World Competitiveness Yearbook.

increase the number of old-age workers, posing a new challenge of how to ensure the equality and non-discrimination of the old-age population in employment. China has long had an export-oriented economy,

and its sustained economic growth has long been reliant on its huge labor supply, which is also one of its largest comparative advantages. But with the population dividend fading away, the profits generated

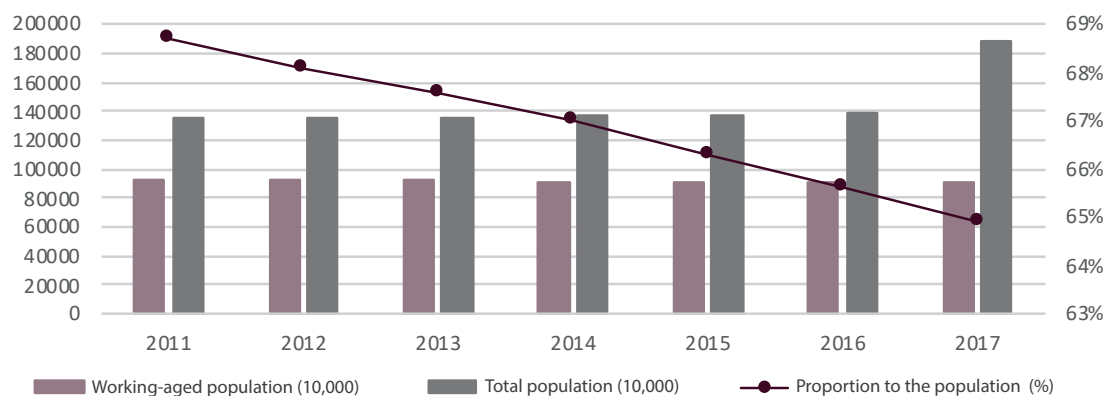
by labor-intensive manufacturing exports will certainly suffer significant negative impacts, detrimental to steady economic development. Second, an aging population is likely to have a negative influence on the total investment by affecting the savings

rate. An aging society would reduce the country's savings rate, which would lead to decreased capital accumulation and investment rates, hinder the development of private capital, and possibly reduce spending power that resulting in scant demand.



**Figure 4.18 Innovation quality of top 10 high-income economies and top 10 middle-income economies**

Source: World Intellectual Property Organization.



**Figure 4.19 Proportion of China's workforce from the age of 16 to 59**

Source: National Bureau of Statistics of China.

In addition, it will bring down the current account deficit (which reflects the national savings investment balance). All of these would add up to create dangers to China's economic development. Third, an aging population would substantially increase social security expenditures adding more fiscal burdens to the government. As international experience shows, an aging population also requires the government to deliver increasing services to the elderly.

#### 4.4. Challenges of income distribution

Development is a process of expanding the real freedoms that people enjoy,<sup>1</sup> and its ultimate objective is to expand human being's freedom of choice. The advantage of economic growth is not that wealth

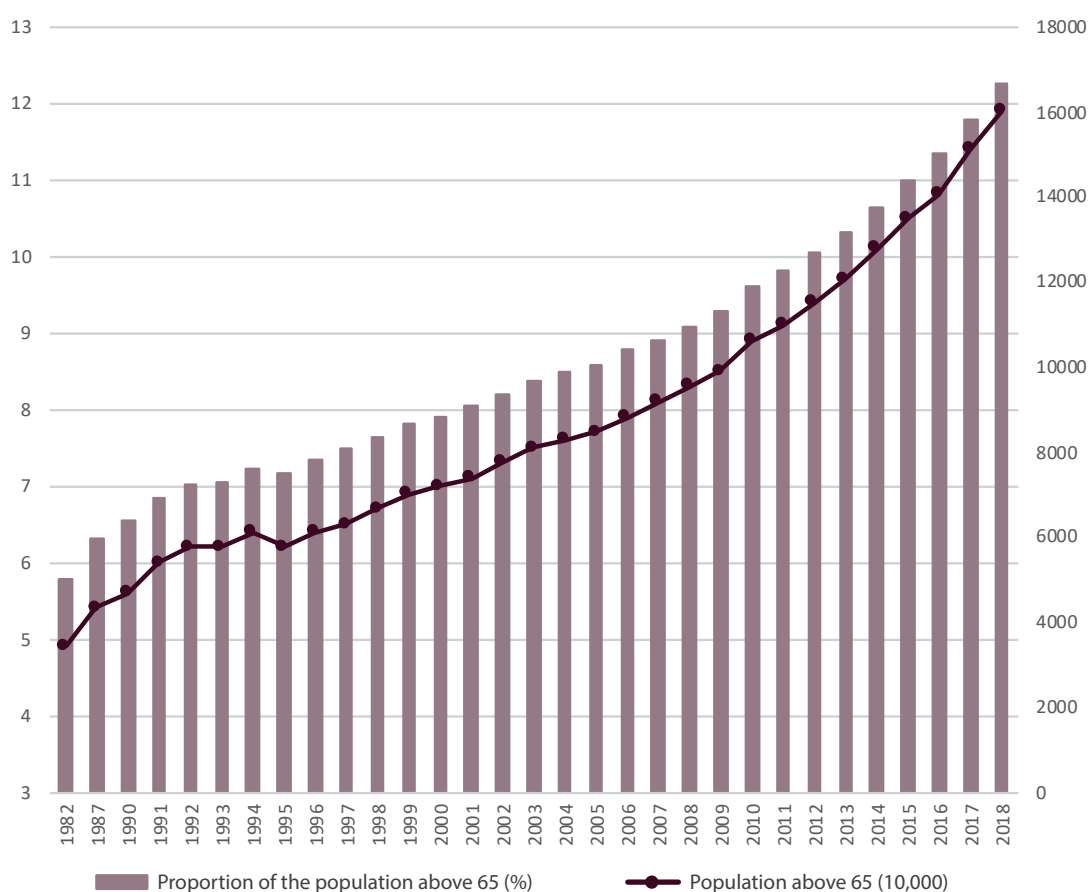
increases happiness, but that it increases the range of human choice.<sup>2</sup> With China's industrial restructuring, in particular the advent of a new round of scientific and industrial revolutions, people employed in traditional industries will be hugely affected in terms of job opportunities and income. As China's economic growth slows down, how to continually increase personal income as a share of its national income that allows more low-income people to become middle-income earners will be a significant challenge for China as it grapples with inequality in income distribution.

1 Amartya Sen, *Development as Freedom* (Oxford, Oxford University Press, 1999).

2 W. A. Lewis, *The Theory of Economic Growth* (Unwin Hyman, 1955).

### Box 4.6 Aging Trends in China

In recent years, China has seen a rising proportion of aging people in the total population on a yearly basis, as one of the first developing countries to usher in an aging society. As Figure 4.21 presents, in 2018, there were 249 million 60-year-old people and above, accounting for 17.9% of the total population; the number of people aged 65 and above amounted to 167 million, taking up 11.9% of the total population. According to the UN World Population Prospects: The 2017 Revision, assuming the fertility rate and mortality rate are the same as 2010-2015, by 2025, the number of Chinese people aged 60 and above will reach 292 million, 20.6% of the total population; the number of Chinese people aged 65 and above will amount to 197 million, 13.8% of the total population. The senior population in China is projected to reach 480 million in 2050, representing approximately two fifths of the Asian senior population and one fourth of the global senior population. This projection exceeds the current total population of the US, the UK and Germany.



**Figure 4.20 Proportion of people aged 65 and above in China**

Source: National Bureau of Statistics of China.

**Employment and income for low-skilled workers in the context of industrial restructuring and scientific advances must be ensured.** As China adjusts its industrial structure, the proportion of its primary industry in GDP and the newly employed population in the industry will further decrease, whereas GDP share and employment share for the tertiary industry will further increase (see Table 4.1). Changes to the industrial structure can have a long-term structural influence on the labor market, which could lead to structural unemployment. The relocation of mid- and low-end manufacturing industries and the application of new technologies, will pose a severe threat to job opportunities for the low-skilled, and give rise to polarization in job opportunities and in salary levels between the high-skilled and the low-skilled.<sup>1</sup>

With the advent of a new round of scientific and industrial revolutions that feature artificial intelligence (AI), new energy sources, and quantum communication, China has been continually increasing its input into scientific and technological innovations, which will create an obvious substitution effect on employment and have a structural impact on the labor market. In member states of the Organization for Economic Cooperation and Development (OECD), about 57% of jobs risk being substituted by automation technology. In China, robotics and AI will play a significant role in replacing human jobs, especially low-skilled ones, posing serious challenges to improvement of job opportunities and income of the low-skilled. How to deliver inclusive economic development and let development outcomes benefit all, especially low-income groups, constitutes another great challenge to China's economic development.

**Table 4.1 Forecasts for China's industrial structural change**

	Industrial Structure (%)			Employment Structure (%)		
	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry
2019	7.1	38.7	54.3	23.8	28.0	48.2
2020	6.6	37.8	55.6	22.5	27.8	49.7
2025	4.2	33.7	62.1	16.9	26.5	56.6
2027	3.4	32.5	64.1	14.6	26.3	59.1

Source: Liu Shijin. *China's Ten-Year Economic Growth Outlook (2018-2027)*.

<sup>1</sup> Pan Wenxuan, *Making Workers Better Benefit from Artificial Intelligence Development 4th edition* (Chinese Social Sciences Weekly, December 2017).



**Fairer income distribution, increasing people's income, and enhancing people's ability to choose must be delivered.** From 1978 to 2018, personal income has grown rapidly in China, but per capita disposable income has grown at an annual average rate of 8.7%, much lower than the annual average GDP growth rate of 9.8%, indicating the gains generated by economic growth were not fully translated into the rise of people's income, reflecting problems in China's income distribution system. Personal income growth is affected by economic growth, industrial structure, income distribution, and the labor market, and maintaining stable economic growth is the prerequisite for the rise of personal income. After almost four decades of high-speed growth, China's economic development has entered into a period of the "New Normal", where concepts of economic development are shifting from high speed to high-quality growth and are aiming to reduce damage to resources and the environment and avoid ineffective investments. China has lowered its economic growth target for the period of the 13th Five-year Plan to 6.5% from 7% for the period of the 12th Five-year Plan, and again changed it to 6-6.5% in 2019. Hence, how to maintain personal income growth in the context of economic slowdown is a major challenge confronting the country.

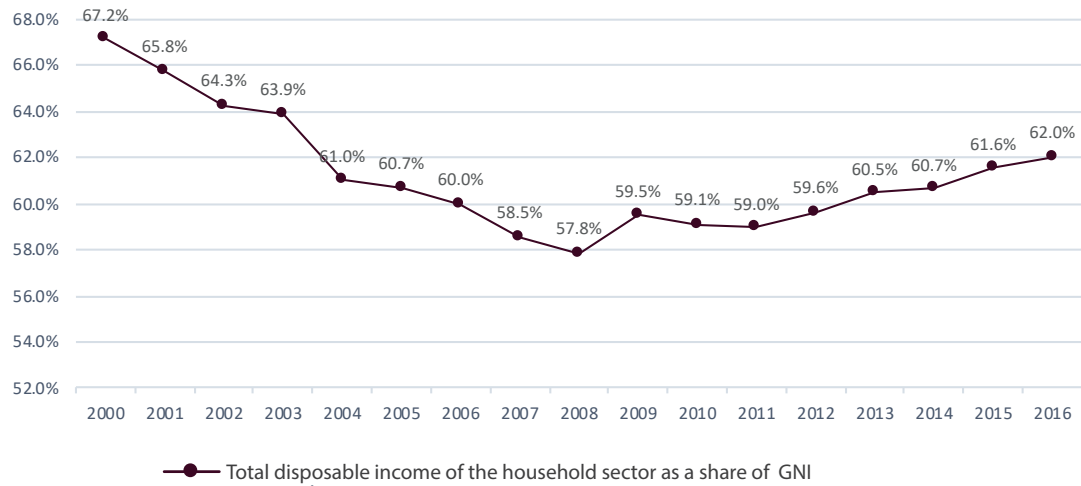
Since the start of this century, the disposable income of China's household sector

as a share of Gross National Income (GNI) has steadily dropped, but started to pick up after 2008, reaching 62% in 2016, a proportion still far below those of the US (75.6%) and the UK (68.4%) in 2015, as shown in Figure 4.21.<sup>1</sup> For example, in the past decade, China's per capita disposable income as a share of per capita GDP has hovered around 40%, significantly lower than those of OECD countries such as the US, the UK, France, Germany, and Japan, where per capita disposable income ranges from 70% to 85% of per capita GDP (see Figure 4.22). China's per capita disposable income in 2018 is CNY 28,228, making up approximately 43.6% of per capita GDP, whereas the figure (in PPP terms) for the US in 2016 was USD 48,000, about 82.7% of per capita GDP.

China's personal income accounts for a smaller proportion, due to both the small proportion of the national income distributed to households in primary distribution and heavy tax burdens, in particular for the middle-income group, whose income tax and social security contribution are at a high level. China's tax system is pri

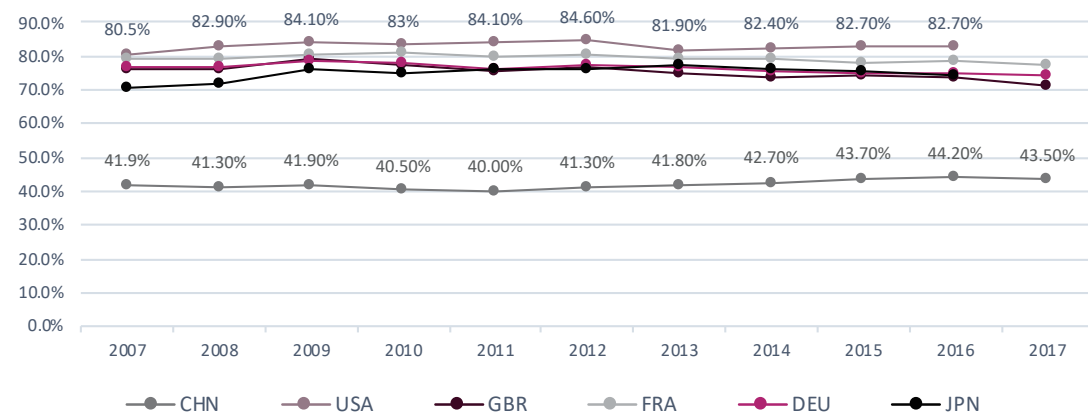
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1 Data source for the US and the UK: Department of Employment and Income Distribution of the National Development and Reform Commission, and China Institute for Income Distribution of Beijing Normal University, *Annual Report on China Resident Income Distribution 2017* (Beijing, Social Sciences Academic Press China, 2018).



**Figure 4.21 Total disposable income of the household sector as a share of GNI**

Source: National Bureau of Statistics, calculated based on fund flow statements of past years.



**Figure 4.22 International comparisons between per capita disposable income and per capita GDP (adjusted in terms of PPP)**

Source: National Bureau of Statistics, and OECD database.

marily about indirect tax, indicating that dividend income tax does not entirely reflect the overall taxation of its residents. Figure 4.23 shows the social security contribution in China and other major countries in comparison. The effective<sup>1</sup> tax rate of Chinese employees is approximately 20%, a relatively high level globally.

Expanding the middle-income group poses another challenge to China in its income distribution. The middle-income group generally refers to those who have a middle income, relatively stable jobs, and relatively well-off livelihood.<sup>2</sup> The expansion of the middle-income group means more people have stronger abilities



**Figure 4.23 Effective social security contribution rates of employees in various countries**

Source: International Institute for Management Development (IMD), *World Competitiveness Yearbook*.

1 The effective tax rate mentioned here is developed by IMD and it refers to the income tax rate (including social security paid by the employee) that an individual married with one child with an income equal to GDP per capita would expect to pay in 2018. See: <https://worldcompetitiveness.imd.org/customsearch>

2 Li Peilin, "How to more accurately define the middle-income group", *Beijing Daily*, 17 July, 2017.

to choose and greater freedom of choice. Compared to societies where wealth is often accumulated by a small group of people, those countries with a large middle-income group enjoy greater fairness and stability. In recent years, China's personal income has grown at a rapid pace, making its middle-income group the most populous in the world,<sup>1</sup> but there is still ample room for improvement compared to its total population. Li Shi believes that China's middle-income group will account for 53% of its total population by 2025 and will reach approximately 60%<sup>2</sup> by 2030 if its personal income can maintain the current growth rate. But as China's economic growth slows down, its personal income growth may follow suit, which would have adverse impacts on the expansion of the middle-income group.

Narrowing the income distribution gap among population groups is another pressing challenge in China, as it is around the globe. There is a Chinese saying that "inequality rather than want is the cause of trouble". Equitable distribution is critical to people's livelihood. Unequal income distribution hampers low-income people's abilities to survive, develop, and choose, leading to social division and diminished social cohesion. According to the National

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1 Li Keqiang, *Report on the Work of the Government*, March 5th 2018.

2 Li Shi, "High-quality development requires fairer income distribution", China Institute for Income Distribution, May 2018. Retrieved from: <http://ciid.bnu.edu.cn/news/201805/20180506113639706.html>

Bureau of Statistics, China's Gini coefficient rose steadily from 0.30 in 1978 to a peak of 0.49 in 2008. It has dropped since then to 0.467 in 2017, a level that is still high compared to most other countries.

China's urban-rural income gap also stands at a high level. The urban-rural income ratio has expanded from 2.52 in the early years of the Reform and Opening Up to 3.33 in 2009 before falling to 2.71 in 2017, but the gap still cannot be ignored.

