The Prospect of China's Economy in 2030: the Economy in Transformation

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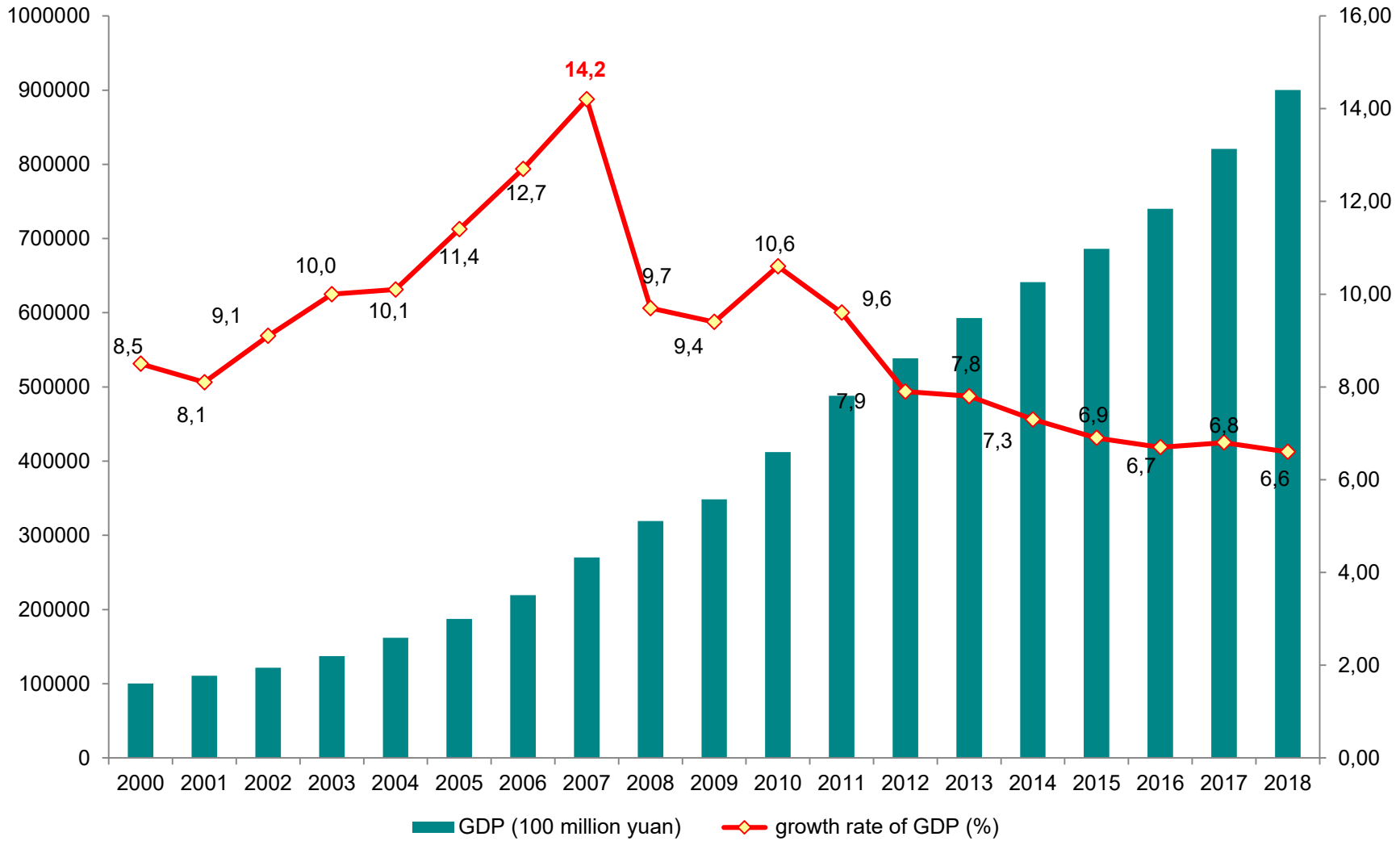
Expressions in this report are the author's view, and are not related to the institution which the author is attached

Main Content

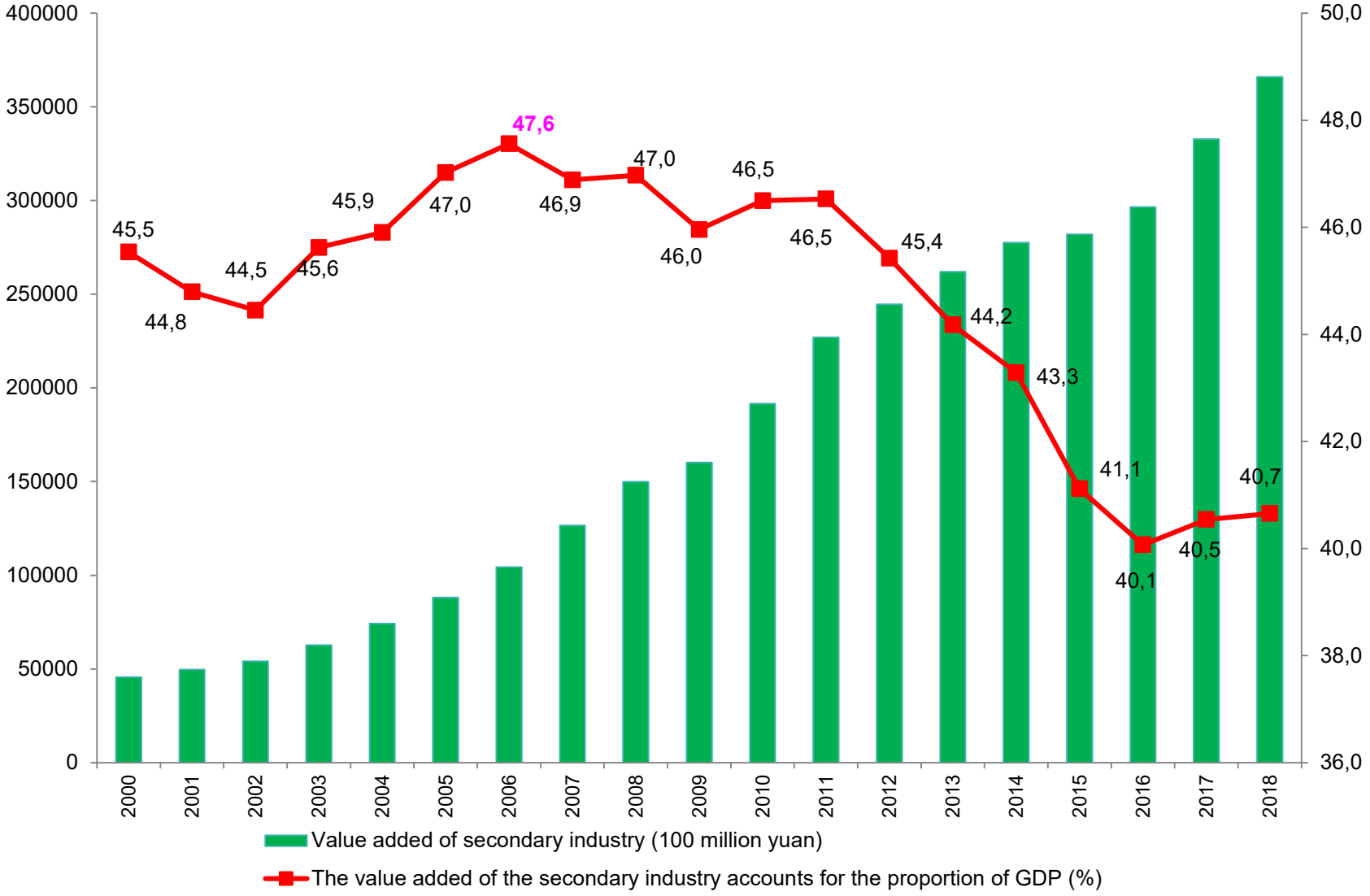
- The challenges of China's economic transformation
- The feature of DRCCGE model
- Scenario design for China's economic transformation
- Prospect for China's economic transformation based on simulations
- Conclusion