China's personal property income gap has been drastically widening too. As the Chinese Household Income Project shows, the Gini coefficient of China's personal property income gap in 2013 is close to 0.7 and the gap may continue to widen in the future.<sup>3</sup> As shown in Figure 4.24, China's household property distribution was becoming increasingly unequal in 2013 compared to that of 2002. With the intergenerational inheritance of property, the intergenerational effects may slowly emerge and cause low social mobility, exerting negative effects on continued human development of the low-income group.

How to narrow the income gap between men and women is another major challenge that should be focused on when it comes to income distribution. In 2017, employed women accounted for 43.5%

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3 Li Shi, *High-quality development requires fairer income distribution* op cit.

### Box 4.7 Size of China's Middle-Income Group

There is still no unified standard to define the middle-income group. According to China's National Bureau of Statistics, China's middle-income households accounted for 24.3% of the total population in 2015 based on annual household disposable income ranging from CNY 90,000 to CNY 450,000. The Chinese Academy of Social Sciences uses 76% to 200% of median income to identify the income level for the middle-income group, thus reckoning that the group made up 38.3% of the country's total population in 2015, of which the upper-middle-income group accounts for 18%<sup>1</sup>. According to different estimate standards, the middle-income group accounted for about 22% to 38% of the country's total population in 2015. Studies indicate that the proportion is 59%, 74%, and 69%<sup>2</sup> respectively in the US, the UK, and Germany. Hence, by and large, China's middle-income group is smaller in scope than the one in developed countries.

Expanding the middle-income group was set forth as an important strategy for China's income distribution at the 19th National Congress of the Communist Party of China. In 2018, the Chinese government introduced a policy of substantial tax reductions, slashing taxes worth CNY 1.3 trillion for businesses and individuals. The amended Individual Income Tax Law of China was promulgated on January 1st 2019, and is expected to contribute to CNY 300 billion<sup>3</sup> of individual income tax reductions.

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1 Li Peilin, op cit.

2 Li Shi, "China's middle-income group expansion trend and policy recommendations", China Reform, 27 March, 2017. Retrieved from: [http://people.chinareform.org.cn/l/lishi/Article/201703/t20170327\\_263109.htm](http://people.chinareform.org.cn/l/lishi/Article/201703/t20170327_263109.htm)

3 CCTV News. "The scale of tax reduction in individual tax reform is expected to exceed CNY 300 billion per month in the whole year", 27 January, 2019. Retrieved from: <http://news.sina.com.cn/c/2019-01-27/doc-ihqfskcp0818152.shtml>

of the total working population in China,<sup>1</sup> with female employment on a rising trend generally. But China has a huge income gap between its male and female working population. As the Third Survey on the Social Status of Chinese Women shows, urban and rural female working population earn only 67.3% and 56% of what their male counterparts do on average.<sup>2</sup> The continuous rise of real estate prices has increased the cost of living, posing an adverse impact on disposable income. As shown in Figure 4.25, the cost of living index (including the cost of housing) in China's major cities (Beijing, Shanghai, Guangzhou, Shenzhen, etc.) has outstripped New York City (as a baseline, 100) since 2015, a staggeringly high level given that the former's per capita GDP is lower than that of the latter. According to Mercer's 2018 Global Cost of Living Ranking, Shanghai, Beijing, Shenzhen, and Guangzhou rank the 7th, 9th, 12th, and 15th respectively in 209 cities surveyed.<sup>3</sup>

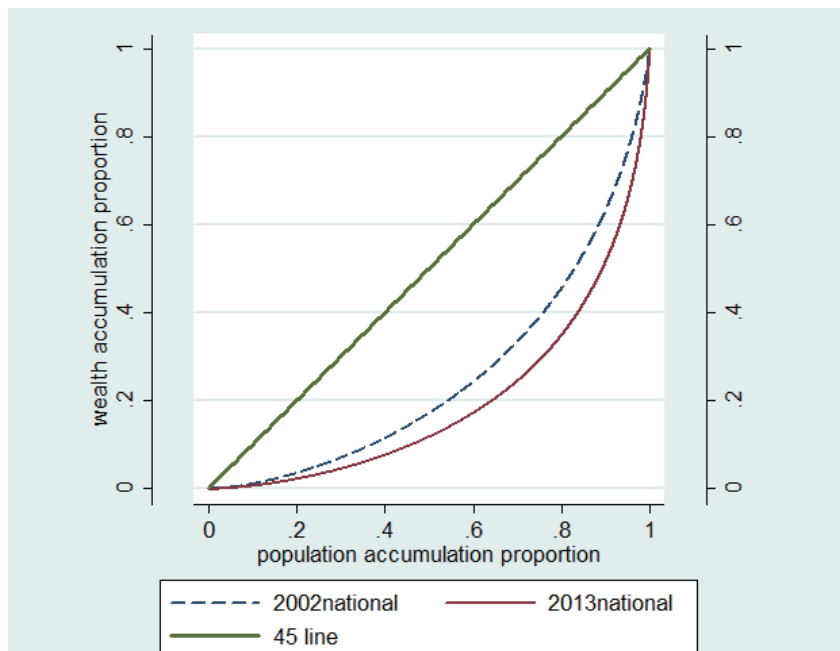
The abnormal development of China's housing market has pushed up housing prices and the cost of living for urban residents, and squeezed the consumption of home buyers and tenants on education and health. As Figure 4.26 shows, 19 out of 35 large and medium-sized cities have seen their average residential commodity housing prices growing faster on an annual average level than urban per capita disposable income from 2002 to 2017, a phenomenon that has not only occurred in cities that have higher urban disposable income like Shanghai, Beijing, and Hangzhou, but in the ones with lower urban disposable income such as Haikou, Shijiazhuang, and Chongqing. Higher housing prices have put substantial pressure on residents, and heavily restricted the consumption capacity of Chinese residents.

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1 National Bureau of Statistics, *2017 Statistical Monitoring Report on the Development Outline of Chinese Women (2011-2020)*, 09 November 2018. Retrieved from: [http://wap.stats.gov.cn/fb/201811/t20181109\\_1632539.html?from=timeline&isappinstalled=0](http://wap.stats.gov.cn/fb/201811/t20181109_1632539.html?from=timeline&isappinstalled=0)

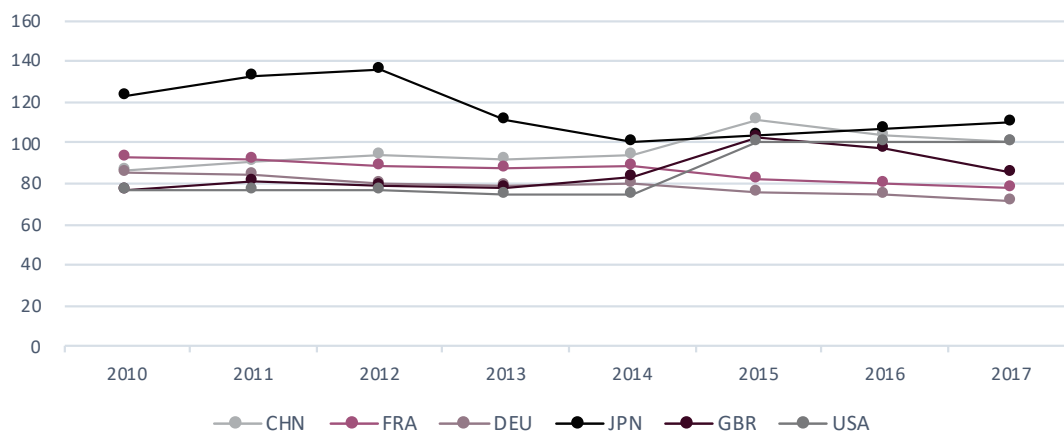
2 All-China Women's Federation and National Bureau of Statistics, *Report on the Main Data of the Third Survey on the Social Status of Chinese Women*, 2013.

3 Mercer, *Mercer's annual cost of living survey finds Asian, European, and African cities most expensive locations for employees*, 26 June, 2018. Retrieved from: <https://www.mercer.com/newsroom/cost-of-living-2018.html>



**Figure 4.24 Lorenz curve of China's household property from 2002 to 2013**

Source: Knight et al,<sup>1</sup>*The Increasing Inequality of Wealth in China, 2002-2013, Working Paper of China Institute for Income Distribution, No. 58.*



**Figure 4.25 Comparative cost of living indexes of major countries**

Source: IMD, *the World Competitiveness Yearbook*. The indicator is an average value calculated based on Mercer's Global Urban Cost of Living Index in various countries.

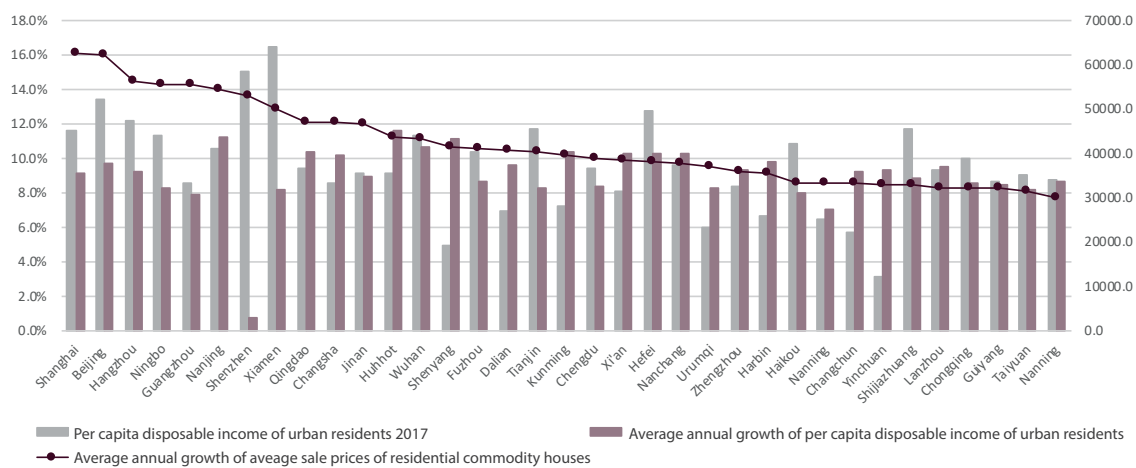
1 Knight et al, *The increasing inequality of wealth in China, 2002-2013, Working Paper 58, China Institute for Income Distribution, 2017.*



Economic growth slowdown, a small share of personal income in national income distribution, a small middle-income group in scope, high cost of living, and huge income gaps, combine to put substantial pressures on people's disposable income, which is detrimental to consumption, limits continued input into education and health, hinders freedom of choice, and obstructs a sustained rise in human development levels.

## 4.5 Challenges of poverty reduction

Over the past four decades of the Reform and Opening Up, China has made remarkable achievements in poverty alleviation, lifting over 700 million people out of absolute poverty. This represents almost three-quarters of the global total. The poverty rate according to the national poverty line has dropped from 97.5% in 1978 to 1.7%<sup>1</sup> as of the end of 2018. With the implementation of the policy of targeted



**Figure 4.26 Average annual growth of housing prices and per capita disposable income of urban residents in 35 large and medium-sized cities from 2002 to 2017**

Source: China Real Estate Statistical Yearbook, CEIC Economic Database.

1 China News, "The poverty incidence in China in the past 40 years has fallen from 97.5% to 3.1%", 8 December 2018. Retrieved from: <http://www.chinanews.com/sh/2018/12-08/8696168.shtml>

poverty alleviation in recent years, further strides have been made in lifting people out of poverty in rural areas. As seen in Figure 4.27, during the current phase of poverty alleviation that was launched in 2012 the rural poor population in has been reduced by more than 82 million, from 99 million at the end of 2012 to 16.6 million in 2018. The poverty rate has dropped from 10.2% to 1.7%. From 2013 to 2018, the per capita disposable income of rural residents in poverty-stricken areas has seen an annual average nominal growth of 12.1%, or a real annual average growth of 10%, 2.3 percentage points higher than the national average.

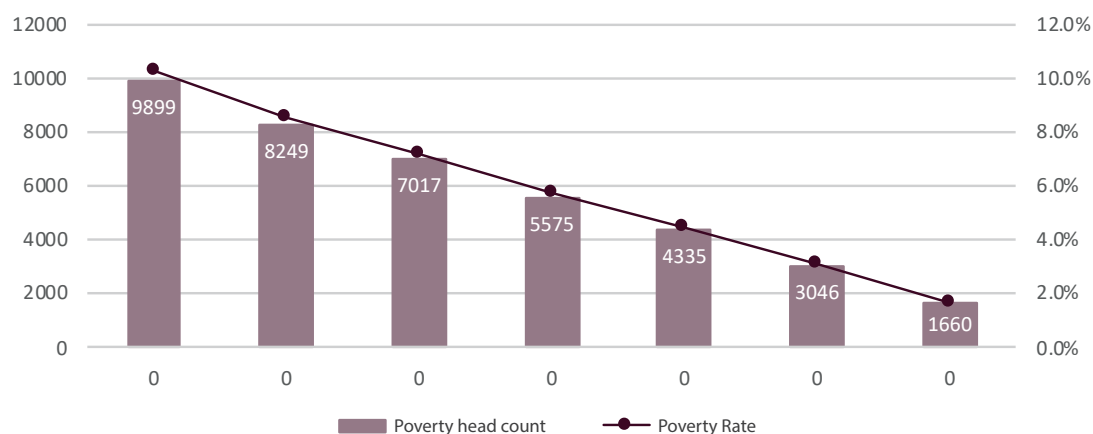
At the same time, deep poverty remains an outstanding issue as further poverty alleviation becomes more and more difficult. As of September 2018, over 670 counties in the country are still poverty-stricken. The population of poor people in 23 cities, counties or prefectures exceeds 300,000 and that in 5 cities, counties or prefectures surpasses 500,000. In particular, in the “three regions and three prefectures”,<sup>1</sup> where poverty is most deeply entrenched, the poverty rate remains as high as 14.6%. At the end of 2017, the poverty rate in 334 deeply poor counties identified by pro-

1 The three regions are: 1) Tibet; 2) Tibetan-inhabited regions of four provinces (Qinghai, Sichuan, Yunnan, Gansu), and 3) Hotan, Aksu and Kashi prefectures and Kizilsu Kirgiz Autonomous Prefecture in southern Xinjiang. The “three prefectures” are Liangshan Prefecture of Sichuan Province, Nujiang Prefecture of Yunnan Province and Linxia Prefecture of Gansu Province.

vincial level governments, reached 11.3%, and in 16,700 villages, the poverty rate exceeded 20%, several times higher than the national poverty rate of 3.1%. People whose poverty is health- or disability-related accounted for 42.3% and 14.4% of the total poverty-stricken population respectively. Poverty-stricken senior citizens aged 65 and above accounted for 17.5% and those with education levels below junior middle school make up 96.6%<sup>2</sup> of the total.

In recent years, the eradication of absolute rural poverty has become one of the key policy agendas of the Chinese government. The 19th National Congress of the CPC defined “winning the tough battle against poverty” as one of the “three tough battles” to enable success in achieving an all-around Xiaokang society by 2020. The goal of “ensuring the people in rural China living under the current poverty line will be lifted out of poverty and the poverty-stricken counties will shake off the poverty label by 2020” was proposed and a large amount of public resources dedicated to achieving it. However, after building a Xiaokang society by 2020, the challenge still remains of how to enhance the internal impetus for poverty reduction, establish a long-term effective poverty relief mechanism, prevent the return of poverty and ensure

2 “Effectively responding to the difficulties and challenges faced by poverty alleviation”, *People's Daily*, 21 October, 2018.



**Figure 4.27 The poverty population and poverty incidence in rural China**

Source: *Statistical Communiqué on the National Economic and Social Development of the People's Republic of China*, National Bureau of Statistics.

that poor villages and households can achieve sustainable development after being lifted out of poverty. These challenges are highlighted as follows.

**The challenge of enhancing the internal impetus for poverty reduction and moving from “blood-transfusion” poverty relief to “blood-creation” alleviation.** Consolidating and upgrading poverty alleviation results and preventing poverty from returning are critical to truly winning the fight against poverty. In order to ensure that all poverty-stricken areas and populations join “the comprehensively well-off society” in 2020, governments at all levels have had poverty reduction included in their assessment system as a rigid target, which has encouraged short-term behaviour and moral hazard to some extent. In order to achieve their poverty

reduction targets, governments at the local level often value short-term and expensive results in poverty reduction while ignoring capacity building for long-term poverty relief, creating a serious risk that poverty reduction achievements will be unsustainable once government interventions subside.

Poverty is closely related to level of education. As of the end of 2017, 96.6% of the poor people in China had education levels below junior middle school. Strengthening education should be a poverty alleviation priority, in order to improve human capital and enhance self-development. To this end, the Chinese government has launched the “Rain Plan” and “Sunshine Project”. However, assessments of poverty relief training projects have found that they often

“emphasize quantity over quality”, i.e. that these programmes have expanded in size without commensurate improvements in the quality of the training, leading to quite limited improvement in professional skills. Developing preschool education, improving the quality of compulsory education and enhancing the capacity of residents in poverty-stricken areas are all essential steps for poverty alleviation, not only to prevent new poverty, but also to safeguard against falling back into poverty.

Poverty alleviation through the development of production is an important direction for local governments to explore. In the “Five Groups” poverty alleviation programme,<sup>1</sup> the government leverages production development and ecological compensation to drive industrial development and achieve long-term stable employment and income growth of the poor, delivering good results. However, a challenging issue in poverty alleviation through production arises in avoiding overuse of the government’s “tangible hand” to replace the “invisible hand” of the market and distorting market signals in poverty-stricken areas as well as avoiding

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1 The Five groups are: helping a group of people develop through supporting production and employment, helping a group of people settle down through relocation, helping a group of people escape poverty through ecological protection, helping a group of people reduce and escape poverty through education and guaranteeing the subsistence allowances of a group of people through the subsistence allowance system.

excessive dependence on government efforts. In addition, the development of production in some poverty-stricken areas faces greater market risks, and many poor households lack capacity to engage in these kinds of market activities. New agricultural operators (such as leading enterprises, farmer cooperatives and family farms) are immature and lack interest-sharing mechanisms with poor households which makes it difficult to develop long-term poverty reduction strategies.

**The challenge of integrating poverty alleviation into the social protection system and normalizing poverty alleviation.** In recent years, the Chinese government has invested considerable financial resources into poverty alleviation. From 2015 to 2018, the central government has allocated a total of CNY 304.4 billion of special poverty alleviation funds for local finance, from CNY 46.1 billion in 2015 to CNY 106.1 billion in 2018, a growth rate of 32%. However, with the economic slow-down and decline in government revenue from tax cuts, continued investment in poverty reduction is impacting the government budget. Incorporating the poor into the social protection system will play a key role in building a normalized poverty alleviation mechanism, meeting the basic needs of the poor and preventing poverty caused by diseases or disasters.

In recent years, governments at all levels in China have been actively incorporating

the poverty-stricken population into the social insurance system. The level for poor people is being steadily strengthened, laying a further foundation for establishing an institutionalized and normalized poverty alleviation mechanism. As of the end of September 2018, the Chinese government has paid medical insurance premiums for 20.53 million poor people, of which 13.02 million were not identified as eligible for poverty alleviation. The total amount of premiums exceeded CNY 2.12 billion. As of 2017, for families with senior citizens over 60, the urban pension coverage rate reached 89.5% and that of rural pensions reached 76.8%.<sup>1</sup> In 2017, the per capita medical expense of poor patients on the poverty list was CNY 6,729 with an actual

reimbursement rate of 84.2%. The out of pocket payment share was 15.8%, 26.6% lower than that of 2016.<sup>2</sup>

However, China's rural social protection system is still in its infancy. The level of protection that rural residents enjoy is far lower than that of urban residents. The imbalance between urban and rural social protection and social assistance systems has brought challenges to consolidating the results of rural poverty alleviation. Although the rural minimum subsistence allowance system is well established, problems such as low assistance transfers and failure to pay on time still exist.

### Medical expenses (CNY 100 million)

**Table 4.2 Medical Expenses of the Poor in Rural Areas**

Year	No. of people treated (10,000)	Person-times of treatment (10,000)	Medical expenses (CNY 100 million)	Per capita expense (CNY)	Per capita self-payment (CNY)	Self-payment rate (%)
2016	225.8	262.4	188.4	8342	3536	42.4
2017	495.6	750.41	333.5	6729	1026	15.8

Source: China Population and Development Research Center.<sup>2</sup>

1 Chen Zhigang, Bi Jieying, Wu Guobao, He Xiaojun, Wang Zimei. *Status and Evolution of China's Poverty Alleviation and the Vision and Strategic Focus after 2020*. (April, 2019). Retrieved from: <http://zgncjj.crecrs.org/UploadFile/Issue/mc1hlkgl.pdf>

2 China Population and Development Research Center, *Research Report on China's Health, Poverty Alleviation and Development* (Beijing, People's Publishing House 2019).

3 China Population and Development Research Center. *Research Report on China's Health, Poverty Alleviation and Development* (2018).

As of December 2018, there were a total of 45.277 million people in the urban and rural subsistence allowance systems. 10.08 million people with subsistence allowances<sup>1</sup> live in urban areas and 35.197 million in rural areas. The subsistence allowance standard was CNY 579.7 /person/month in urban areas and CNY 402.8 /person/year in rural areas.<sup>2</sup> The payment of subsistence allowance funds is a free resource transfer from the government. To a certain extent, the system still suffers from unfairness, non-transparency and inefficiency. For example, in some places, village cadres and relatively affluent groups receive the allocation, or the subsistence allowance is paid out in a rotating distribution pattern where farmers benefit in turn each year. This has an impact on the efficiency and effectiveness of subsistence allowance funds.

**Tackling the challenge of “multidimensional poverty”.** Absolute poverty eradication amongst people now living below the poverty line and in poverty-stricken counties do not mean the disappearance of rural poverty. After 2020, rural poverty will continue to exist in terms of relative poverty and multidimensional poverty, that is, poverty in housing, health and education and other areas where poor people are relatively deprived. An inde-

pendent research project estimated that the multidimensional poverty incidence in China was 3.3% in 2016 with 44.91 million people suffering from multidimensional poverty. The poverty gap of poor people living was 38.1% and the multidimensional poverty index was 0.013.

There are many challenges in developing the capacity of poor people to escape poverty and consolidate poverty reduction results.

Inadequate infrastructure in the remote rural areas where many remaining poor people live is the main reason for multidimensional poverty amongst the rural population. In rural areas, there is a disparity in infrastructure construction due to reliance on government investment, low levels of investment and weaknesses in the investment mechanism. There is a large rural-urban gap in public infrastructure such as water, electricity, roads, communications, schools, hospitals, libraries, and so on. In 2010, the rate of rural multidimensional poverty was 12.6% while that of urban areas was only 3.5%, less than one third as high.<sup>3</sup> For example, in 2010, more than 50% of China's population used substandard cooking fuel such as wood or charcoal to cook at home. This improved to 33.4% in 2014, but the proportion remains high. In general, urban residents have access to safe drinking

1 Shen Yangyang, Sabina Alkire, Zhan Peng, *Measurement and decomposition of multidimensional poverty in China*, Nankai Economic Studies, vol. 5 (2018)

2 Ministry of Civil Affairs of China, *National social services and social data for the fourth quarter of 2018* Retrieved from: <http://www.mca.gov.cn/article/sj/tjjb/qgsj/>.

3 Shen Yangyang, Sabina Alkire, Zhan Peng, *Measurement and decomposition of multidimensional poverty in China*, Nankai Economic Studies, vol. 5 (2018).

### Box 4.8 “Shadow Education” exacerbates educational unfairness among groups

In recent years, extracurricular tutoring, known as “shadow education”, has been developing rapidly in China. “Shadow education” has significantly improved student grades, but it has brought about substantive educational inequalities between different social groups. With intense academic pressure to do well on entrance exams to high school and university, and with public schools following a “reduce the burden of homework” policy, public school students frequently attend extracurricular classes. This has resulted in the extension of student academic competition from within school to outside school, i.e. from school education to shadow education. The increasingly fierce competition between students and their families in the compulsory education stage has not only exacerbated pressure on students, but also uses up many family and social resources. It may have also weakened the government’s efforts to promote education equity and further expanded social inequality as well.<sup>1</sup> Whether the students have access to “shadow education” depends largely on family income levels. Children from high-income families have more opportunities than those from low-income families, potentially having a negative impact on the equalization of education opportunities and levels. In addition to inequity, this problem reflects broader problems with income and the allocation of resources to education; higher investment in public education, financed as needed by improvements in the taxation system, would achieve better social and economic outcomes.

water, but there are shortages of drinking water facilities in rural areas. In 2014, the “nutrition” indicator deprivation rate in China was 25.0%, also indicating that basic health remains an important weakness.<sup>2</sup>

Development imbalances exist between the different dimensions of multidimensional poverty. Particularly, poverty rates are higher in the health care and education dimensions, which are closely related to human development. From the depri-

vation of different dimensions, the contribution rates of family members’ education level and health status to multidimensional poverty are as high as 31.1% and 23.3% respectively, staying at a high level in recent years. It is very difficult to improve the two indicators over a short time.<sup>3</sup> As of 2015, in China’s 832 poverty-stricken counties, the number of beds in medical and health institutions per 1,000 people was 3.66 and the number of licensed and assistant doctors was 1.28, significantly lower than the national average (5.10 and 2.20

1 Xue Haiping, “Shadow education hinders the realization of equity”, *Chinese Social Sciences Weekly*, 4 February, 2016.

2 Ibid.

3 Feng Yilin, Di Jianliang, op cit.

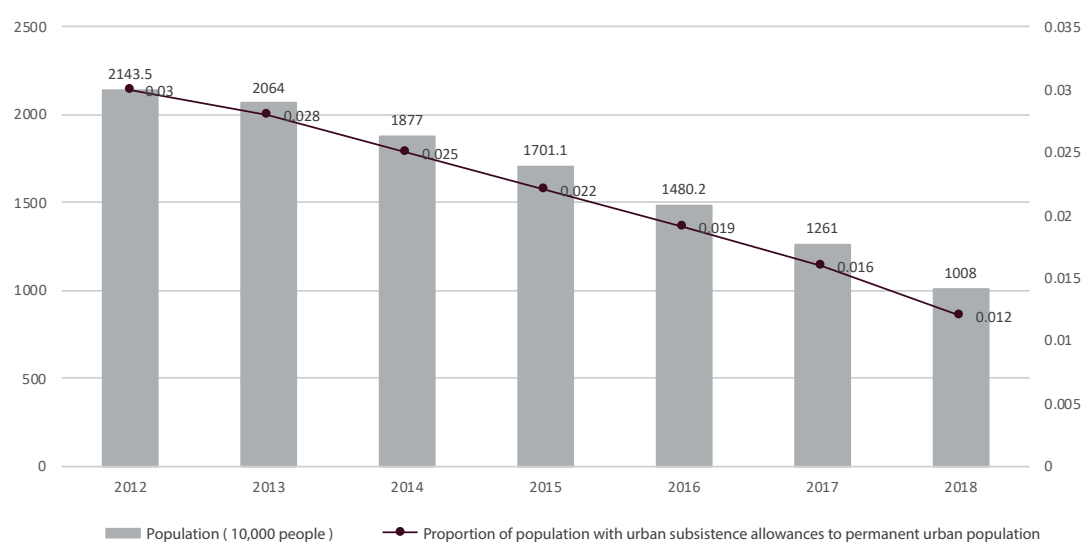


respectively). Moreover, migrant workers often have no access to urban residential-registration, so they cannot enjoy the same social welfare and public services as urban residents. With the obstacles in their children's schooling, the educational poverty of migrant workers and the intergenerational transmission of educational gaps are even worse. Meanwhile, due to the low participation in urban medical insurance and the difficulty in reimbursing medical expenses in different places, migrant workers' health and medical security are not good.

**The poverty of urban low-income groups remains a blind spot in poverty alleviation.** Unlike rural poverty, there is no clear urban poverty line in China, only subsistence allowance lines set under dif-

ferent standards by different cities. This has led to a large debate on the poverty standards and poverty levels of low-income groups in urban areas. Without consensus on urban poverty in the country, poverty among urban low-income groups is often ignored. In 2018, data from the Ministry of Civil Affairs indicated that a total of 10.08 million people in China's urban areas received subsistence allowances (see Figure 4.28). If we estimate the total number of urban poor by doubling the number of people receiving urban subsistence allowances, that would suggest that there were 20.16 million poor people in urban areas in China in 2018.

According to the China Household Survey, the income gap between the top and



**Figure 4.28 The population with urban subsistence allowances in China from 2012 to 2018 (Unit: 10,000)**

Source: *Statistical Yearbook of China*.



**Figure 4.29 Per capita disposable income of urban residents in China by quintile**

Source: 2018 China Yearbook of Household Survey.

bottom quintiles of urban residents has further widened. In 2017, the per capita disposable income of the bottom quintile in urban China was CNY 13,723.1, a mere 17.8% of that of the top quintile (Figure 4.29).

China's poverty reduction has long been focused on rural areas and neglected the phenomenon of urban poverty. Because of the large differences in prices and consumption baskets between urban and rural areas, the urban cost of living, including the often high cost of housing, stress and sense of deprivation are much higher than in rural areas. Urban poverty mainly manifests as relative poverty rather than absolute poverty. Furthermore, urban low-income groups are also at a disadvantage in terms of public services, costs of which are a much greater burden than in rural areas. Household livelihood surveys have found

low satisfaction with the three key public services of housing, education, and health care as well as a lack of a sense of belonging, which can lead to feelings of deprivation and oppression. According to the China Livelihood Index survey, urban residents' satisfaction with compulsory education, health care and social security from 2011 to 2014 was lower than that of rural residents.<sup>1</sup> As more and more people move to cities, low-income groups in cities are likely to be further squeezed, exacerbating a sense of deprivation and potentially adding to urban poverty problems. Limited by imbalances in social development, the development of the market economy and the degree of social mobility, it is difficult for urban low-income residents to escape

<sup>1</sup> Zhou Shaojie, Wang Hongchuan, Su Yang, "How can Chinese people get a stronger sense of happiness— based on the survey of China's Livelihood Index", *Management World*, No. 4 (09 July 2015).

poverty and advance in society by relying on their own capacities. Therefore, there are clear signs of intergenerational transmission of poverty in urban areas. The poverty of urban low-income groups will also become a major challenge for China's overall poverty alleviation in the future.

Another important issue in urban poverty reduction is preventing rural migrant workers from turning into the urban poor. The income and consumption levels of migrant workers in urban areas are lower than those of urban residents, and they do not have equal access to social welfare and public services. Calculated based on the World Bank's poverty standard of 3.1 dollars per day, migrant workers' rate of income poverty in 2015 was 2.07% and of consumption poverty was 12.3%. Calculated based on half of the median per capita disposable income of urban residents as the relative poverty line, the poverty rate among migrant workers was 26.33%.<sup>1</sup> With accelerating urbanization and the relaxing of urban household registration policies, more and more farmers are coming to the cities. Avoiding rising rates of poverty amongst new migrants in the cities will be a major challenge in the future.

In terms of spatial distribution, urban poverty in China often manifests in declining industrial and mining areas,

1 Guo Junping, Tan Qingxiang, Qu Song, "Measurement and analysis of family poverty of rural migrant workers—based on the perspective of 'income-consumption-multidimension'", *China Rural Economy*, vol. 9 (2018).

urban villages (i.e. former villages that have been absorbed into urban areas but retain larger number of people with rural registration status) and declining old urban neighbourhoods. Poverty is particularly more serious in resource-exhausted cities and those with declining industries, demonstrating a certain degree of structural consolidation and spatial clustering. Many natural resource-dependent areas are now facing "resource depletion and urban decline". Workers are often laid off and face great difficulties in finding new employment. Laid off and unemployed people are more likely to become poor or slip back into poverty.

**The institutional mechanisms for social participation in poverty alleviation are flawed.** Poverty is a complex problem in China, and its solution cannot only rely on government actions. There is a need to also engage enterprises and social organizations in this work. However, institutions and mechanisms for engagement of these actors are inadequate, a situation characterized as "hot government, weak society and cold market".

According to the Ministry of Civil Affairs, as of the first quarter of 2019, there were over 828,000 social organizations (similar to what would be called "civil society organizations" in many countries) in China, including 2,301 national social organizations registered with the Ministry of Civil Affairs. As one of the main actors in poverty alleviation, social organizations, especially grass

roots organizations, are playing an increasingly important role in poverty relief and types of engagement are becoming more diversified. They have the advantage of knowing their local conditions and the poor and vulnerable populations well, and of being quick and flexible in response to problems. However, with vast differences in resources, the depth and breadth of their participation in poverty alleviation vary greatly. Ones involved in poverty alleviation are mainly social organizations and foundations with official backgrounds and relatively strong funding. They have big advantages in terms of asset size, mobilization capacity and professional competence.<sup>1</sup> In grassroots level poverty alleviation work, resources and projects are mainly entrusted to social organizations with official connections or administrative leadership, while many other social organizations are excluded from poverty alleviation projects.<sup>2</sup> The challenge then is how to further mobilize more types of social organizations to participate in poverty alleviation.

Enterprises are also a major force for poverty alleviation. As of the end of June 2018, there were 55,400 private enterprises in-

involved in the “10,000 enterprises helping 10,000 villages” programme, benefiting 62,700 villages.<sup>3</sup> Some companies such as the Alibaba Group leverage new technologies such as big data and new business models such as e-commerce to engage in poverty alleviation activities, forming a practice of “Internet + social poverty alleviation”.<sup>4</sup> A large number of enterprises support poverty alleviation through donations, but there are obstacles in preferential treatment for tax credits. According to the Charity Law of People’s Republic of China, companies receive tax credits after their charitable donations exceed a quota set by law. However, in practice, only receipts issued by the China Charity Federation or qualified charitable organizations can be used for tax credits, which, to some extent, discourages social participation in poverty alleviation activities.<sup>5</sup> The challenge now is how best to remove the institutional obstacles for enterprises to engage in poverty alleviation, and how to mobilize enterprises and encourage more opportunities for donations for poverty alleviation.

1 Xinhuanet, *Stimulating the ‘Social Running Water’ in the Tough Battle against Poverty—A summary of China’s social organizations’ participation in poverty alleviation*, 18 February 2018. Retrieved from: [http://www.xinhuanet.com/2018-02/18/c\\_1122427831.htm](http://www.xinhuanet.com/2018-02/18/c_1122427831.htm)

2 Ma Liangcan, Ha Hongying, “Problems of poverty alleviation projects at the grassroots level: structured predicament and governance prospect”, *China Rural Survey*, vol. 1 (2017).