There are some turning points in the Chinese economy since 2000

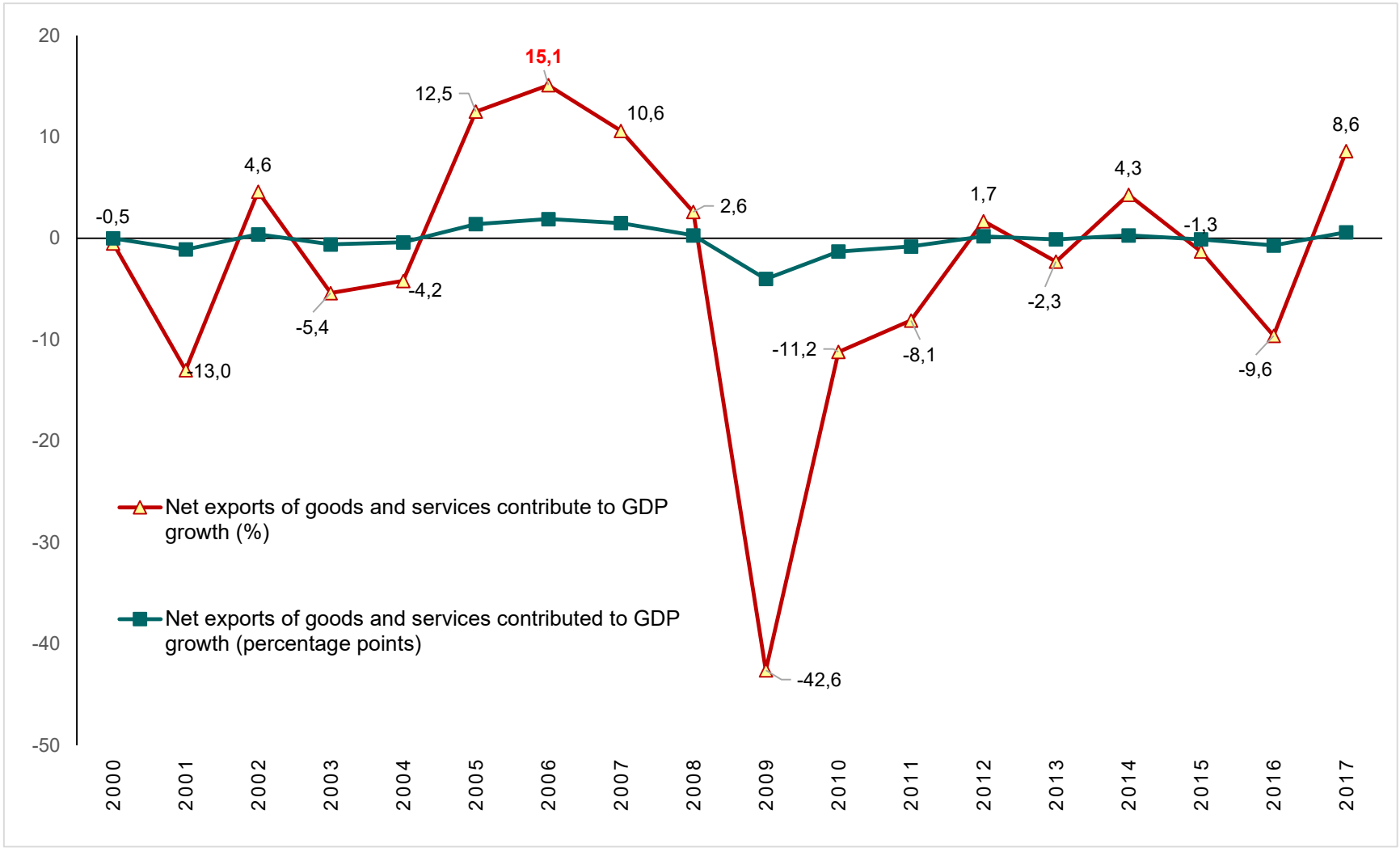
GDP Growth Rate (2000-2018)



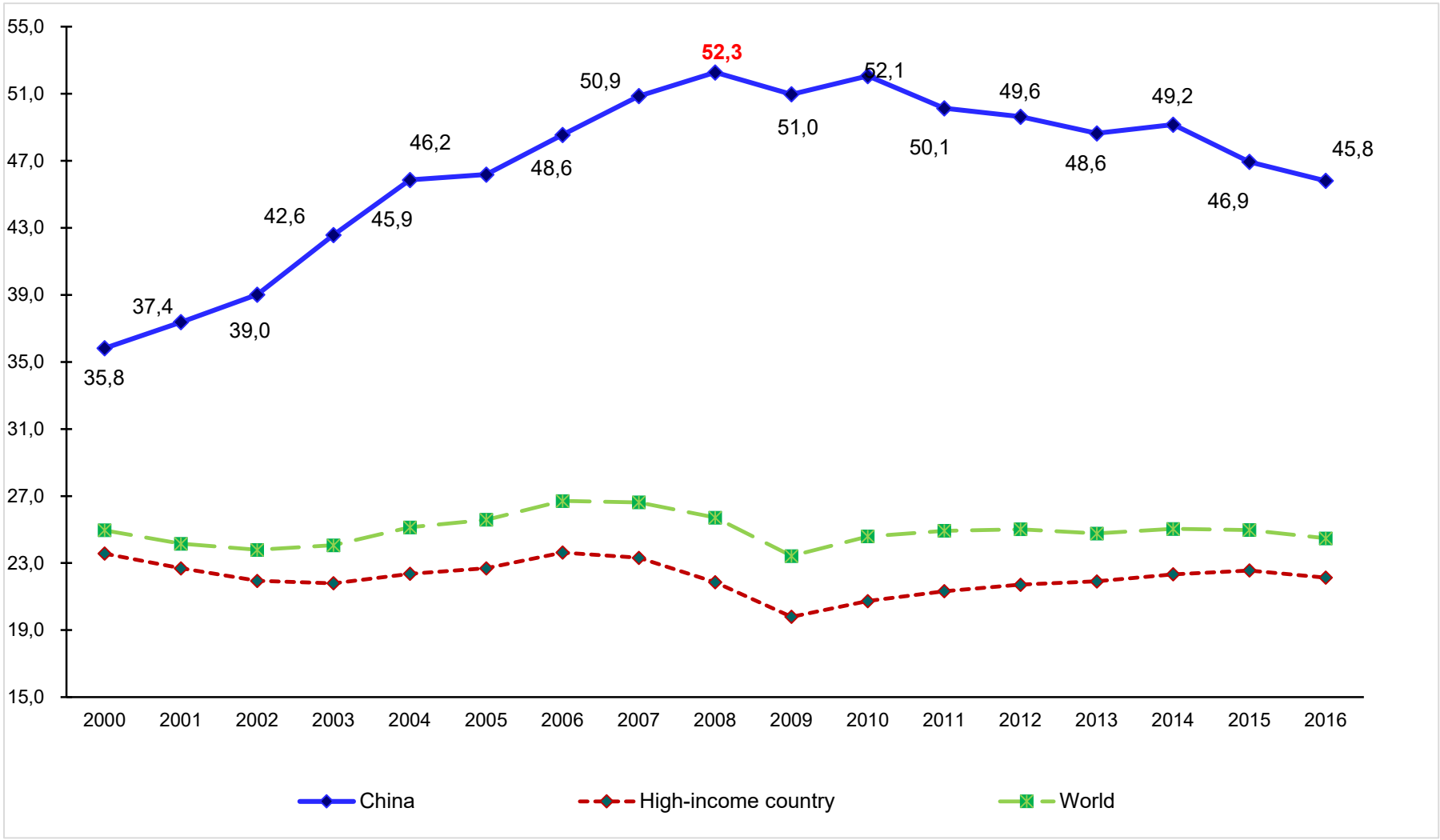
Share of the Value Added of Secondary Industry in GDP