3 The State Council Leading Group Office for Poverty Alleviation and Development, *Reply to Recommendation No. 5562 of the First Session of the 13th National People’s Congress*, 21 December, 2018. Retrieved from: [http://www.cpad.gov.cn/art/2018/12/21/art\\_2202\\_92289.html](http://www.cpad.gov.cn/art/2018/12/21/art_2202_92289.html).

4 “China’s fight against poverty and win the tough battle in 2020 case show of targeted poverty alleviation”, *People’s Daily*, September 20, 2018, 10th edition.

5 Li Minglin, *Strengthening socialization and poverty alleviation, helping to get rid of poverty*, 21 January, 2019. Retrieved from: [http://www.sohu.com/a/290574000\\_120041091](http://www.sohu.com/a/290574000_120041091)

## 4.6 Challenges of improving governance capacity

Following China's extended period of economic and social development the government has developed a deeper understanding of the market economy, and a fuller set of instruments for regulating the market. This maturation of the market and its key actors has established a foundation in China for continued relatively rapid and stable economic growth. However, while the Chinese government has accumulated much experience in promoting economic growth, it has not yet developed an equally strong capacity for governance in sectors vital to people's wellbeing, such as health, education and so on. Due to differences in conditions, institutions and culture, the models of other countries are often not readily applicable either. Strengthening the capacity of the Chinese government, particularly at local levels, in livelihood and social service governance is pivotal for achieving balanced, more equitable, high-quality and more sustainable human development.

**The challenge of transitioning from a "material-oriented" development concept to a "people-centred" one.** Economic growth is a means of development, not its goal. As Joseph Stiglitz notes,<sup>1</sup> GDP

growth does not necessarily produce improvements in living standards, and it does not provide a good measure of overall economic and social performance. After realizing the goal of building an all-around Xiaokang society, the government will need to shift its main goal from "promoting economic growth" to "increasing people's well-being". The report to the 19th CPC National Congress in 2017 stressed the continued commitment to a people-centred philosophy of development, and to promote well-rounded human development and common prosperity for everyone. Whether China can build a common understanding on the "people-centred concept of development" at all levels of government, and build the needed governance capacity and systems to promote sustainable human development, will be a critical challenge for China's ability to realize sustainable, balanced and coordinated human development.

The challenge of realizing the transition from a "development-oriented government" to a "service-oriented government". Faced with pressure to foster economic development, some local governments find it difficult to move away from their mindset of "economy first, services afterwards", with the result that the quantity and quality of public services do not respond to actual demand, especially in the central and western areas. For example, in 2017, the China Institute for Development Planning at Tsinghua University (CIDP)

1 Joseph Stiglitz, "Reducing social inequality from social security and supervision", China Development Forum 2019, 23 March, 2019. Retrieved from: <https://finance.sina.com.cn/hy/hyjz/2019-03-23/doc-ihxyzsk9833726.shtml>

conducted a nationwide survey of government development and reform agencies at the county and municipal levels. The researchers found that in 14% of provinces the local governments still considered GDP indicators as important even in zones that had been designated as restricted or prohibited development zones by the national or provincial government, and where GDP was not a criterion for their performance appraisals.<sup>1</sup> Excessive emphasis on economic growth targets by the central government sends a signal to local governments that they are expected to promote economic growth in their use of public resources. This results in excess capacity and construction, and degradation of resources and environment. Deemphasizing GDP targets will help maintain a proper focus on the real priorities, establish appropriate performance indicators, and guide the government in the shift from a “development-oriented government” to a “service-oriented government” and allow government to play its necessary role in more important sectors.

**The challenge of rationalizing the division of authority and responsibilities between central and local governments in supporting people’s well-being.** Since the launch of the Reform and Opening Up, the reform of central-local government

relationships has played a pivotal role in China’s economic growth and people’s well-being. Since the tax sharing reform of 1994, the financial capability of the central government has been strengthened, and local governments have been greatly empowered in their endeavors to build infrastructure on a large scale. However, the financial decentralization reform has given rise to a chronic mismatch of financial resources and expenditure responsibilities between central and local governments, leading to relatively inadequate investment in people’s well-being by local governments, hindering the development of public services such as health and education. The report to the 19th CPC National Congress in 2017 proposed that “we will expedite the creation of a modern public finance system, and establish a fiscal relationship between the central and local governments built upon clearly defined powers and responsibilities, appropriate financial resource allocation, and greater balance between regions.” In 2018 the central government issued the Programme for Reforming the Division of Shared Fiscal Management Authority and Expenditure Responsibilities Between Central and Local Governments in Basic Public Services in 2018, which is of great significance in clearly defining the relationship between central and local governments, and improving government capacity to provide basic public services. Local governments are immediate providers of public services and directly interact with the public, so

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1 The government’s official Plan for Development Priority Zones Nationwide had specified that these zones (key ecological function zones and main agricultural production zones) were not to be incorporated into GDP indicators in performance appraisals.



they are the most directly aware of public needs. To satisfy people's needs for a better life, the leading role of local governments in people's well-being and public services should be respected and promoted, and they should be empowered with sufficient resources and capacities. How China clarifies and adjusts fiscal management powers and expenditure responsibilities between the central and local governments, promotes the devolution of resources and powers in these two fields, and expands the role of local governments will be a key factor in determining the government's capacity to improve public service delivery and reduce vulnerability and poverty.

**The challenge of mobilizing market and social forces to engage in public services.** Currently, China is undergoing rapid urbanization, which generates enormous demand for urban infrastructure and public services such as education, medical care and elder care. It also puts massive pressure on public finance. The government alone cannot fulfil increasing demands for high-quality public services. In recent years, local governments have explored many types of market-based mechanisms for the provision of public services, including government procurement of services, franchising and the P3 model. In this way, they have created a great many innovative cases and gained considerable experience. However, new problems have also emerged. For example, in early

2013, sanitation workers went on strike in sections of Guangzhou following a change in contractor and attempts to renegotiate their employment arrangements. Another issue is the large number of fake P3 projects have surfaced in China since the P3 boom in 2014 (often as cover for local governments to engage in excessive borrowing), and concerns about online car hailing and bicycle sharing that emerged in 2018. These phenomena show the emerging problems of China's attempt to harness market forces in the provision of public services. By involving market and social forces in public services, the government turns from a provider to a supervisor and regulator. Nonetheless, Chinese local governments at all levels are accustomed to using administrative measures in dealing with the market and are less proficient in leveraging market mechanisms and tools. Their ability to sign and implement contracts, manage market entities and provide regulatory services is weak. China is working towards the development of a sound market economy system, mature administrative systems and modern social forms and structure. If it lacks the capacity to deal effectively with the market mechanism it will lead to a situation in which both the government and the market go off track, and eventually result in the failure to deliver high quality public services.

In general, as the socialist market economy system improves, the development of



China's economy is becoming more and more mature, and should maintain relatively rapid and stable growth in the future. Future priorities of the government should be directed towards people's livelihoods and social services. It should work hard on the allocation of public resources, provision of public goods, strengthening the policy environment and implementation of effective regulation. Meanwhile, the government should create an environment for the market and for

society in which fair competition and smooth operations are supported, and provide efficient government services for the market and society to fulfil their proper roles. To promote "people-centred" human development, the Chinese government must accelerate the building of a service-oriented government and devote itself to creating a good environment for development, providing high-quality public services, and maintaining social equity and justice.

# Chapter 5





## Chapter 5

# Towards High Quality and Sustainability Human Development in China

This report has presented many perspectives on China's human development experience from the last 40 years, with a detailed analysis of human development data in Chapter 1, a more conceptual discussion of key features of reform policy in Chapter 2, case studies of reform and their impact on human development in Chapter 3, and an analysis of the most pressing human development challenges that China is now facing in Chapter 4.

In this chapter we present recommendations that aid China in addressing the challenges outlined in Chapter 4. After the remarkable progress of the last 41 years, the expectations of the Chinese population for further progress are higher than ever. Over-

coming the gap between China's current "unbalanced and inadequate development conditions and the people's ever-growing needs for a better life" is the key challenge that the Chinese leadership faces. Bridging this gap includes meeting demands for democracy, rule of law, fairness and justice, security, and a better environment. Maintaining stable economic growth, offering high-quality public services, securing people's well-being, promoting fairness and justice, allowing greater freedom of choice, and achieving sustainable development not only hold the key to meeting demands for a better life, but also serve as an important task in China's endeavors to promote human development that is healthy, sustainable, inclusive, and coordinated.

## 5.1 Creating a greener, more harmonious and sustainable environment.

As the basis for human survival and health, a sound ecological environment is key to sustainable development for all humanity. China's rapid economic growth over a long period of time has put enormous pressures upon the environment, energy, and resources. As noted earlier in this report, because of the size of China's economy those pressures are not only felt within China's borders; global environmental sustainability also cannot be achieved without a strong contribution from China. "Winning the tough battle of pollution prevention and control" is one of the "three tough battles" identified at the 19th National Congress of the CPC, an unprecedented acknowledgement of the gravity of the environmental risks that China faces. Although progress is being made, this is a vast, complex and long-term challenge, and additional measures are needed. In so large a country and so rapidly evolving an economy, it is critical to make government systems more robust, not relying on top-down interventions but on a clear definition of roles, responsibilities and authorities at all levels of government, and to identify and address environmental problems as they arise.

**–Strengthen pollution prevention and control, and further intensify efforts to reduce the pollution of air, water and**

**land.** Greater efforts need to be made to control pollution and resolve the issue of air, water, and soil pollution, with industrial, energy, transportation, and land use structures to be readjusted to reduce the emissions of air pollutants and greenhouse gases. Policies and regulations need to be strengthened, monitored and consistently enforced to phase out polluting production and consumption patterns, and to avoid locking in polluting technologies through investment decisions. These goals cannot be achieved without concrete actions to change the incentives that firms and individuals face when choosing products and technologies, to make it in their interest to choose cleaner options. These actions encompass regulation, pricing and advocacy measures, as well as the promotion of a sharing and circular economy.

At the same time, even if the emission of new pollutants is curtailed, the existing stock of pollutants in China's land and water poses serious hazards to the welfare of the Chinese people, as noted in discussions in Chapter IV. Important initiatives have been launched in recent years to clean up these pollutants. However, such a great challenge cannot be overcome in a short time or using a single approach. Longer and even more intense efforts using a coherent package of policies and regulations will be required.

**– Further develop alternative sources of clean energy.** Clean energy resources

include hydro power, wind power, photovoltaic power, and hydrogen-based solutions. Policies and measures are needed to align the supply and demand of clean energy resources. Developing nuclear power hinges on the ability to properly dispose of nuclear waste and maintain sustained and safe operations of nuclear plants to avoid environmental risks that could be caused by nuclear accidents. More importantly, to incentivize the use of clean technologies among consumers, firms and investors, pricing and regulatory policies are needed to help shift consumption, production and investment decisions, accelerate the shedding of obsolete technology, and incentivize innovation in low-carbon technologies. These policies involve phasing out fossil fuel subsidies in producer and consumer prices and taxation and auctioning emission permits for large emitters. The ample, recurrent fiscal space thus created would be available to offset adverse effects on the poor, and to support renewable energy production and use.

– **Increase popular awareness of environmental protection.** China should advocate green lifestyles, and encourage people to reduce online shopping, take-out, overconsumption, extravagance and waste, and the production of garbage in cities. China should also implement mandatory classification and management of domestic waste across the country, increase awareness of waste classification,

and manage domestic waste in a way that helps reduce its quantity, turns it into resources, and makes it harmless. But management of waste after it is created is not enough; persistent efforts should be made to reduce the sources of solid waste and make use of it as resources for building “zero-waste cities”. Improving the public transport system for better bus travel, and green travel to reduce congestion and vehicle pollution in cities, are also urgently needed.

## 5.2 Ensuring the provision of adequate, balanced, and high-quality public services

High-quality public services are important for meeting diverse demands, promoting comprehensive human development, and upholding social fairness and justice. Over the past 41 years of the Reform and Opening Up, China’s system of public services has become increasingly sophisticated, with many public service facilities available across multiple areas including education, medical care, culture, and sports, unlike in the past when there were few or no public services in many of these areas. Having come this far, “demands for a better life” are now much greater than before the Reform and Opening Up began. China’s public service provision will need to broaden and accelerate its transition from quantity-centred to quality-centred, from scale-oriented to structure-

oriented, from measuring coverage rates to measuring quality and reliability of service, and from providing basic services to providing whole-life-cycle ones. This is consistent with China's development vision, with the move from the Xiaokang era to one of human-centred development, as well as with the global 2030 Sustainable Development Agenda.

– **Build a life-cycle system of public services with increased quantity, quality and upgrading.** More high-quality public goods and services need to be offered to facilitate sustainable human development and increase scientific and cultural awareness. The 2030 Agenda for Sustained Development of the United Nations calls for “ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all”. Building a whole-life-cycle education system includes the following: guaranteeing access to affordable and high-quality preschool education even in poor regions; covering senior high school and vocational education to enhance employability by improving people's professional skills; and, universally rolling out 12-year free and compulsory education system across the country. A significant challenge in extending education to include senior high school is to make it useful enough that students and their parents will consider it in their interest to forego working in order to remain in school. Finally, lifelong education services are needed to enable

people to acquire more knowledge and to adapt to changes in an increasingly difficult labor market.

A whole-life-cycle health service system also needs to be put in place to increase health education, promote coordination of medical care and disease control, contain risks related to chronic diseases, encourage standard diagnoses and treatment, and improve health and quality of life. We suggest replacing life expectancy with per capita healthy life expectancy as an indicator to measure levels of healthy development.

– **Build a system for delivering more balanced public services with better quality and wider coverage.** It is imperative to plan and build public facilities, including schools, hospitals, and cultural and sports facilities in consideration of the permanent population rather than allocating public services according to administrative levels. Restrictions that target migrant populations' access to schools, hospitals, jobs, and social protection in cities need to be lifted to allow them to enjoy local public services with a residence permit. The model of general branch schools (hospitals and libraries) is encouraged, in conjunction with access to modern networks and digital technology, and high-quality urban public resources in education, medical care, and culture need to be extended to grassroots communities in urban and in rural areas. The payment of teachers, doctors and staff



engaged in cultural work in rural areas need to be raised to ensure their income does not lag behind that of their urban counterparts and thus encourage well-educated people to work with grassroots communities in urban and in rural areas. Government subsidies and procurement can be adopted to encourage the involvement of the business community and social organizations in the operation and management of public facilities and improve the level of public services for ordinary people. Competent departments of culture, health, education, civil affairs, social protection, and employment are needed to efficiently invest public resources in communities without a waste of resources. Building and improving public infrastructure across rural areas is another important way to eradicate “multi-dimensional poverty” across rural areas.

– **Establish a system for diverse health care for the elderly to meet the wide-ranging needs of the elderly.** As the Chinese population is rapidly ageing, it is difficult to meet the growing and increasingly diverse needs of elder care by depending only on the government. This necessitates concerted efforts and effective collaboration between the government, the market, society, and families. The Chinese government should improve the policy environment and encourage the business community and social organizations to become involved in offering high-quality elder care services

in the form of entrusted operations and public-private partnerships.

– **Establish coordinated, integrated government systems in these and all other public services, in which government is accountable for the delivery of high-quality services to all Chinese people.** A coordinated approach to service provision is essential to realize the government’s new development vision, and to meet the growing expectations of service beneficiaries. This is in contrast with the past, when the leap from “no service” to “some service” was a great achievement. Schools are core locations where not only young people’s knowledge, but also their nutritional, physical and psychological health are all shaped. Addressing a new generation of health challenges, notably noncommunicable diseases, requires changes in behavior and norms that cannot be created only within the healthcare system. Provision of social protection, such as health insurance and social assistance benefits, requires the engagement of many different government agencies, especially given the emergence of a new highly mobile population in China’s cities. Cross-sectoral systems in which many agencies share information and share accountability for outcomes will be needed, and adequacy of funding will also be a vital precondition.

– **Strengthen the financing of public service delivery, to ensure that adequate public funds are available where, when**

### and for whom they are needed.

Despite a number of reforms in recent years, consolidated government spending on public services in China is heavily oriented toward urban areas and toward wealthier areas. The national budget does not yet effectively perform its vital role of using tax policy, intergovernmental transfers and specific targeted spending programmes to achieve the necessary levels of equity. There is a persistent problem of unfunded mandates in public service provision at the local level, particularly in poor areas in the western and central regions, where local governments do not have the fiscal resources they need to provide the public services that are expected by their populations. Further review and reform of central-local fiscal relations are needed resolve this problem.

### 5.3 Building a normalized, long-term, and diversified mechanism for poverty reduction and common prosperity

Over the past 40 years of the Reform and Opening Up, China has made remarkable achievements in poverty alleviation, with more than 700 million people lifted out of absolute poverty, and incidence of poverty dropping from 97.5% in 1978 to 1.7% at the end of 2018. In terms of its scale

and impacts, China's poverty-reduction effort has been unprecedented. It has also made tremendous contributions to global poverty reduction. By 2020, China will have achieved the goal of a comprehensive Xiaokang Society. In the post-Xiaokang era, the key for China's modernization is to consolidate and upgrade the fruits of poverty alleviation, to ensure people who have got out of poverty do not fall back into poverty, and to gradually achieve common prosperity of all Chinese people.

– **Strengthen educational poverty alleviation, and enhance endogenous impetus to reduce poverty.** To establish a sustainable poverty alleviation mechanism, the government should shift the focus of its work from helping poor households get by to helping build their capacity to function independently. Toward that end, one priority is to develop education and empower students through education, so that impoverished populations can increase their human capital and enhance their self-development capabilities. We suggest extending the 12-year compulsory education to poverty-stricken areas, areas inhabited by ethnic minorities and rural areas. The central government should provide fiscal guarantees for all the education expenditures in the abovementioned areas and incorporate the 12-year compulsory education penetration rate into the performance assessment system in poverty-stricken areas. The government should significantly

raise the level of income and benefits of teachers working in poverty-stricken areas, areas inhabited by ethnic minorities and rural areas, in order to ensure that excellent teachers are willing to come to, stay and work in these areas. The government should continue to implement and enhance higher education institutions' special programmes in poverty-stricken areas, recruit students from targeted poverty-stricken areas, guide and encourage students to return to their hometowns as employees and entrepreneurs after graduation.

– **Incorporate the impoverished population into the social protection system.** In recent years, governments at all levels in China have proactively brought poor people into the social protection system. They have intensified their efforts to support the poor, laying a foundation for establishing an institutionalized poverty alleviation mechanism. For the next step, the government should enhance support for rural residents, raise the relief standard, and ensure that relief payments are provided on time. The government should accelerate building a unified medical insurance system for urban and rural residents to decisively address the problem of a lack of portability of benefits, take concrete measures to address the issues of low reimbursement rates and high medical expenses under the new rural cooperative medical care policies and to prevent insured rural residents from

falling into or returning to poverty due to illness. The government should attach great importance to urban poverty and take care of low-income urban groups by channelling these people into social protection systems and providing them with re-employment training. Given the demographic changes that are taking place in China, greater efforts will also be needed to ensure that all elderly people have access to adequate pension benefits that will protect them from poverty both in poor rural and urban areas.

– **Establish a poverty alleviation mechanism open to the whole society.**

The government alone cannot resolve a complex issue such as poverty in China, and it needs to fully mobilize enterprises and social forces. We recommend that the government further improve its taxation and expenditure policies to help lift people out of poverty, and also use market mechanisms to encourage enterprises to participate in poverty alleviation. The government should also adopt taxation policies to encourage enterprises, individuals, and social organizations to support poverty alleviation through donations and other forms, thus ensuring that the whole society pays attention to poverty alleviation.

## **5.4 Achieving high-quality, sustainable, and dynamic economic development**

Environmental sustainability, strong public services and a broad and effective poverty alleviation and prevention system, can all be achieved only if they are rooted in a new model of economic growth. The Chinese economy is currently facing headwinds, which create the temptation to revert to old “growth first” development concepts that would lead to channelling more fiscal resources into outdated sectors, and not enough into services and other competitive sectors that will build a healthy future for China. Instead, despite the current economic pressures, it is important to push ahead with the transition from a model based on rapid growth to one that values high-quality development.

– **Drive stable growth with expanded consumption.** Rebalancing economic growth from excessive reliance on investment towards one that relies more on consumption can help maintain China’s economic growth, as evidenced by the gradually increasing contribution of the final consumption expenditure of China’s 1.4 billion people to its economic growth in the past 5 years. China should increase the offering of diverse and high-quality goods and services to meet various consumer demands in culture, tourism, sports, health, elder care, and education with the government, the market, and the private sector all playing their parts. This would not only contribute to steady and high-quality economic growth, but help meet diverse consumer

demands and promote overall human development.

– **Increase household income and spending power.** Resident income is the basis for increased spending power as well as a precondition for greater freedom of choice. The 19th National Congress of the CPC has identified expanding the middle-income group as an important strategic goal. The Chinese government introduced a policy of tax cuts and fee reductions in 2018 and implemented a renewed Individual Income Tax Law in 2019. The individual income tax reform has led to increased disposable income, raising consumption, and hence contributing to high-quality economic growth. The Chinese government should further reform fiscal and tax policies and the social protection system to increase household income as long as this remains consistent with fiscal sustainability. The social protection system needs to be improved to narrow gaps in household incomes and increase the spending power of low-income groups. Also, the Chinese government should introduce a broad-based property tax to provide a stable additional source of tax revenue for local governments regulating the real estate market in a bid to contain housing costs for urban residents especially urban newcomers and low-income groups.

– **Respecting consumers’ freedom of choice.** Consumers’ freedom of choice provides a foundation for meeting real consumer needs and increasing effective

consumption. Administrative interventions and restrictions need to be reduced and consumption choices determined more by market forces. Currently, various administrative measures limit consumption choices, such as restrictions on home purchases that have distorted consumer demand and hindered the high-quality development of household consumption. Restrictive administrative measures need to be phased out to allow greater freedom of choice for consumption. Changes in labor regulations such as establishing a paid vacation system and a flextime system would also give people greater freedom in making consumption choices.

## 5.5 Improving government capacity for governance in social livelihood

– **Pursue people-centred development.** To continuously improve China’s human development, the government should shift its policy focus from “driving economic growth” to “expanding people’s well-being”. The report at the 19th National Congress of the Communist Party of China states that the government should “promote well-rounded human development and all-round social progress” and “common prosperity”. The key efforts of the Chinese government, local governments in particular, should focus on the empowerment of individual citizens, raising their incomes and enhancing their

access to quality health, education, and other public services. Improvements in the government’s management capacity in the areas of livelihood and society is crucial to achieving more balanced, fairer, and more sustainable high-quality human development. Local governments, which directly provide public goods and services and interact with the public, can better understand the public’s needs. Therefore, China should respect and leverage the dominant role of local governments in providing public goods and services in line with public needs.

– **Build a scientific performance indicator system that is not GDP-oriented.** Joseph Stiglitz<sup>1</sup> argues that growth in GDP does not necessarily lead to increased living standards, and GDP is not the best indicator to measure economic and social status. In the past, due to an over-emphasis on GDP growth, governments at all levels in China invested in a large number of inefficient public investment projects, resulting in the decline of overall economic efficiency and economic quality. To maintain growth rates, they had to further increase public investment, thus falling into a vicious circle. In the future, the marginal cost of maintaining rapid growth in this way in terms of resources, environment, energy, etc. will escalate. Emphasizing GDP does not meet the requirements for high-quality

1 Joseph Stiglitz, “Narrowing Social Gap through Social Security and Regulations”, *China Development Forum 2019*, Beijing, 23 March, 2019.

development. China's economy needs to transform from high-speed growth to high-quality development. A performance indicator system that matches high-performance development should highlight economic vitality, innovation efficiency, improvement in people's well-being, sustainable development, etc. When developing indicators, the government should also shift from quantity indicators to quality indicators, from scale indicators to structure indicators, from process indicators to outcome indicators, from development indicators of things to development indicators of human beings, and from "having or having not" indicators to "good or bad" indicators.

– **Stress the application of market mechanisms.** China is experiencing rapid urbanization, which has created a huge demand for urban infrastructure construction, education, health care, elder care and other public services, and put enormous pressure on public finances. The government cannot single-handedly meet increasing demands for diversified and high-quality public services. That is why to the government should enhance the positive role of the market mechanism in livelihoods and social fields, and encourage enterprises and social organizations to participate in public goods and services supply through its procurement, entrusted operations, franchising, and through P3s, in order to expand the supply and improve the quality

of public goods. In the meantime, the government should improve the setting of standards and the supervision system for public services, enhancing its capability to use administrative, market, legal, and economic means to balance the social and economic benefits in public services supply.

– **Accelerate order rebuilding in the network and digital age.** China is among the leading countries in the development of the global digital economy. The rapid development of artificial intelligence, the digital economy, the sharing economy, the platform economy and other new forms have expanded product supply, improved economic efficiency, and increased convenience. At the same time, the boundary between government and the market has been blurred, as has the relationship between legal order, business order and technical order. New media and modern information technology have increased awareness of social participation, accelerated social democratization, and greatly enhanced people's interest in democracy, the rule of law, equity and justice. They have also generated new requirements for public management models and the public policy process. The rapid development and wide application of Internet technology has formed an online space coexisting with the physical world. Social networking, games, entertainment, online shopping, etc. have promoted the networking of economic and social entities



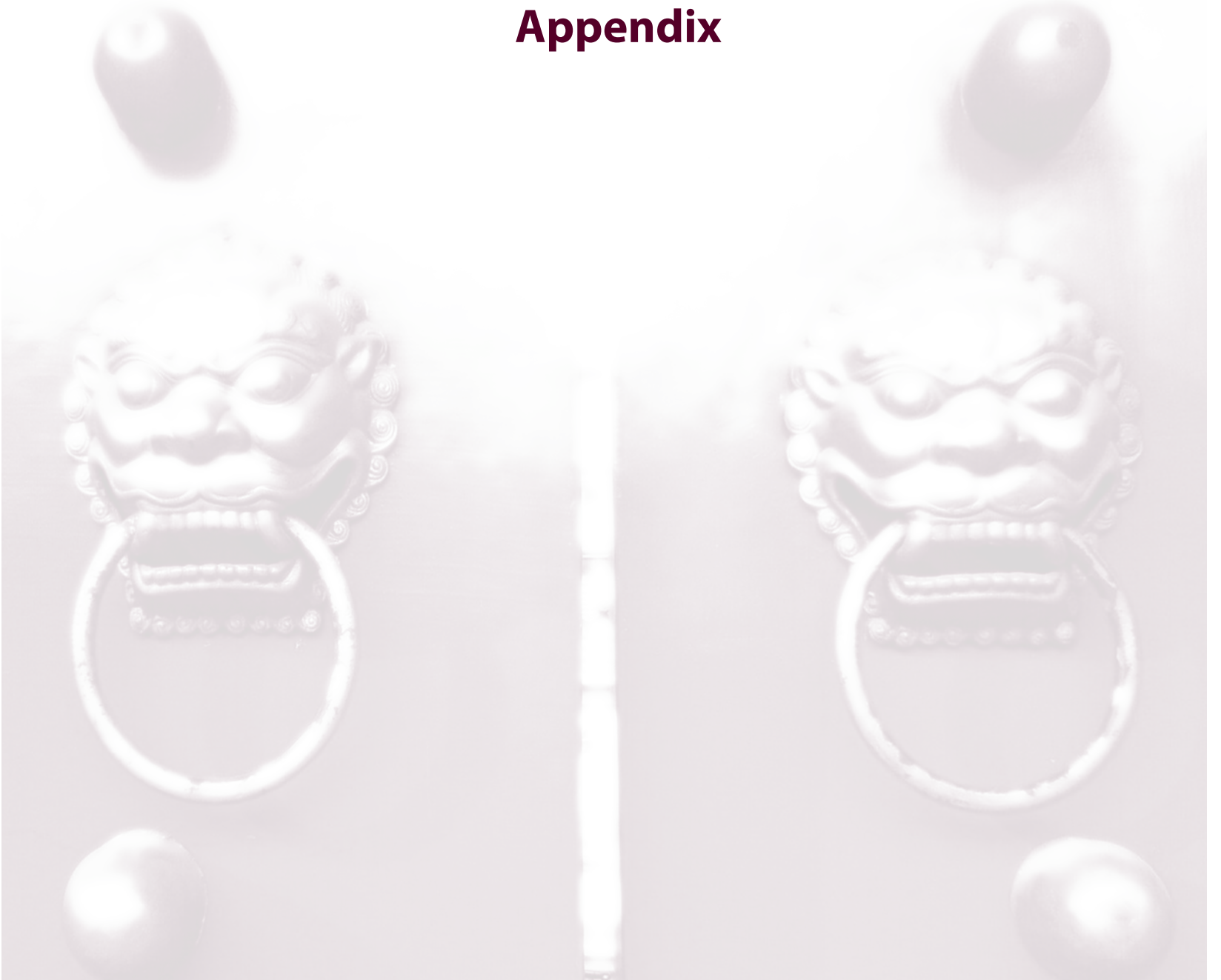
and led to a more complicated, diversified network culture and ecosystem. The unique features of cyberspace imply that we cannot simply copy the governance rules of the real world to build network cultural space and operational order. Accelerating the construction of social order and rules

in the network and digital era, balancing technical rationality and values with social norms, tackling moral and ethical risks and legal regulatory risks, and ensuring that digital innovation brings benefits to the whole society will increasingly be the focus of public governance.





# Appendix





# Appendix 1: Calculation Methodology— China’s Human Development Index Value (1978-2017)

## I. Data Sources for National Human Development Index Values

In calculating national HDI values, the general idea is to estimate the figures for each index of missing years based on the 1990-2015 data from the UNDP database and by using the relevant data from the World Bank and the National Bureau of Statistics of China. The specific data sources for each dimension are as follows.

Health index: 1990-2015 data are available from UNDP. 1981 data are available from the National Bureau of Statistics, data for 2016 and 2017 are available in the 2017 Statistical Communiqué on the Development of Health Services in China published by the National Health

Commission of the People’s Republic of China. Based on the data for 1981 and 1990, the data for years between 1981 and 1990 can be interpolated, and the data for 1978 to 1980 can be extrapolated.

Education index: The 1990-2015 data are from UNDP. Data before 1990 and after 2015 are extrapolated from 1990-2015 data.

Per capita income index: The data on GNP per capita (2011 PPP \$) from 1990 to 2015 are obtained from UNDP. The data before 1990 are calculated based on the data on GDP per capita (2011 PPP \$) from the World Bank database; and the data after 2015 are calculated based on the data on GDP per capita (CNY)

from the National Bureau of Statistics of China.

## **II. Data Sources for Provincial-level Human Development Index Values**

In calculating the HDI value of each provincial-level division, the general idea is to calculate values of each index of the census year based on all National Population Census data, and then obtain data for missing years by interpolation and extrapolation. The specific data sources for each dimension are as follows.

**Health index:** According to the results of the National Population Census, population life expectancy data for 1982, 1990, 2000 and 2010 are available from the National Bureau of Statistics. Data for missing years can be interpolated or extrapolated from the data of these four years.

**Education index:** The proportion of the population with primary school, junior high school, senior high school and secondary technical school, college and above education attainment can be obtained from the results of the National Population Census. Assuming that the years of schooling at each level are 6 years, 9 years, 12 years, and 16 years respectively, then the mean years of schooling at the national and provincial levels can be calculated for each census year. After revising the national average level of education, it is possible to obtain

more accurate data on the mean years of schooling in each division. There is high correlation between the expected education level and the average education level. Assuming that the proportional relationship between the mean years of schooling and the expected years of schooling in each division is consistent with that at the national level, the data on the education level in each division can be estimated based on the data on the national education level.

**Per capita income index:** The data on GDP per capita (CNY in the same year) of each division can be obtained based on the China Statistical Yearbook for each year. According to the national level data, the proportional relationship between the data on GDP per capita (CNY in the same year) and the data on GNI per capita (2011 PPP \$), that is, the currency exchange rate conversion factor, can be obtained. Using this conversion factor, the data on GNI per capita (2011 PPP \$) in each division can be calculated.

## Appendix 2: LMDI Decomposition Analysis of Changes in National and Provincial-level Human Development Index Values

The logarithmic mean Divisia index (LMDI) is a commonly used method for analyzing the degree and change of the influence of different variables. This section adopts LMDI to decompose the factors contributing to the changes of the HDI value of China and its provinces so as to analyse and discuss the main reasons causing the change in the HDI values

from the perspective of the effect of the health index, income index and education index. Given the fact that the method of calculating HDI value changed in 2010, this report calculated the HDI value of China and its provinces from 1982 to 2017 according to the revised calculation method (as follows).

$$HDI=(LEI*EI*II)^{(1/3)} \quad (1)$$

In formula (1), HDI is the Human Development Index, LEI is the health index, EI is the education index, and II is the income index.

In order to facilitate the decomposition of the influencing factors of the Human Development Index in formula (1) by using LMDI, formula (1) is transformed into formula (2).

$$M=HDI^3=QWR \quad (2)$$

In formula (2), Q represents the health index, W represents the education index, and R represents the income index.

The logarithm of formula (2) is:

$$\ln(M) = \ln(Q) + \ln(W) + \ln(R) \quad (3)$$

If the change of the cube of the HDI value of Country r during the period of T-j to T is  $\Delta M^r$ , then

$$\begin{aligned} M^r &= M_T^r - M_{T-j}^r \\ &= [\ln(M_T^r) - \ln(M_{T-j}^r)] * \frac{M_T^r - M_{T-j}^r}{[\ln(M_T^r) - \ln(M_{T-j}^r)]} \\ &= [\ln(Q_T^r * W_T^r * R_T^r) - \ln(Q_{T-j}^r * W_{T-j}^r * R_{T-j}^r)] * \\ &\quad \frac{M_T^r - M_{T-j}^r}{[\ln(M_T^r) - \ln(M_{T-j}^r)]} \\ &= \ln\left(\frac{Q_T^r}{Q_{T-j}^r}\right) * \frac{M_T^r - M_{T-j}^r}{[\ln(M_T^r) - \ln(M_{T-j}^r)]} + \ln\left(\frac{W_T^r}{W_{T-j}^r}\right) * \frac{M_T^r - M_{T-j}^r}{[\ln(M_T^r) - \ln(M_{T-j}^r)]} + \ln\left(\frac{R_T^r}{R_{T-j}^r}\right) * \frac{M_T^r - M_{T-j}^r}{[\ln(M_T^r) - \ln(M_{T-j}^r)]} \\ &= Q^r + W^r + R^r \quad (4) \end{aligned}$$

In formula (4),  $\Delta Q^r$ ,  $\Delta W^r$  and  $\Delta R^r$  respectively represent the effects of changes in the health index value, income index value and education index value on the HDI value of Country r during the period of T-j to T.