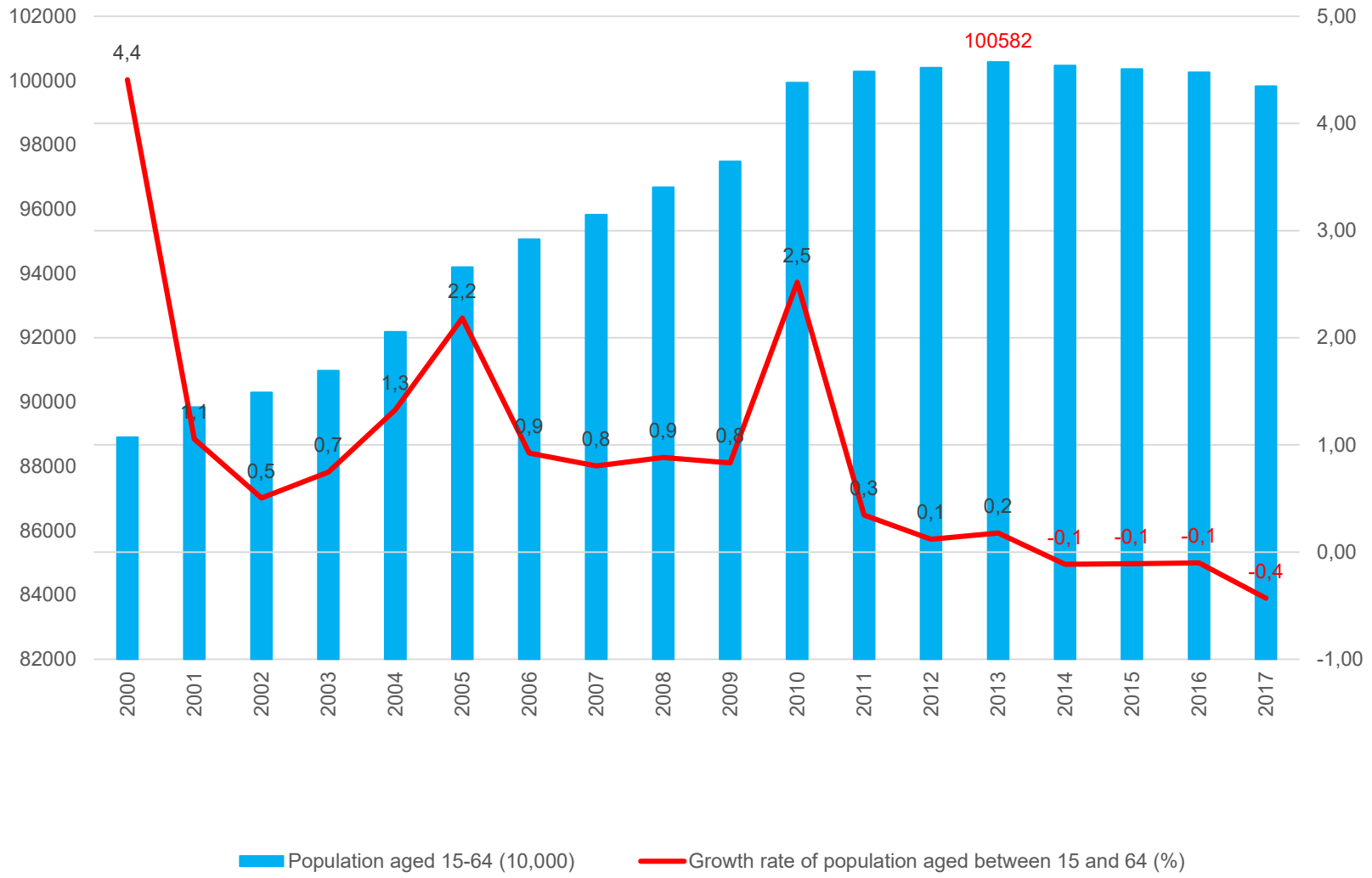
Contribution of China's net exports to GDP growth



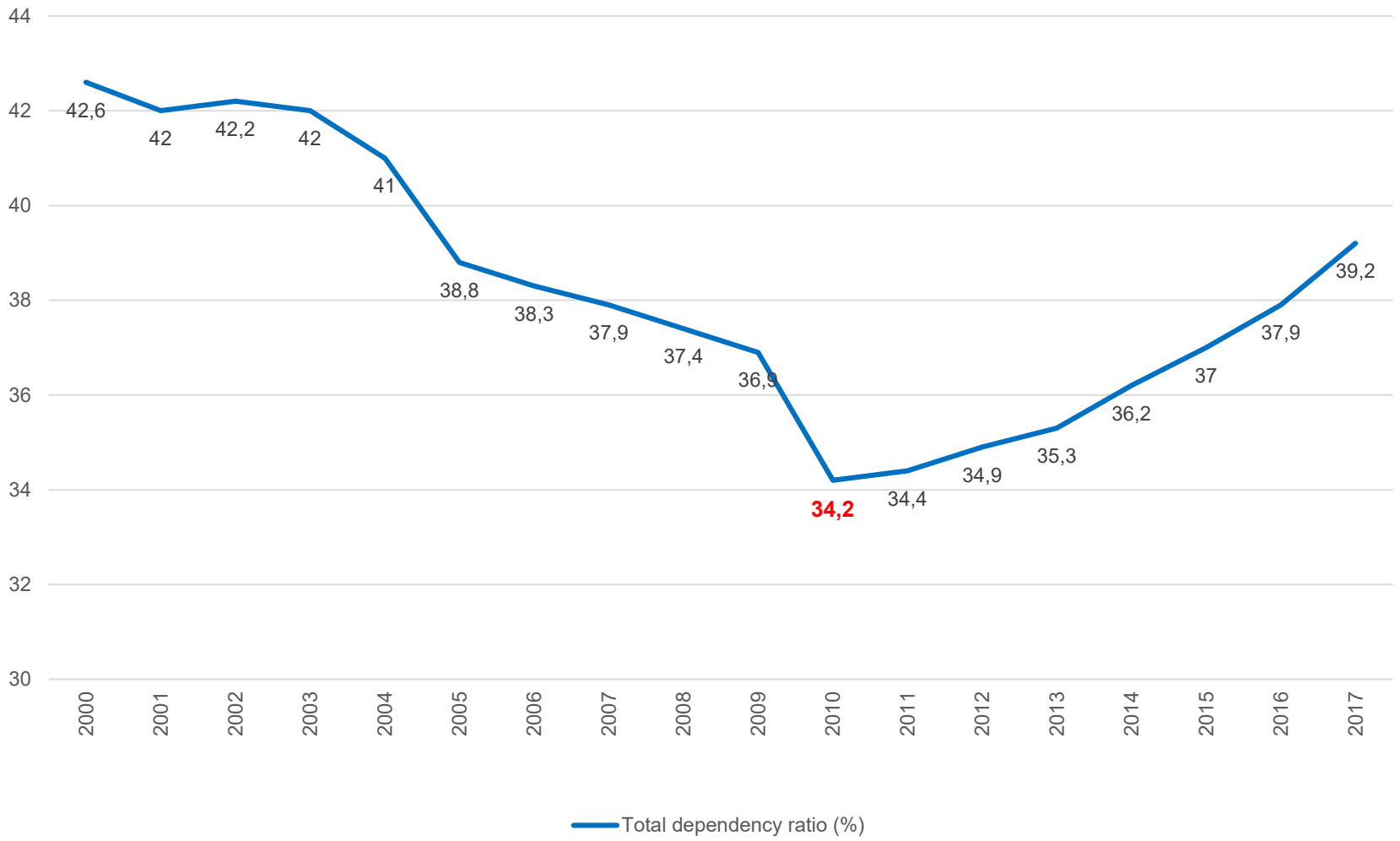
National Saving Rate (2000-2016)