## **Appendix 3:**

# **Calculation method of HDI and expansion index at the local level in China**

### 3.1 Prefecture-level HDI calculation

In all the eight China National Human Development Reports released since 1997, the HDI was calculated for Chinese provinces municipalities directly under the central government and autonomous regions for selected years. However, there is not yet any study calculating the HDI in prefecture-level cities, prefectures, leagues, autonomous prefectures and other prefecture-level administrative units. The main reason lies in the difficulties in obtaining data on life expectancy and years of schooling at the prefecture-level. This study turns to data of the most recent year available to estimate every aspect of human development at the prefecture level. Specifically, the data of the sixth population census and at the provincial and prefecture-level of the most recent year is used to approximate life expectan-

cy, mean years of schooling, and expected years of schooling.

#### 3.1.1 Life expectancy estimation

##### 3.1.1.1 Data source

In the census year, the National Bureau of Statistics will announce the life expectancy at the national level and of different provinces. Except the information above, there is not yet any unified channel to release the life expectancy at the prefecture level. We construct an abridged life table (with an interval of 5 years) based on the Table of the Chinese Population by County and by Age and Gender in the 2010 Population Census by County, and the Table on the Death Population by Region and by Age and Gender in the 2010 census data of each province to estimate the life expectancy of the birth population of all prefecture-level administrative units

in 2010.

### 3.1.1.2 Abridged life table construction

By adopting an abridged life table to estimate life expectancy, in addition to the average population and the actual death population by age group, it also needs essential parameters such as the fraction of last age interval of life ( $a_0$ ), infant (aged 0) mortality rate, and death probability of infants and children aged 1 to 5.<sup>1</sup>

According to the estimation by Huang Rongqing and Zeng Xianxin (2013), the corrected infant mortality rate in China was 17.27‰ in 2010. According to the experience of the WHO, when the infant mortality rate is smaller than 20‰, the fraction of last age interval of life ( $a_0$ )=0.09; and when the infant mortality rate ranges between 20‰~40‰,  $a_0$ =0.15 (Jiang Qinglang and Fang Jiqian, 1984). Therefore, we adopt  $a_0$ =0.09 or 0.15 to estimate.

It is worth noting that although the overall quality of the 2010 census data shows significant improvement compared to the 2000 census (Cui Hongyan et al., 2013), the fact that the deaths of the young-age are largely left unreported poses a serious situation to the country (Wang Jinying and Ge Yanxia, 2013). The underreporting of infant deaths brings life expectancy with relatively great impacts whose degree

varies in places with different mortality levels (Song Jian and Zhang Yang, 2015). Therefore, in estimating life expectancy, it is necessary to correct the mortality rate and the underreporting rate by age group of the younger population.

In calculating the abridged life table, the infant mortality rate and the probability of children mortality in each prefecture-level administrative unit are corrected values in corresponding provinces. The specific values can be referred to the estimation of Huang Rongqing and Zeng Xianxin (2013). The actual number of deaths in each age group after the age of 5 is corrected according to the rate of underreported deaths at the national average of 18.4% estimated by Cui Hongyan et al. (2013).

### 3.1.2 Mean and expected years of schooling estimation

#### 3.1.2.1 Mean years of schooling

The mean years of schooling in one place can be calculated by the proportion of the population with various education levels in the total population in the place. The mean years of schooling of the population living in prefecture-level administrative units in 2010 can be directly obtained from the 2010 Population Census by County. However, the data is not available in non-census years, and we therefore replace it with the mean years of schooling in the province where the prefecture-level administrative unit is located. The mean

<sup>1</sup> The actual calculation indicates that the impacts of the two values on life expectancy can be neglected.

years of schooling in each province can be calculated based on the sample survey of and the changes in population published in the China Population and Employment Statistics Yearbook. Considering the representativeness of the 1% population sample survey provides more credible evidence than that in non-census years, we resort to such data made in 2015 to calculate the mean years of schooling in each province.

### 3.1.2.2 Expected years of schooling

The expected years of schooling of the population in one place can be approximated by the net enrolment rate or gross enrolment rate at all levels of education. Since the enrolment data is hardly available in prefecture-level administrative units, in addition to some large cities<sup>1</sup> where relevant data is available, the enrolment rate of other places at such level is replaced by the enrolment rate of the province where the place is located. As the nine-year compulsory education has been basically universalized, the net enrolment rate of primary schools in China reached 99.88% in 2015, and the gross enrolment rate of junior high schools achieved 104%<sup>2</sup>. Therefore, in the calcu-

lation, the net enrolment rate of primary and junior high schools is set to be 100%<sup>3</sup>.

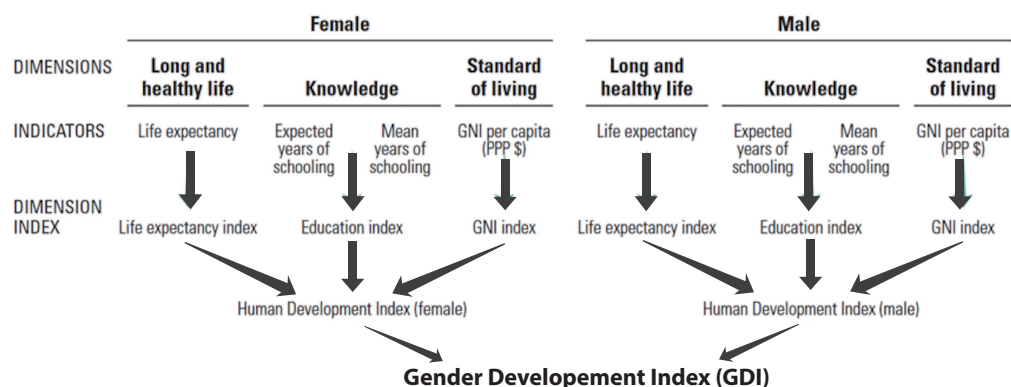
The gross enrolment rates of senior high schools and higher education institutions in each province are calculated by dividing the number of students in senior high schools and higher education institutions by population in the age suitable for senior high schools (15-17) and higher education institutions (18-22)<sup>4</sup>. Similarly, as the representativeness of the 1% population sample survey is more credible than that in non-census years, we use the number of population determined in the 1% population sample survey in 2015 to estimate the number of people at an age suitable for senior high schools and higher educational institutions. Limited by data accessibility, we estimate the population of the suitable age with the demographic data by age group (with an interval of 5 years) of each province extracted from the 2015

1 The statistical bulletin or the yearbook for educational development in some major cities can be found to publish the gross enrolment rate in senior high schools and higher education institutions. According to the data on which this paper is based, in 2015, 17 cities recorded senior high school gross enrolment rate, and 8 cities recorded that of higher education institutions.

2 The Ministry of Education of the People's Republic of China. Statistical Bulletin of Educational Development in China in 2015.

3 The error of this estimation is acceptable. Assume that the net enrolment rates of primary and junior high schools are 99% and 95%, respectively, compared to the results calculated on the basis of 100%, the expected years of schooling will be overestimated by 0.21 years, which is only 1.6% of the national mean years of schooling.

4 The Ministry of Education of the People's Republic of China. see: [http://www.moe.gov.cn/s78/A03/moe\\_560/jytjsj\\_2014/2014\\_qg/201509/t20150901\\_204903.html](http://www.moe.gov.cn/s78/A03/moe_560/jytjsj_2014/2014_qg/201509/t20150901_204903.html)



### Appendix Figure. 1 Composition of the gender development index

Source: 2016 Human Development Report.

National 1% Population Sample Survey<sup>1</sup>. For each province, the number of students studying either in senior high schools or higher education institutions is estimated with the relevant data from Educational Statistics Yearbook of China and the provincial statistical yearbooks. In order to ensure the consistency of the calculation, it hereby defines the students studying in senior high schools include those in general senior high schools and secondary vocational schools (general secondary schools, adult secondary schools, vocational high

<sup>1</sup> At the provincial level, we can only obtain the demographic data by age group with an interval of 5 years; however, the error in this circumstance is also acceptable. For example, in the 1% population sample in 2015, the population aged 15-19 in China was 1,165,548. Assuming that the population is uniformly distributed in this age group, it is estimated that the population at an age suitable for high schools (15-17) is 699,329. According to the demographic data by age with an interval of 1 year, the actual population aged 15-17 is 680,712, which is overestimated by 2.73%.

schools and technical schools); students studying in higher education institutions include postgraduates, undergraduates in universities, colleges (institutions at the same level) and junior college students.

#### 3.1.3 Per capita GNI (PPP) estimation

The per capita GNI at the prefecture-level is estimated by multiplying the per capita GDP of 2016 by the conversion factor which represents the proportional relationship between the 2016 per capita GDP and the GNI (PPP constant 2011 price) in China released by the World Bank.

#### 3.2 Provincial GDI calculation

Provincial GDI is obtained by dividing the female HDI by the male HDI after the two HDIs are calculated separately. The GDI calculation method provided by UNDP (2016)

is as follows. Limited by the data availability at the provincial level in China, we have approximated some parameters.

The human development index by male and female is calculated in the first place, then  $GDI = \text{female HDI} \div \text{male HDI}$ . The life expectancy index and the education index share the same calculation method as the human development index, with the difference being that the relevant indicator of only one gender is needed. Per capita income by gender, however, is calculated by weighting the ratio of male salary to female salary, proportion of each gender in the economically active population, and per capita GNI (UNDP, 2016). The specific calculation method is as follows:

$$S_f = \frac{W_f/W_m \cdot EA_f}{W_f/W_m \cdot EA_f + EA_m}$$

$$S_m = 1 - S_f$$

$$GNIpc_f = GNIpc \cdot S_f$$

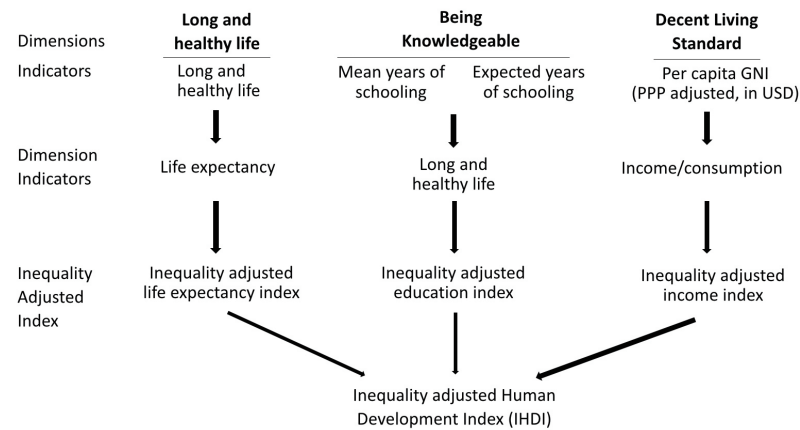
$$GNIpc_m = GNIpc \cdot S_m / P_m$$

Specifically,  $W_f/W_m$  is the ratio of female salary to male salary;  $EA_f$  and  $EA_m$  represent the economically active population of female and male, respectively;  $P_f$  and  $P_m$  are the proportion of female and male population, respectively;  $GNIpc_f$  and  $GNIpc_m$  represent the estimates of per capita income of female and male, respectively.

In calculating the GDI of each province, the provincial life expectancy by gender is the relevant 2010 data at the provincial level released by the National Bureau of Statistics. The mean years of schooling by gender is calculated based on the population at different educational levels by gender in the 1% population sample survey in 2015. The calculation of the expected years of schooling by gender share the same principle as that of the prefecture-level HDI. The net enrolment rates in primary and junior high schools are replaced with 100%, while the enrolment rates in senior high schools and higher education institutions are calculated according to the number of students in campus by gender in 2015 and the population of a suitable age. Data source is the same as above.

According to the UNDP (2016), per capita GNI of a place is estimated by the ratio of male salary to female salary, proportion of each gender in the economically active population, and per capita GNI. Due to the lack of data on the ratio of male salary to female salary at the provincial level, we adopt the ratio of average female income to average male income at 67.3% in urban areas according to the 3rd Survey on the Status of Chinese Women.<sup>1</sup> The number of economically active population by gender is estimated based on the sum of urban employed population by gender and

1 All-China Women's Federation, National Bureau of Statistics. Executive Report of the 3rd Survey on the Status of Chinese Women, pp. 14. <http://www.wsic.ac.cn/staticdata/84760.htm>



## Appendix Figure. 2 Composition of the inequality adjusted Human Development Index (IHDI)

Source: 2010 Human Development Report.

registered urban unemployed population by gender according to China Population & Employment Statistics Yearbook.

### 3.3 Provincial IHDI calculation

IHDI reflects the level of inequality distributed in all dimensions of HDI. When calculating the IHDI by country, UNDP (2010) adopted the household survey data of major countries to estimate the Atkinson inequality adjustment coefficient in the three dimensions of health, education and income, and then synthesize IHDI.

On the basis of calculating life expectancy, mean years of schooling, expected years of schooling, and per capita income, the three sub-indices<sup>1</sup> are treated with the coefficient of inequality adjustment which is obtained according to (Atkinson, 1970):

1 Inequality calculation of life expectancy <http://hdr.undp.org/en/content/how-do-you-assess-inequality-distribution-life-expectancy-birth>

$$A_x = 1 - \frac{\sqrt[n]{X_1 \dots X_n}}{\bar{X}}$$

Adjusted sub-indices:

$$I_x^* = (1 - A_x) \cdot I_x$$

IHDI is synthesized by the three adjusted sub-indices:

$$IHDI = (I_{Health}^* \cdot I_{Education}^* \cdot I_{Income}^*)^{1/3} = [(1 - A_{Health}) \cdot (1 - A_{Education}) \cdot (1 - A_{Income})]^{1/3} \cdot HDI$$

Due to the lack of micro-survey data on residents' education and income representative at the provincial level, we calculate the Atkinson inequality adjustment coefficient ( $A_x$ ) with a strategy different from that of the UNDP when calculating IHDI by country. This paper focuses on the imbalance of human

development between various prefecture-level administrative units within a province. Therefore, IHDI is calculated based on the degree of inequality regarding the three dimensions of health, education and income in each prefecture-level administrative units within a province. The formula is as follows:

$$A_x = 1 - \frac{\sqrt[n]{X_1 \dots X_n}}{\bar{X}}$$

Specifically,  $X_i$  is the score of HDI's index (life expectancy index, education index, and income index); and  $i$  represents a pre-

fecture-level administrative unit of a province. It is further synthesized according to the calculation formula of UNDP (2010). The data at the district and county levels (including the districts of the municipalities directly under the central government) is largely missed in the sixth population census. As a consequence, there is a large error in estimating the life expectancy of the districts in Beijing, Tianjin, Shanghai and Chongqing which are directly under the central government and the county-level administrative units<sup>1</sup> in Hainan Province. Therefore, we only calculated the IHDI of 26 provincial administrative units.

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1 Hainan Province administers 4 prefecture-level cities (4 districts in each of Haikou and Sanya), with 5 county-level cities, 4 counties, 6 autonomous counties, totaling 23 county-level administrative units.



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## Appendix 4: Human Development Indexes and Provincial Three-Dimensional Indexes (1978-2017)

**Table A4.1 National Human Development Indexes and Sub-Indexes (1978-2017)**

Year	Health Index	Education Index	Income Index	HDI
1978	0.730	0.341	0.277	0.410
1979	0.732	0.346	0.286	0.417
1980	0.733	0.351	0.296	0.424
1981	0.735	0.355	0.301	0.428
1982	0.738	0.360	0.312	0.436
1983	0.739	0.365	0.325	0.444
1984	0.741	0.369	0.345	0.455
1985	0.742	0.374	0.362	0.465
1986	0.745	0.379	0.372	0.472
1987	0.747	0.385	0.387	0.481
1988	0.749	0.392	0.400	0.490
1989	0.752	0.398	0.404	0.494
1990	0.754	0.404	0.408	0.499
1991	0.757	0.411	0.419	0.507
1992	0.758	0.421	0.437	0.519
1993	0.762	0.424	0.455	0.527
1994	0.765	0.431	0.472	0.538
1995	0.768	0.443	0.484	0.548

Year	Health Index	Education Index	Income Index	HDI
1996	0.771	0.449	0.497	0.556
1997	0.777	0.456	0.510	0.565
1998	0.782	0.465	0.520	0.574
1999	0.789	0.474	0.530	0.583
2000	0.795	0.483	0.542	0.593
2001	0.802	0.486	0.553	0.599
2002	0.809	0.495	0.565	0.610
2003	0.815	0.507	0.580	0.621
2004	0.822	0.521	0.595	0.634
2005	0.826	0.536	0.609	0.646
2006	0.831	0.547	0.627	0.658
2007	0.835	0.564	0.647	0.673
2008	0.840	0.572	0.661	0.682
2009	0.843	0.584	0.672	0.692
2010	0.846	0.592	0.686	0.701
2011	0.849	0.588	0.698	0.704
2012	0.852	0.599	0.710	0.713
2013	0.855	0.614	0.719	0.723
2014	0.858	0.628	0.730	0.733
2015	0.862	0.628	0.739	0.737
2016	0.868	0.646	0.748	0.748
2017	0.872	0.646	0.756	0.752

Source: 1990-2015 data are retrieved from UNDP website. Data from 1978-1989, 2016 are calculated by the research team.