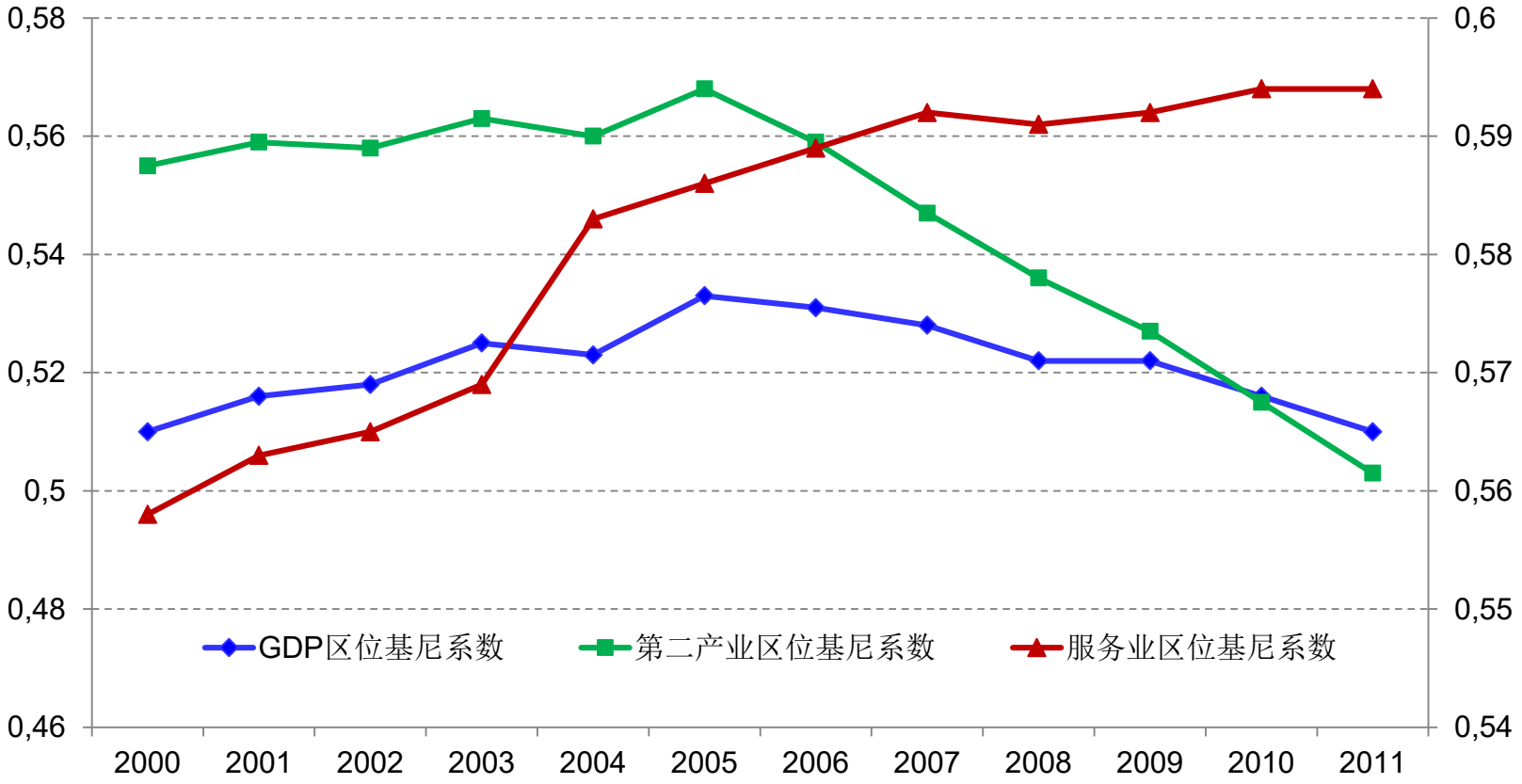
Growth Rate of Labor Supply (2000-2018)



Total dependency ratio (2000-2017)



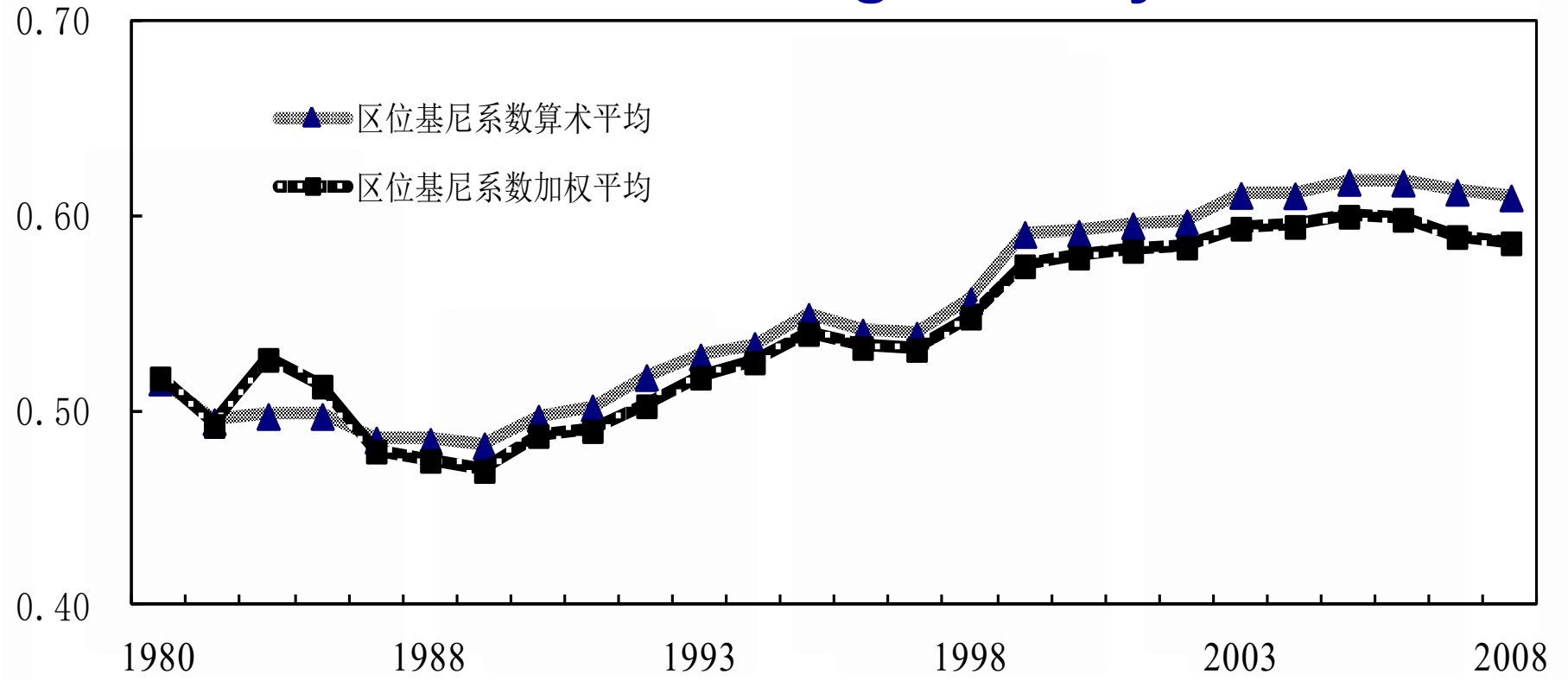
Industrial Distribution



注：GDP和第二产业的区位基尼系数是主坐标轴，服务业的区位基尼系数是次坐标轴。

2000—2011年中国地级及以上城市区位基尼系数变化趋势

The Trend of Geographical Agglomeration of Manufacturing Industry



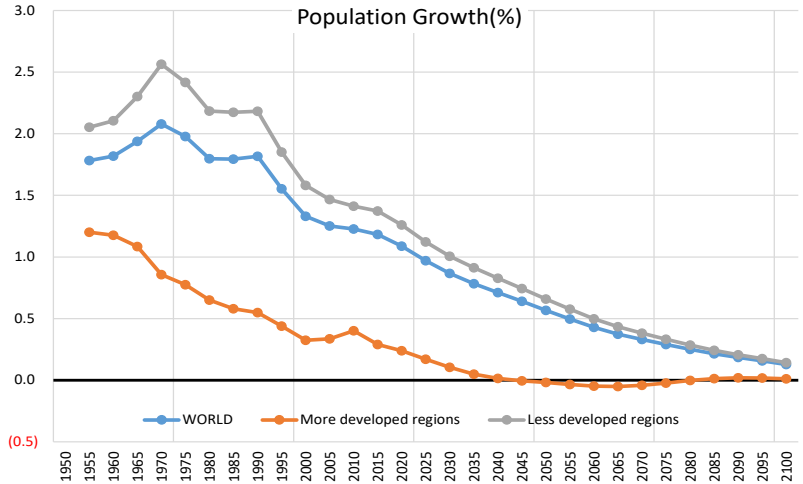
1980-1991，我国制造业地理集聚度呈现一定的下降趋势，区位基尼系数的加权平均值从1980年的0.517下降到1991年的0.490；

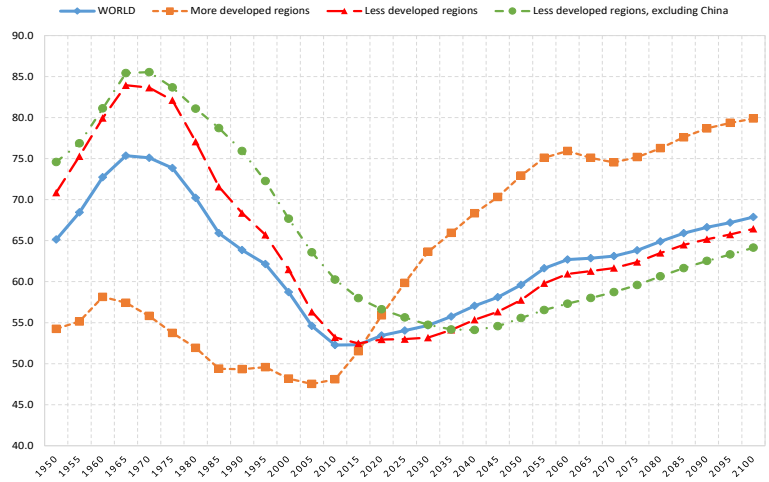
1992-2005年制造业地理集聚度上升明显，区位基尼系数的加权平均值从1992年的0.503上升到2005年的0.6；

2005年后我国制造业地理集聚度呈现一定下降趋势，区位基尼系数的加权平均值从2005年的0.6下降到2010年的0.587

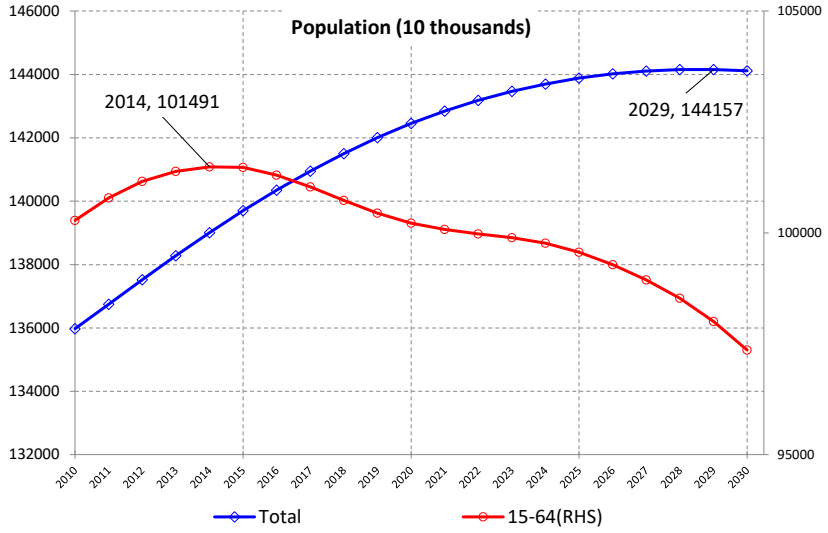
The Pressure of China's Economic Transformation