**Table A4.2 National Human Development Index Indicator Breakdown (1978-2017)**

Year	Life Expectancy	Mean Years of Schooling	Expected Years of Schooling at Birth	Per capita GNI (2011 PP\$)
1978	67.5	3.4	8.2	626
1979	67.6	3.5	8.2	665

Year	Life Expectancy	Mean Years of Schooling	Expected Years of Schooling at Birth	Per capita GNI (2011 PP\$)
1980	67.7	3.6	8.3	708
1981	67.8	3.7	8.3	735
1982	68.0	3.8	8.4	789
1983	68.1	3.9	8.5	862
1984	68.2	4.0	8.5	979
1985	68.3	4.1	8.6	1096
1986	68.4	4.2	8.6	1176
1987	68.6	4.4	8.7	1293
1988	68.7	4.5	8.7	1415
1989	68.9	4.7	8.8	1452
1990	69.0	4.8	8.8	1487
1991	69.2	5.0	8.8	1607
1992	69.3	5.2	8.9	1810
1993	69.5	5.3	8.9	2029
1994	69.7	5.5	8.9	2276
1995	69.9	5.7	9.1	2468
1996	70.1	5.8	9.2	2692
1997	70.5	6.0	9.2	2927
1998	70.8	6.2	9.3	3122
1999	71.3	6.3	9.5	3351
2000	71.7	6.5	9.6	3615
2001	72.1	6.5	9.7	3883
2002	72.6	6.6	9.9	4225
2003	73.0	6.7	10.2	4663
2004	73.4	6.8	10.6	5124
2005	73.7	6.9	11.0	5647
2006	74.0	6.9	11.4	6363
2007	74.3	7.0	11.9	7258
2008	74.6	7.0	12.2	7944
2009	74.8	7.1	12.5	8561
2010	75.0	7.1	12.8	9393
2011	75.2	7.3	12.4	10178

<b>Year</b>	<b>Life Expectancy</b>	<b>Mean Years of Schooling</b>	<b>Expected Years of Schooling at Birth</b>	<b>Per capita GNI (2011 PP\$)</b>
2012	75.4	7.4	12.7	10981
2013	75.6	7.5	13.1	11696
2014	75.8	7.6	13.5	12548
2015	76.0	7.6	13.5	13345
2016	76.4	7.7	14.0	14160
2017	76.7	7.7	14.0	14958

Source: 1990-2015 data are retrieved from UNDP website. Data from 1978-1989, 2016 are calculated by the research team.

**Appendix 5:  
Human Development Indexes  
and Provincial Three-Dimensional  
Indexes and Indicator Breakdowns  
(1982-2017)**

**Table A5.1 Provincial Human Development Indexes (1982-2017)**

Provinces	1982	1990	2000	2010	2017
Beijing City	0.563	0.621	0.732	0.825	0.881
Tianjin City	0.549	0.581	0.683	0.786	0.838
Hebei Province	0.414	0.473	0.594	0.681	0.721
Shanxi Province	0.426	0.487	0.576	0.689	0.733
Inner Mongolia Autonomous Region	0.389	0.465	0.575	0.712	0.754
Liaoning Province	0.499	0.543	0.637	0.730	0.760
Jilin Province	0.446	0.500	0.609	0.709	0.750
Heilongjiang Province	0.454	0.504	0.613	0.698	0.732
Shanghai City	0.607	0.632	0.734	0.804	0.854
Jiangsu Province	0.444	0.507	0.628	0.729	0.784
Zhejiang Province	0.430	0.505	0.625	0.720	0.772
Anhui Province	0.355	0.431	0.543	0.645	0.707
Fujian Province	0.373	0.466	0.610	0.701	0.746
Jiangxi Province	0.368	0.438	0.545	0.652	0.712
Shandong Province	0.409	0.483	0.606	0.705	0.753
Henan Province	0.377	0.455	0.569	0.663	0.714
Hubei Province	0.413	0.471	0.580	0.687	0.746
Hunan Province	0.396	0.459	0.569	0.674	0.737
Guangdong Province	0.428	0.523	0.628	0.721	0.770
Guangxi Zhuang Autonomous Region	0.376	0.440	0.553	0.650	0.708
Hainan Province	N.A.	0.478	0.582	0.675	0.733
Chongqing Province	N.A.	N.A.	0.559	0.676	0.747
Sichuan Province	0.387	0.440	0.544	0.650	0.704
Guizhou Province	0.291	0.381	0.461	0.586	0.665
Yunnan Province	0.302	0.397	0.498	0.596	0.659
Tibet Autonomous Region	0.240	0.294	0.397	0.522	0.561
Shaanxi Province	0.386	0.452	0.558	0.688	0.742
Gansu Province	0.350	0.415	0.505	0.621	0.671
Qinghai Province	0.336	0.416	0.501	0.619	0.667
Ningxia Hui Autonomous Region	0.350	0.441	0.539	0.660	0.725
Xinjiang Uyghur Autonomous Region	0.367	0.463	0.566	0.662	0.717



**Table A5.2 Provincial health indexes (1982-2017)**

Provinces	1982	1990	2000	2010	2017
Beijing City	0.798	0.813	0.863	0.926	0.956
Tianjin City	0.783	0.805	0.845	0.906	0.951
Hebei Province	0.777	0.775	0.808	0.846	0.864
Shanxi Province	0.732	0.753	0.795	0.845	0.872
Inner Mongolia Autonomous Region	0.718	0.703	0.767	0.838	0.864
Liaoning Province	0.780	0.773	0.821	0.867	0.887
Jilin Province	0.752	0.738	0.817	0.864	0.890
Heilongjiang Province	0.742	0.723	0.806	0.861	0.888
Shanghai City	0.814	0.845	0.894	0.927	0.975
Jiangsu Province	0.762	0.790	0.829	0.871	0.899
Zhejiang Province	0.762	0.797	0.842	0.888	0.920
Anhui Province	0.758	0.761	0.798	0.847	0.868
Fujian Province	0.746	0.747	0.808	0.858	0.884
Jiangxi Province	0.708	0.709	0.753	0.836	0.866
Shandong Province	0.772	0.778	0.830	0.869	0.900
Henan Province	0.765	0.772	0.793	0.840	0.857
Hubei Province	0.702	0.727	0.786	0.844	0.879
Hunan Province	0.698	0.722	0.779	0.842	0.876
Guangdong Province	0.789	0.808	0.820	0.869	0.889
Guangxi Zhuang Autonomous Region	0.771	0.750	0.789	0.848	0.865
Hainan Province	N.A.	0.769	0.814	0.866	0.900
Chongqing Province	N.A.	N.A.	0.796	0.857	0.900
Sichuan Province	0.677	0.713	0.788	0.842	0.883
Guizhou Province	0.637	0.681	0.707	0.786	0.824
Yunnan Province	0.626	0.669	0.700	0.762	0.796
Tibet Autonomous Region	0.675	0.610	0.683	0.741	0.753
Shaanxi Province	0.689	0.729	0.770	0.841	0.879
Gansu Province	0.705	0.727	0.730	0.804	0.828
Qinghai Province	0.628	0.624	0.708	0.769	0.801
Ningxia Hui Autonomous Region	0.700	0.722	0.772	0.821	0.851

Provinces	1982	1990	2000	2010	2017
Xinjiang Uyghur Autonomous Region	0.615	0.655	0.729	0.805	0.852

Source: Calculated by the research team.

**Table A5.3 Life Expectancy by Province (1982-2010)**

Provinces	1982	1990	2000	2010
National	68	69	71.7	75
Beijing City	71.9	72.86	76.1	80.18
Tianjin City	70.9	72.32	74.91	78.89
Hebei Province	70.5	70.35	72.54	74.97
Shanxi Province	67.6	68.97	71.65	74.92
Inner Mongolia Autonomous Region	66.7	65.68	69.87	74.44
Liaoning Province	70.7	70.22	73.34	76.38
Jilin Province	68.9	67.95	73.1	76.18
Heilongjiang Province	68.2	66.97	72.37	75.98
Shanghai City	72.9	74.9	78.14	80.26
Jiangsu Province	69.5	71.37	73.91	76.63
Zhejiang Province	69.5	71.78	74.7	77.73
Anhui Province	69.3	69.48	71.85	75.08
Fujian Province	68.5	68.57	72.55	75.76
Jiangxi Province	66	66.11	68.95	74.33
Shandong Province	70.2	70.57	73.92	76.46
Henan Province	69.7	70.15	71.54	74.57
Hubei Province	65.6	67.25	71.08	74.87
Hunan Province	65.4	66.93	70.66	74.7
Guangdong Province	71.3	72.52	73.27	76.49
Guangxi Zhuang Autonomous Region	70.10	68.72	71.29	75.11
Hainan Province	N/A	70.01	72.92	76.3
Chongqing Province	N/A	N/A	71.73	75.7
Sichuan Province	64	66.33	71.2	74.75
Guizhou Province	61.4	64.29	65.96	71.1

Provinces	1982	1990	2000	2010
Yunnan Province	60.7	63.49	65.49	69.54
Tibet Autonomous Region	63.9	59.64	64.37	68.17
Shaanxi Province	64.8	67.4	70.07	74.68
Gansu Province	65.8	67.24	67.47	72.23
Qinghai Province	60.8	60.57	66.03	69.96
Ningxia Hui Autonomous Region	65.5	66.94	70.17	73.38
Xinjiang Uyghur Autonomous Region	60	62.59	67.41	72.35

Note: Life expectancy is calculated using data from the population census.

**Table A5.4 Provincial education indexes (1982-2017)**

Provinces	1982	1990	2000	2010	2017
Beijing City	0.459	0.525	0.639	0.734	0.820
Tianjin City	0.418	0.472	0.571	0.649	0.718
Hebei Province	0.325	0.365	0.484	0.545	0.598
Shanxi Province	0.350	0.404	0.490	0.577	0.647
Inner Mongolia Autonomous Region	0.311	0.383	0.484	0.567	0.646
Liaoning Province	0.390	0.446	0.531	0.604	0.665
Jilin Province	0.362	0.424	0.522	0.589	0.634
Heilongjiang Province	0.356	0.424	0.520	0.583	0.625
Shanghai City	0.457	0.506	0.597	0.675	0.736
Jiangsu Province	0.312	0.383	0.496	0.573	0.634
Zhejiang Province	0.317	0.370	0.467	0.543	0.608
Anhui Province	0.239	0.308	0.432	0.498	0.571
Fujian Province	0.272	0.343	0.472	0.547	0.582
Jiangxi Province	0.281	0.343	0.461	0.518	0.583
Shandong Province	0.291	0.364	0.475	0.545	0.602
Henan Province	0.293	0.364	0.478	0.525	0.588
Hubei Province	0.319	0.370	0.490	0.564	0.620
Hunan Province	0.331	0.380	0.487	0.549	0.624
Guangdong Province	0.331	0.386	0.494	0.573	0.641

Provinces	1982	1990	2000	2010	2017
Guangxi Zhuang Autonomous Region	0.305	0.358	0.465	0.511	0.584
Hainan Province	N.A.	0.370	0.466	0.542	0.608
Chongqing Province	N.A.	N.A.	0.449	0.531	0.605
Sichuan Province	0.294	0.352	0.435	0.509	0.554
Guizhou Province	0.211	0.277	0.363	0.451	0.518
Yunnan Province	0.203	0.276	0.380	0.467	0.533
Tibet Autonomous Region	0.101	0.121	0.200	0.317	0.339
Shaanxi Province	0.317	0.363	0.479	0.573	0.618
Gansu Province	0.239	0.292	0.399	0.499	0.563
Qinghai Province	0.235	0.295	0.372	0.469	0.520
Ningxia Hui Autonomous Region	0.244	0.320	0.421	0.518	0.610
Xinjiang Uyghur Autonomous Region	0.297	0.372	0.469	0.543	0.607

Source: calculated by the research team.

**Table A5.5 Mean Years of Schooling by Province (1982-2016)**

Provinces	1982	1990	2000	2010	2016
National	N/A	5.52	7.11	8.00	9.13
Beijing City	6.88	7.87	9.59	11.01	12.30
Tianjin City	6.27	7.08	8.56	9.73	10.77
Hebei Province	4.87	5.47	7.26	8.17	8.97
Shanxi Province	5.25	6.05	7.34	8.66	9.70
Inner Mongolia Autonomous Region	4.67	5.74	7.26	8.50	9.68
Liaoning Province	5.85	6.69	7.97	9.05	9.97
Jilin Province	5.43	6.36	7.82	8.84	9.51
Heilongjiang Province	5.34	6.36	7.80	8.75	9.37
Shanghai City	6.85	7.59	8.96	10.12	11.04
Jiangsu Province	4.69	5.74	7.44	8.60	9.51
Zhejiang Province	4.76	5.54	7.00	8.15	9.12
Anhui Province	3.59	4.62	6.47	7.46	8.57
Fujian Province	4.08	5.15	7.08	8.20	8.73

Provinces	1982	1990	2000	2010	2016
Jiangxi Province	4.22	5.15	6.91	7.78	8.75
Shandong Province	4.37	5.45	7.12	8.17	9.03
Henan Province	4.39	5.46	7.17	7.88	8.81
Hubei Province	4.78	5.55	7.35	8.46	9.30
Hunan Province	4.97	5.70	7.31	8.23	9.36
Guangdong Province	4.97	5.79	7.41	8.60	9.61
Guangxi Zhuang Autonomous Region	4.57	5.37	6.97	7.67	8.76
Hainan Province	N/A	5.54	7.00	8.12	9.12
Chongqing Province	N/A	5.68	6.73	7.96	9.07
Sichuan Province	4.41	5.27	6.53	7.64	8.30
Guizhou Province	3.16	4.15	5.44	6.76	7.77
Yunnan Province	3.04	4.14	5.71	7.01	7.99
Tibet Autonomous Region	1.52	1.81	3.00	4.76	5.09
Shaanxi Province	4.75	5.44	7.19	8.60	9.27
Gansu Province	3.58	4.38	5.98	7.48	8.45
Qinghai Province	3.53	4.42	5.59	7.03	7.79
Ningxia Hui Autonomous Region	3.65	4.81	6.31	7.78	9.15
Xinjiang Uyghur Autonomous Region	4.45	5.58	7.03	8.14	9.10

Source: calculated by the research team.

**Table A5.6 Provincial income indexes (1982-2017)**

Provinces	1982	1990	2000	2010	2017
Beijing City	0.488	0.562	0.710	0.828	0.873
Tianjin City	0.506	0.516	0.660	0.826	0.861
Hebei Province	0.282	0.374	0.535	0.685	0.724
Shanxi Province	0.301	0.379	0.492	0.672	0.698
Inner Mongolia Autonomous Region	0.263	0.373	0.512	0.761	0.767
Liaoning Province	0.408	0.465	0.593	0.744	0.744
Jilin Province	0.325	0.401	0.530	0.700	0.747
Heilongjiang Province	0.355	0.419	0.548	0.676	0.706
Shanghai City	0.603	0.590	0.741	0.832	0.868
Jiangsu Province	0.368	0.431	0.601	0.777	0.845

Provinces	1982	1990	2000	2010	2017
Zhejiang Province	0.330	0.436	0.621	0.774	0.822
Anhui Province	0.246	0.341	0.465	0.637	0.711
Fujian Province	0.255	0.396	0.594	0.735	0.806
Jiangxi Province	0.249	0.345	0.467	0.640	0.715
Shandong Province	0.304	0.399	0.566	0.739	0.787
Henan Province	0.239	0.336	0.485	0.661	0.721
Hubei Province	0.315	0.388	0.507	0.681	0.762
Hunan Province	0.268	0.352	0.484	0.662	0.732
Guangdong Province	0.299	0.458	0.613	0.752	0.803
Guangxi Zhuang Autonomous Region	0.226	0.319	0.461	0.632	0.703
Hainan Province	N.A.	0.385	0.518	0.657	0.719
Chongqing Province	N.A.	N.A.	0.490	0.679	0.767
Sichuan Province	0.292	0.340	0.471	0.639	0.713
Guizhou Province	0.183	0.293	0.382	0.567	0.688
Yunnan Province	0.216	0.340	0.465	0.594	0.674
Tibet Autonomous Region	0.201	0.345	0.458	0.606	0.693
Shaanxi Province	0.264	0.349	0.471	0.677	0.750
Gansu Province	0.255	0.337	0.443	0.598	0.649
Qinghai Province	0.258	0.390	0.476	0.659	0.712
Ningxia Hui Autonomous Region	0.251	0.370	0.483	0.675	0.733
Xinjiang Uyghur Autonomous Region	0.270	0.406	0.531	0.664	0.714

Source: calculated by the research team.