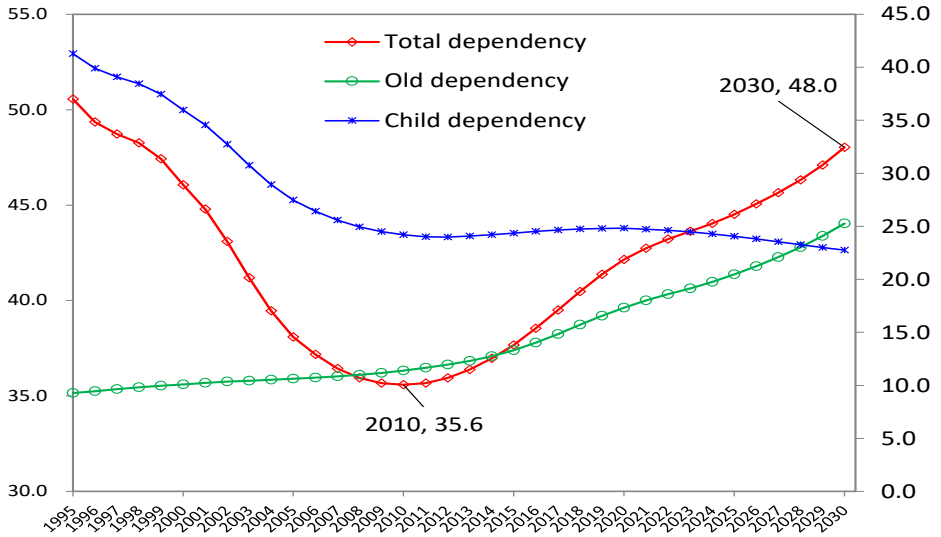
- **The continuing low-speed growth of the global economy has weakened the external dynamics of China's economic growth**
  - The structural contradictions in some major economies have not yet been resolved fundamentally
  - From the point of long- cycle of economic growth, the global economy will gradually return to the normal growth trajectory led by the new technological revolution.
  - The slowdown of global population growth (the average annual decline from 1.3% in 1980 ~ 2014 to 0.5% in 2015 ~ 2050) and the aging population (the average annual growth rate of the working-age population has declined from 1.7% in 1980 ~ 2014 0.3% between 2015 and 2050) will become an increasingly major drag on global economic growth.





Fast-ageing





Data source：UN

The Pressure of China's Economic Transformation

- **Factor prices have risen sharply, and China's low-cost competitiveness has declined.**

  - **The peak of China‘s working-age population has arrived, it has reached the “Lewis turning point” and the labor cost is on the rise. The most obvious is that the rate of wage increase for migrant workers has accelerated substantially.The annual average actual wage growth rate in 2008-2012 is 14.4%, which is more than double that in 2001-2007**

  - **the price of land is rapidly rising. Before 2007, the price of industrial land basically remained at 400-500 CNY / square meter, it rose rapidly afterwards and has nearly doubled by the end of 2017**

The Pressure of China's Economic Transformation

- **The population aging is accelerating, the total dependency ratio is falling instead of rising, and it will be hard to sustain for a pattern of high savings rate and large investment**
  - **The younger population structure has supported China's high savings and large investment over the past few decades.**
  - **The savings of the elderly population is lower than that of the young adults. The aging of the population will bring down the savings rate of the residents**
  - **The aging of the population will also increase the government's burden of public expenditure.**
- **The population of China will be aging more and more. The old age dependency ratio will rise rapidly from 13. 3% in 2015 to 25. 3% in 2030.**
- **The total dependency ratio is accelerating from the previous trend of declining and the lowest percentage of 35. 6% in 2010, up to 48% in 2030.**

The Pressure of China's Economic Transformation

- **As it is getting closer to the cutting edge of technology, the late-mover advantage in technological progress has weakened.**
  - **In general, catching-up countries, far from the cutting edge of technology, can achieve catch-up in the aspect of technology with the introduction of technology and technological imitation in a relatively short period of time.**
  - **As the level of development improves, the space for technological catch-up becomes smaller and the pace of technological progress continues to slow down**
    - in 1960-1973, Japan's average annual growth rate of total factor productivity reached 5.58%, but declined sharply afterwards.
    - in 1980-1990, Souh Korea experienced a growth rate of total factor productivity of nearly 3%, which dropped below 1% afterwards.

Problems in the Chinese economy

- **Low factor utilization efficiency and efficiency of economic growth**
  - **High economic growth rate mainly depends on the massive investment of low-cost factors of production (including labor, capital and land), the Intensive utilization of factors is not far from high, and the allocation of allocation has not been optimized**
    - **The efficiency of capital investment is decreasing year by year, and the incremental capital-output ratio is increasing year by year, which is obviously higher than the international level**
    - **In recent years, an incremental 1 CNY of GDP requires an additional investment of about 5 CNY, which is significantly higher than that of Japan and South Korea at the same stage of development (only 3 CNY in Japan, 1961-1970 and South Korea, 1981-1990).**

Problems in the Chinese economy

- **The various large disparity and the non-inclusiveness of economic development**

  - **With the rapid development of economy, the gap between regions, urban and rural areas and populations has been expanding. Although it has declined in recent years, it is still at a high level**

    - the Gini coefficient of Chinese residents maintains higher than 0.4, next only to Latin American countries; if the gap between properties owned is taken into account, the issue of unbalanced distribution is even more prominent

  - **This gap is not only reflected in income but also in terms of the level of basic public services enjoyed and opportunities for participation in development**.

    - the average years of education in the eastern region was approaching 9 years in 2010, compared with only 7.5 years in the western region.
    - The average life expectancy in the eastern region was over 77, while that in the western region is only about 72

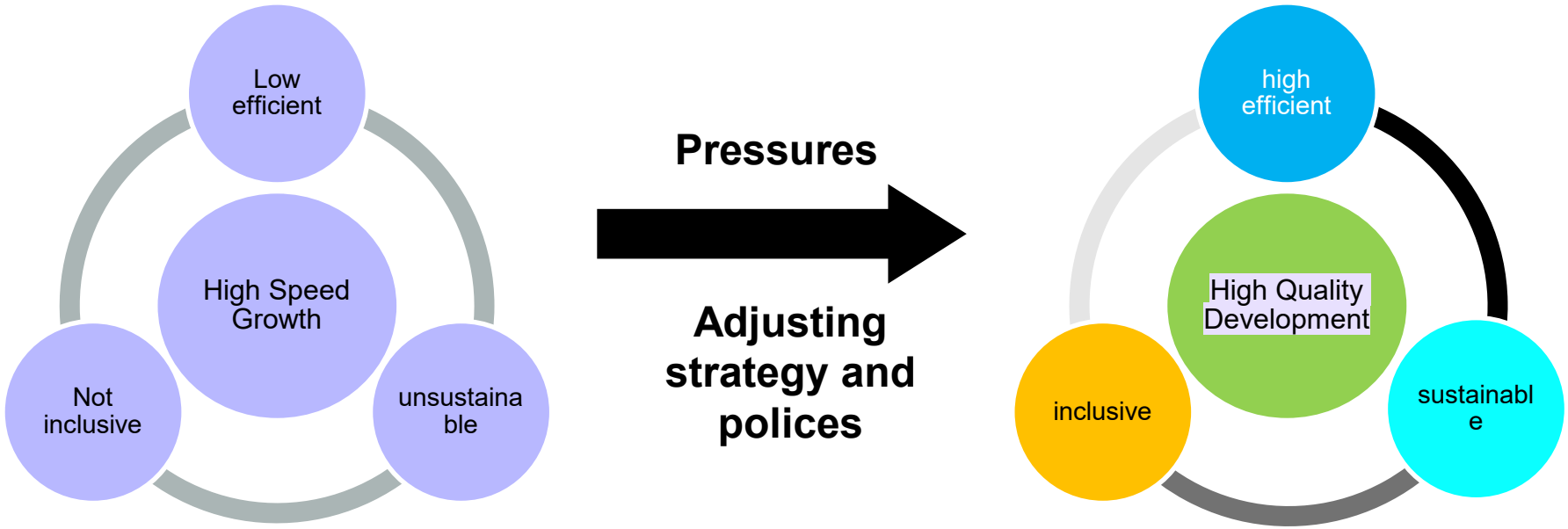
Problems in the Chinese economy

- **The rapid deterioration of ecological environment and insecure sustainability of development**

  - **Although the utilization efficiency of resources has improved over the years, the externalities of resources and environment have not been well internalized, the industries with high energy consumption and high pollution have developed rapidly, the economic structures is not clean enough, the emission of pollutants grows rapidly and environmental damage is increasing**.

    - According to the latest WHO Global Urban Ambient Air Pollution Database in 2016, 4 of the top 20 cities in the world with the highest PM2.5 concentrations are in China, namely: Xingtai, Baoding, Shijiazhuang and Handan, which are all located in Hebei Province. Beijing ranked 11th in China and 56th in the world at a concentration of 85 micrograms of PM2.5 per cubic meter.

China's economic transformation



DRCCGE Model

- Based on 2012 China Input-Output Table
- The model includes 34 sectors of the national economy (1 agricultural sector, 23 industrial sectors, 1 construction sector and 9 service sectors)
- 10 groups of residents (5 groups of urban residents, 5 groups of rural residents, grouped by resident income)
- 5 factors of production (agricultural labor, production workers, skilled workers, capital, land)

Scenarios Design

- The baseline scenario is designed based on the historical trend of China's economic development and the changes in the objective conditions to be faced in the future.
- Based on the baseline scenario, 3 comparison scenarios (innovative growth scenario, inclusive growth scenario and sustainable growth scenario) on the basis of the 3 different aspects of China's economic transformation aforementioned (improving efficiency, inclusiveness and sustainability), focusing on the impact of a series of policies that promote economic transformation in all the 3 aspects.
- Finally, a comprehensive scenario is designed, considering all the impact of the policies of the 3 comparison scenarios designed.

Baseline (BAU)

- Population and labor are set exogenously based “World Population Prospects: The 2017 Revision”
- Urbanization rate is set exogenously, increasing by 0.9 percentage points from 2018-2020 and 0.7 percentage points from 2021-2030 annually.
- The supply of agricultural land is fixed.
- All taxes and transfer payments remain unchanged points from 2018-2020
- Keeping current account in balance in 2020-2030
- Growth of governmental consumption, exogenous
- Assuming that the growth rate of TFP from 2018-2020 will be lower increasingly, around 1-2% (lower than the average growth rate in past three decades)
- Bias of technical progress and the changes of rate of intermediate input, exogenous

Innovative Growth Scenario (ING)

- The growth rate of skilled workers increase by 0.4 percentage points faster than the baseline scenario.
- Tax on service will be lowered by 20% gradually from 2018 to 2030.
- The overall TFP growth rate is assumed to be 0.1 percentage points faster than the baseline scenario.
- The TFP growth rate of service is 0.5 percentage points higher than the baseline scenario on average from 2018 to 2030.

Inclusive Growth Scenario (ICG)

- From 2018 to 2030, the urbanization rate will increase by 0.2 percentage point annually, relative to the baseline scenario. The agricultural laborers will shift 1-2million people annually more than the baseline scenario.
- The growth rate of government public service expenditures will be 1-2 percentage points higher than the BAU scenario.
- The average consumption propensity will increase by about 5 percentage points due to better public service (social security) and more middle-income people.
- Raising the government's transfer payments to poor people from 2018 to 2030 by 10% to 15% higher than the baseline scenario.
- Reducing income tax on low-income and middle-income households by about 20% gradually.

Sustainable Growth Scenario (SSG)

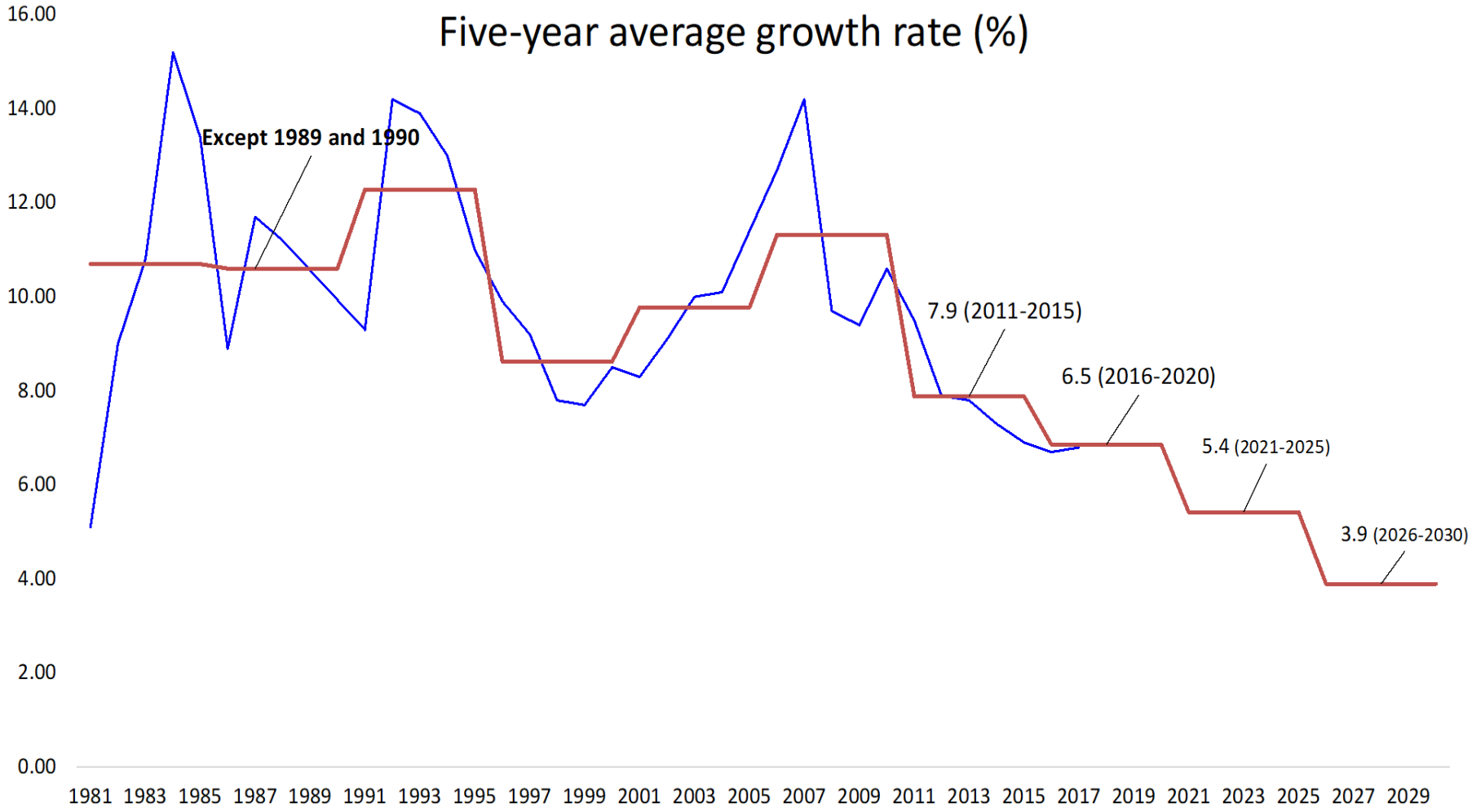
- Non-fossil energy accounts for about 20% of primary energy consumption in 2020;
- Energy efficiency will be 0.5 percentage points higher than the baseline scenario from 2018 to 2030.
- The carbon tax began to be levied in 2018 at a rate of 50 yuan per ton of CO2 gradually increased to 150 yuan per ton of CO2. (Carbon pricing in 2012)

Comprehensive Scenario (ALL)

- Covering all policies/assumptions in the above three scenarios (ING, ICG and SSG).