**Table A5.7 Provincial Per Capita Gross National Income in 2011 PPP \$ (1982-2017)**

Province	1982	1990	2000	2010	2017
Beijing City	2525.67	4121.95	10975.51	23981.04	32379.00
Tianjin City	2843.91	3037.07	7895.62	23701.15	29979.44
Hebei Province	645.10	1190.19	3454.36	9308.50	12044.24
Shanxi Province	732.28	1228.10	2603.51	8534.09	10179.81
Inner Mongolia Autonomous Region	570.30	1184.64	2958.41	15373.57	16010.29

Liaoning Province	1492.33	2174.47	5085.54	13752.67	13741.00
Jilin Province	857.33	1418.23	3344.71	10260.20	14081.60
Heilongjiang Province	1049.79	1601.63	3773.77	8791.58	10717.45
Shanghai City	5411.99	4979.32	13500.31	24701.23	31274.60
Jiangsu Province	1145.39	1736.46	5353.08	17157.15	26904.44
Zhejiang Province	887.83	1794.89	6104.28	16790.56	23106.31
Anhui Province	509.42	955.50	2174.45	6782.33	11095.71
Fujian Province	541.57	1371.29	5093.27	12996.12	20826.98
Jiangxi Province	520.67	978.82	2207.21	6900.85	11341.94
Shandong Province	749.20	1402.24	4243.33	13347.12	18285.60
Henan Province	486.44	925.88	2479.75	7937.62	11829.63
Hubei Province	807.37	1302.69	2863.32	9061.08	15532.38
Hunan Province	588.81	1025.07	2468.38	8026.26	12691.31
Guangdong Province	724.94	2073.47	5794.88	14525.78	20353.34
Guangxi Zhuang Autonomous Region	446.37	824.20	2116.66	6565.11	10530.71
Hainan Province	N/A	1281.13	3093.09	7737.93	11653.93
Chongqing Province	N/A	N/A	2555.28	8960.42	15985.94
Sichuan Province	692.78	948.80	2254.98	6877.80	11207.40
Guizhou Province	335.24	696.24	1255.35	4259.74	9526.96
Yunnan Province	417.63	948.95	2169.90	5114.67	8670.80
Tibet Autonomous Region	377.46	984.61	2080.26	5528.67	9854.01
Shaanxi Province	574.02	1010.60	2260.44	8810.09	14373.77
Gansu Province	540.14	929.24	1878.70	5231.89	7338.24
Qinghai Province	551.53	1323.65	2337.79	7830.14	11131.35
Ningxia Hui Autonomous Region	526.63	1161.25	2446.08	8721.44	12780.17
Xinjiang Uyghur Autonomous Region	598.92	1472.73	3354.26	8128.54	11319.85

Source: China Institute for Development Planning at Tsinghua University.





**Appendix 6:  
Human Development Indexes of  
Prefecture-level Cities in China  
(2016)**

**Table A6.1 Human Development Indexes for 330 Prefecture-Level Cities (2016)**

Prefecture-Level City Name	HDI
Shenzhen City	0.845
Suzhou City	0.832
Nanjing City	0.830
Zhuhai City	0.826
Wuxi City	0.826
Baotou City	0.824
Ordos city	0.821
Changzhou City	0.819
Guangzhou City	0.818
Alxa league	0.815
Dongying City	0.815
Changsha City	0.814
Zhenjiang City	0.812
Karamay City	0.812
Hohhot City	0.810
Wuhan City	0.810
Dalian City	0.808
Foshan City	0.808
Hangzhou City	0.808
Ningbo City	0.803
Qingdao City	0.801
Nantong City	0.800
Yangzhou City	0.798
Wuhai City	0.797
Weihai City	0.797
Xiamen City	0.796
Taizhou City	0.795
Zhoushan City	0.795
Dongguan City	0.794
Zhongshan City	0.793
Panjin City	0.792

Prefecture-Level City Name	HDI
Urumqi City	0.792
Changchun City	0.790
Xilinguole League	0.789
Daqing City	0.789
Jilin City	0.788
Shaoxing City	0.788
Baishan City	0.787
Taiyuan City	0.787
Shenyang City	0.787
Jiaying City	0.787
Zibo City	0.786
Yantai City	0.785
Yichang City	0.785
Fuzhou City	0.784
Xi'an City	0.783
Haikou City	0.783
Huzhou City	0.782
Ji'nan City	0.781
Chengdu City	0.779
Xinyu City	0.778
Fangchenggang City	0.778
Beihai City	0.778
Hefei City	0.777
Xuzhou City	0.776
Huizhou City	0.776
Yancheng City	0.774
Harbin City	0.774
Zhengzhou City	0.774
Liaoyuan City	0.773
Huaian City	0.772
Nanchang City	0.772

Prefecture-Level City Name	HDI
Songyuan City	0.772
Yingkou City	0.772
Jinhua City	0.771
Benxi City	0.771
Changji Hui Autonomous Prefecture	0.769
Hami area	0.769
Yulin City	0.769
Bayinguoleng Mongolia Autonomous Prefecture	0.769
Ezhou City	0.769
Taizhou City	0.768
Panzhuhua City	0.767
Longyan City	0.766
Sanming City	0.766
Xiangfan City	0.766
Bortala Mongolia Autonomous Prefecture	0.766
Qinhuangdao City	0.766
Tangshan City	0.766
Quanzhou City	0.765
Hulunbuir City	0.764
Ma'anshan City	0.764
Xiangtan City	0.764
Fushun City	0.763
Mudanjiang City	0.763
Zhuzhou City	0.763
Rizhao City	0.763
Yangjiang City	0.762
Changde City	0.762
Wenzhou City	0.762
Quzhou City	0.761
Weifang City	0.761

Prefecture-Level City Name	HDI
Liuzhou City	0.761
Lianyungang City	0.761
Wuhu City	0.760
Putian City	0.759
Zhangzhou City	0.759
Jiayuguan City	0.759
Sanmenxia City	0.758
Bayannur City	0.758
Anshan City	0.758
Baoji City	0.758
Jingmen City	0.758
Lishui City	0.758
Liaoyang City	0.758
Binzhou City	0.757
Yueyang City	0.757
Huangshi City	0.757
Yinchuan City	0.757
Suqian City	0.756
Nanning City	0.756
Zaozhuang City	0.756
Jiangmen City	0.756
Ningde City	0.755
Tai'an City	0.755
Jining City	0.753
Wulanchabu City	0.753
Xianyang City	0.753
Tongliao City	0.753
Sanya City	0.752
Laiwu City	0.752
Jiaozuo City	0.752
Tongling City	0.752
Nanping City	0.751

Prefecture-Level City Name	HDI
Chenzhou City	0.751
Maoming City	0.751
Yanbian Korean Autonomous Prefecture	0.751
Xianning City	0.751
Tonghua City	0.750
Yingtian City	0.750
Langfang City	0.749
Siping City	0.749
Luoyang City	0.749
Shijiazhuang City	0.749
Shuozhou City	0.748
Zhaoqing City	0.747
Dezhou City	0.746
Lanzhou City	0.746
Jinzhou City	0.746
Xuchang City	0.745
Shaoguan City	0.744
Pingxiang City	0.744
Daxing'anling Prefecture	0.744
Guiyang City	0.744
Yanan City	0.744
Suizhou City	0.744
Shiyan City	0.744
LiaoCheng City	0.743
Dandong City	0.743
Tongchuan City	0.742
Baicheng City	0.742
Luohe City	0.742
Chifeng City	0.742
Shizuishan City	0.741
Haixi Mongol and Tibetan Autonomous Prefecture	0.740

Prefecture-Level City Name	HDI
Zhanjiang City	0.739
Huaibei City	0.738
Linyi City	0.737
Ili Kazak Autonomous Prefecture	0.737
Shantou City	0.737
Cangzhou City	0.737
Guilin City	0.736
Jiujiang	0.736
Huangshan City	0.735
Bengbu City	0.735
Jiamusi City	0.735
Yiyang City	0.735
Yangquan City	0.735
Chaozhou City	0.734
Deyang City	0.734
Hengyang City	0.733
Jingdezhen City	0.732
Jixi City	0.732
Zhangjiajie City	0.732
Chizhou City	0.731
Huludao City	0.730
Leshan City	0.730
Xuancheng City	0.730
Hebi City	0.729
Shuangyashan City	0.729
Kunming City	0.729
Jincheng City	0.728
Huaihua City	0.728
Qinzhou City	0.728
Loudi City	0.728
Qingyuan City	0.727

Prefecture-Level City Name	HDI
Weinan City	0.727
Hanzhoung City	0.727
Zigong City	0.727
Xinxiang City	0.727
Xiaogan City	0.726
Jiuquan City	0.726
Heyuan City	0.726
Jinchang City	0.726
Kaifeng City	0.726
Anyang City	0.726
Wuzhou City	0.725
Chuzhou City	0.725
Puyang City	0.725
Heze City	0.725
Jingzhou City	0.725
Jieyang City	0.724
Chengde City	0.723
Qigihar City	0.723
Xingan Meng	0.723
Yunfu City	0.723
Chongzuo City	0.723
Pingdingshan City	0.722
Tieling City	0.722
Jinzhong City	0.722
Zhangjiakou City	0.722
Anqing City	0.722
Heihe City	0.721
Ya'an City	0.721
Meishan City	0.721
Yongzhou City	0.721
Yichun City	0.720
Qitaihe City	0.720
Chaoyang City	0.720

Prefecture-Level City Name	HDI
Xining City	0.720
Huanggang City	0.720
Ji'an City	0.719
Shanwei City	0.719
Changzhi City	0.719
Fuxin City	0.719
Datong City	0.718
Huainan City	0.718
Ankang City	0.718
Yichun City	0.718
YuXi City	0.717
Suining City	0.716
Mianyang City	0.716
Handan City	0.715
Neijiang City	0.715
Hegang City	0.715
Hengshui City	0.714
Laibin City	0.713
Xinyang City	0.713
Ziyang City	0.712
Baoding City	0.712
Shangqiu City	0.711
Yulin City	0.711
Meizhou City	0.710
Nanyang City	0.709
Tulufan City	0.709
Lhasa City	0.708
Baise City	0.708
Luzhou City	0.707
Fuzhou City	0.706
Wuzhong City	0.706
Shangluo City	0.706
Suzhou City	0.706

Prefecture-Level City Name	HDI
Zhumadian City	0.706
Linfen City	0.706
Shangrao City	0.706
Ngawa Tibetan and Qiang Autonomous Prefecture	0.705
Nanchong City	0.705
Yibin City	0.705
Suihua City	0.705
Ganzhou City	0.705
Hezhou City	0.705
Liupanshui city	0.705
Xinzhou City	0.704
Zhoukou City	0.702
Akesu area	0.702
Xingtai City	0.701
Guang'an City	0.701
Lvliang City	0.700
Shaoyang City	0.700
Yuncheng City	0.700
Zunyi City	0.699
Enshi Tujia and Miao Autonomous Prefecture	0.698
Xiangxi Tujia and Miao Autonomous Prefecture	0.698
Guigang City	0.697
Lu'an City	0.696
Baiyin City	0.694
Diqing Tibetan Autonomous Prefecture	0.694
Zhangye City	0.694
Qingyang City	0.691
Zhong Wei City	0.691
Dazhou City	0.691

Prefecture-Level City Name	HDI
Southwest Guizhou Autonomous Prefecture	0.690
Bozhou City	0.689
Hechi City	0.688
Wuwei City	0.688
Guangyuan City	0.687
Liangshan Yi Autonomous Prefecture	0.686
Qiannan Buyi and Miao Autonomous Prefecture	0.686
Anshun City	0.685
Xishuangbanna Dai Autonomous Prefecture	0.682
Bazhong City	0.681
Tongren area	0.680
Haibei Tibetan Autonomous Prefecture	0.680
Hainan Tibetan Autonomous Prefecture	0.678
Kiriz Kirgiz Autonomous Prefecture	0.676
Qiandongnan Miao and Dong Autonomous Prefecture	0.676
Fuyang City	0.675
Chuxiong Yi Autonomous Prefecture	0.675
Qujing City	0.674
Dali Bai Autonomous Prefecture	0.673
Huangnan Tibetan Autonomous Prefecture	0.670
Bijie area	0.670
Guyuan City	0.670
Tianshui City	0.668
Honghe Hani and Yi Autonomous Prefecture	0.667



Prefecture-Level City Name	HDI
Haidong Prefecture	0.667
Pingliang City	0.666
Baoshan City	0.666
Ganzi Tibetan Autonomous Prefecture	0.665
Lijiang City	0.665
Dehong Dai and Jingpo Autonomous Prefecture	0.663
Kashi area	0.659
Puer City	0.654
Lincang City	0.652
Nujiang Lisu Autonomous Prefecture	0.652
Longnan City	0.646
Wenshan Zhuang and Miao Autonomous Prefecture	0.645
Nyingchi prefecture	0.644

Prefecture-Level City Name	HDI
Guo Luo Tibetan Autonomous Prefecture	0.640
Dingxi City	0.639
Shannan Prefecture	0.635
Gannan Tibetan Autonomous Prefecture	0.634
Linxia Hui Autonomous Prefecture	0.630
Zhaotong City	0.629
Hotan Prefecture	0.623
Ali Area	0.612
Changdu area	0.596
Shigatse area	0.593
Nagqu Prefecture	0.569
Yushu Tibetan Autonomous Prefecture	0.527

Source: calculated by the research team.



**Appendix 7:  
Provincial Inequality-adjusted  
Human Development Indexes  
and Three-Dimensional Indexes  
(2016)**

**Table A7.1 Provincial Inequality-Adjusted Human Development Indexes and Sub-Indexes (2016)**

Provinces	Provincial IHDI	Overall Loss	Inequality-Adjusted Provincial Health Index	Inequality-Adjusted Provincial Education Index	Inequality-Adjusted Provincial Income Index
Hebei	0.690	6.5%	0.846	0.649	0.670
Shanxi	0.687	6.0%	0.845	0.651	0.647
Inner Mongolia Autonomous Region	0.663	13.7%	0.837	0.654	0.687
Liaoning Province	0.701	9.6%	0.867	0.681	0.671
Jilin Province	0.741	3.4%	0.864	0.674	0.725
Heilongjiang Province	0.672	9.8%	0.861	0.668	0.638
Jiangsu Province	0.748	6.6%	0.871	0.664	0.786
Zhejiang Province	0.757	4.0%	0.888	0.637	0.787
Anhui Province	0.661	9.4%	0.847	0.614	0.639
Fujian Province	0.757	1.8%	0.858	0.645	0.787
Jiangxi Province	0.668	8.8%	0.836	0.635	0.645
Shandong Province	0.703	9.0%	0.869	0.659	0.717
Henan Province	0.694	5.2%	0.839	0.644	0.679
Hubei Province	0.676	10.6%	0.844	0.658	0.677
Hunan Province	0.661	11.5%	0.841	0.649	0.645
Guangdong Province	0.647	16.9%	0.869	0.650	0.666
Guangxi Zhuang Autonomous Region	0.674	7.9%	0.848	0.631	0.643
Sichuan Province	0.671	7.5%	0.842	0.612	0.656
Guizhou Province	0.654	5.3%	0.786	0.567	0.644
Yunnan Province	0.623	7.4%	0.762	0.573	0.620
Tibet Autonomous-Region	0.536	15.1%	0.739	0.458	0.602
Shaanxi Province	0.706	6.6%	0.841	0.674	0.695
Gansu Province	0.579	15.9%	0.803	0.599	0.552
Qinghai Province	0.621	10.3%	0.763	0.573	0.666

Provinces	Provincial IHDl	Overall Loss	Inequality-Adjusted Provincial Health Index	Inequality-Adjusted Provincial Education Index	Inequality-Adjusted Provincial Income Index
Ningxia Hui Autonomous Region	0.641	12.2%	0.821	0.627	0.645
Xinjiang Uyghur Autonomous Region	0.565	21.8%	0.804	0.632	0.556

*Note: Due to data unavailability, IHDl for Beijing, Shanghai, Tianjin, Chongqing, Hainan are not calculated.*

*Source: calculated by the research team.*



**Appendix 8:  
Provincial Gender Development  
Indexes and Provincial HDI by Gender  
(2016)**



**Table A8.1 Provincial GDI (2016)**

Province	GDI	Percentage difference	Male HDI	Female HDI
Beijing City	0.964	3.20%	0.878	0.846
Tianjin City	0.955	3.80%	0.844	0.806
Hebei Province	0.926	5.60%	0.76	0.704
Shanxi Province	0.926	5.50%	0.751	0.696
Inner Mongolia Autonomous Region	0.935	5.10%	0.788	0.737
Liaoning Province	0.923	6.10%	0.798	0.737
Jilin Province	0.932	5.40%	0.788	0.734
Heilongjiang Province	0.931	5.30%	0.765	0.713
Shanghai City	0.957	3.70%	0.866	0.83
Jiangsu Province	0.922	6.40%	0.825	0.761
Zhejiang Province	0.93	5.70%	0.81	0.753
Anhui Province	0.907	7.00%	0.757	0.687
Fujian Province	0.937	4.90%	0.791	0.741
Jiangxi Province	0.92	6.00%	0.757	0.696
Shandong Province	0.937	5.00%	0.792	0.742
Henan Province	0.94	4.50%	0.749	0.705
Hubei Province	0.909	7.20%	0.784	0.713
Hunan Province	0.917	6.40%	0.772	0.707
Guangdong Province	0.958	3.30%	0.792	0.759
Guangxi Zhuang Autonomous Region	0.946	4.00%	0.747	0.707
Hainan Province	0.955	3.40%	0.76	0.725
Chongqing Province	0.923	6.00%	0.785	0.725
Sichuan Province	0.927	5.50%	0.746	0.692
Guizhou Province	0.916	6.00%	0.712	0.652
Yunnan Province	0.927	5.00%	0.692	0.641
Tibet Autonomous Region	0.91	5.90%	0.655	0.596
Shaanxi Province	0.917	6.40%	0.781	0.716
Gansu Province	0.904	6.90%	0.715	0.646

Province	GDI	Percentage difference	Male HDI	Female HDI
Qinghai Province	0.92	5.80%	0.715	0.658
Ningxia Hui Autonomous Region	0.934	5.00%	0.75	0.7
Xinjiang Uyghur Autonomous Region	0.943	4.20%	0.74	0.698

*Note: When calculating the provincial GDI, national and provincial economically active population were estimated using 2015 data of urban employees by gender and total registered employees data from the China Labour Statistical Yearbook. Per Capita GNI is calculated using data from 2016.*

*Source: China Institute for Development Planning at Tsinghua University.*



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