Baseline (BAU)

China's potential economic growth rate in the future (Baseline scenario)



The weakening of the impetus of traditional economic growth will lead to a continued sharp decline in the pace of China's economic growth

- **The drop in savings rate resulting from changes in the age structure of the population (mainly population aging) is the most important driver of the decline in China's economic growth in the context of the baseline scenario**

  - Historical data shows that the average annual growth rate of capital stock in China over the past 3 decades has exceeded 10%, boosting an average annual economic growth of nearly 6% and contributing nearly 60% to the economic growth.
  - Compared with 2011-2015, the real growth rate of investment in 2015-2020 and 2020-2030 will decline by 4-6 percentage points, resulting in an average GDP growth rate falling 2 and 3 percentage points respectively.

The weakening of the impetus of traditional economic growth will lead to a continued sharp decline in the pace of China's economic growth

- **The decline in the speed of technological progress and the rate of increase in efficiency is also an important cause for the decline of China's future economic growth in the context of the baseline scenario**
  - **In the context of the baseline scenario, China is getting closer to the cutting edge of technology and the rate of technology catching-up will continue to slow down**
  - **The results of the model simulation show that as a result of this decline in TFP, the average annual growth rate of China's GDP will decline by more than 1 percentage point compare with that in the past.**

The weakening of the impetus of traditional economic growth will lead to a continued sharp decline in the pace of China's economic growth

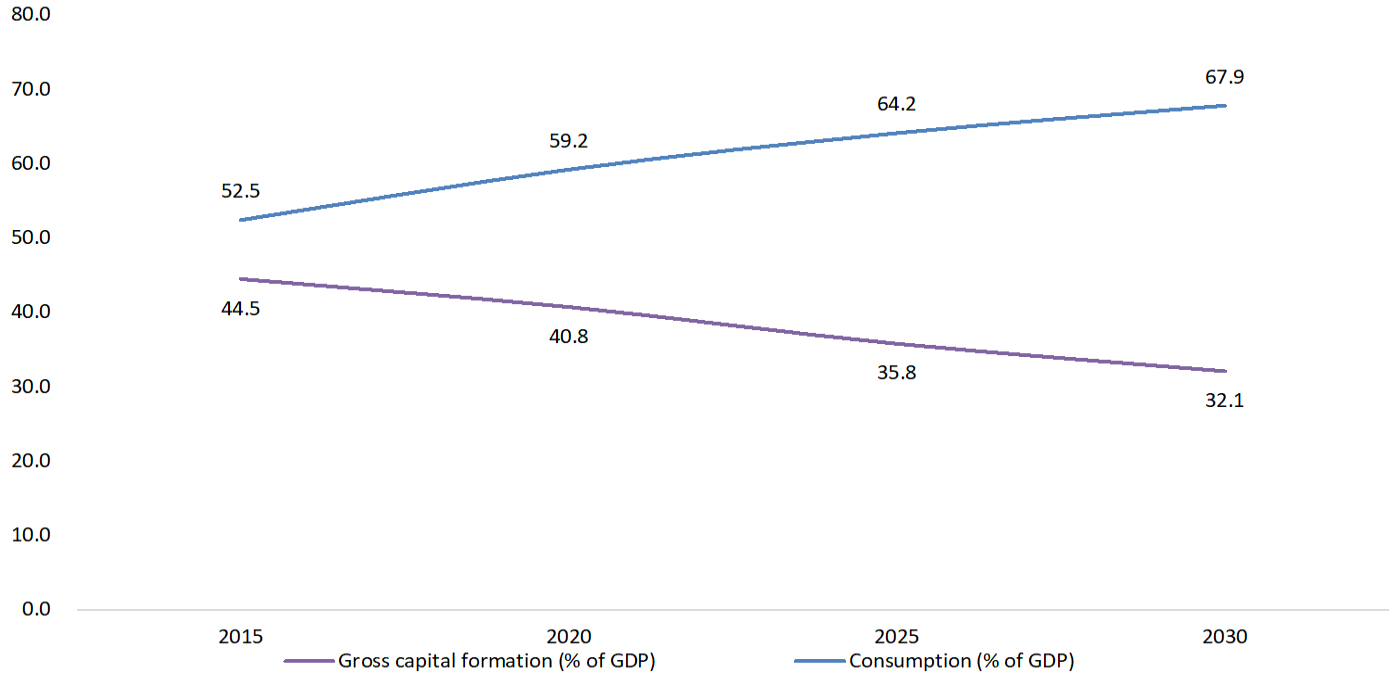
- **The decline in the labor supply caused by changes in the total population and age structure of the population will also drag down China's economic growth**
  - According to the UN population forecast, the working-age population in China will continue to decline. Compared with that in 2015, the working-age population in China will drop by 13 million and 41 million respectively in 2020 and 2030. Considering that the labor force participation rate in China is already high, the decline in the working-age population will make the decline in supply of China's labor force in the future continue to expand.
  - By 2025-2030, the average annual growth rate of employment will decline to -0.4%. As a result, the future economic growth rate will drop by about 0.2 percentage points compared with that in the past.

The weakening of the impetus of traditional economic growth will lead to a continued sharp decline in the pace of China's economic growth.

- **The supply-side impetus of economic growth in the context of the baseline scenario still depends mainly on the input of capital, and the contribution of technological progress to economic growth is still not high.**
  - According to the simulation results, the growth rate of capital accumulation is declining, but it is still the most important contributor to economic growth and remains at 60% -70%. Although the contribution of technological progress to economic growth has slightly increased due to the rapid decline in the share of labor force contribution, its contribution to economic growth has not risen substantially due to the large decline in TFP.

In the future, there will be even greater changes in China's economic structure

- **The investment rate will continue to fall and the consumption rate will continue to rise**
  - in the context of the baseline scenario will continue to decline from 44.5% in 2015 to just over 30% in 2030.
  - In contrast, the consumption rate will rise from 52.5% in 2015 to over 65% in 2030.



In the future, there will be even greater changes in China's economic structure

- **The proportion of agriculture and the secondary industry will continue to decline, and the proportion of the service industry will continue to rise rapidly**

  - **The role of Engel's law and other factors will make the share of agriculture continue to decline**

    - the Engel coefficient of consumption of residents in the next 5-15 years will drop by about 15 percentage points. Concomitantly, the share of agriculture will continue its declining trend over the past 3 decades, from 9. 5% in 2015 to about 3% in 2030.

  - **The slowdown in investment growth and the downturn in export demand will inhibit the sustained and rapid growth of the manufacturing sector, making the proportion of the secondary industry continue to decline**

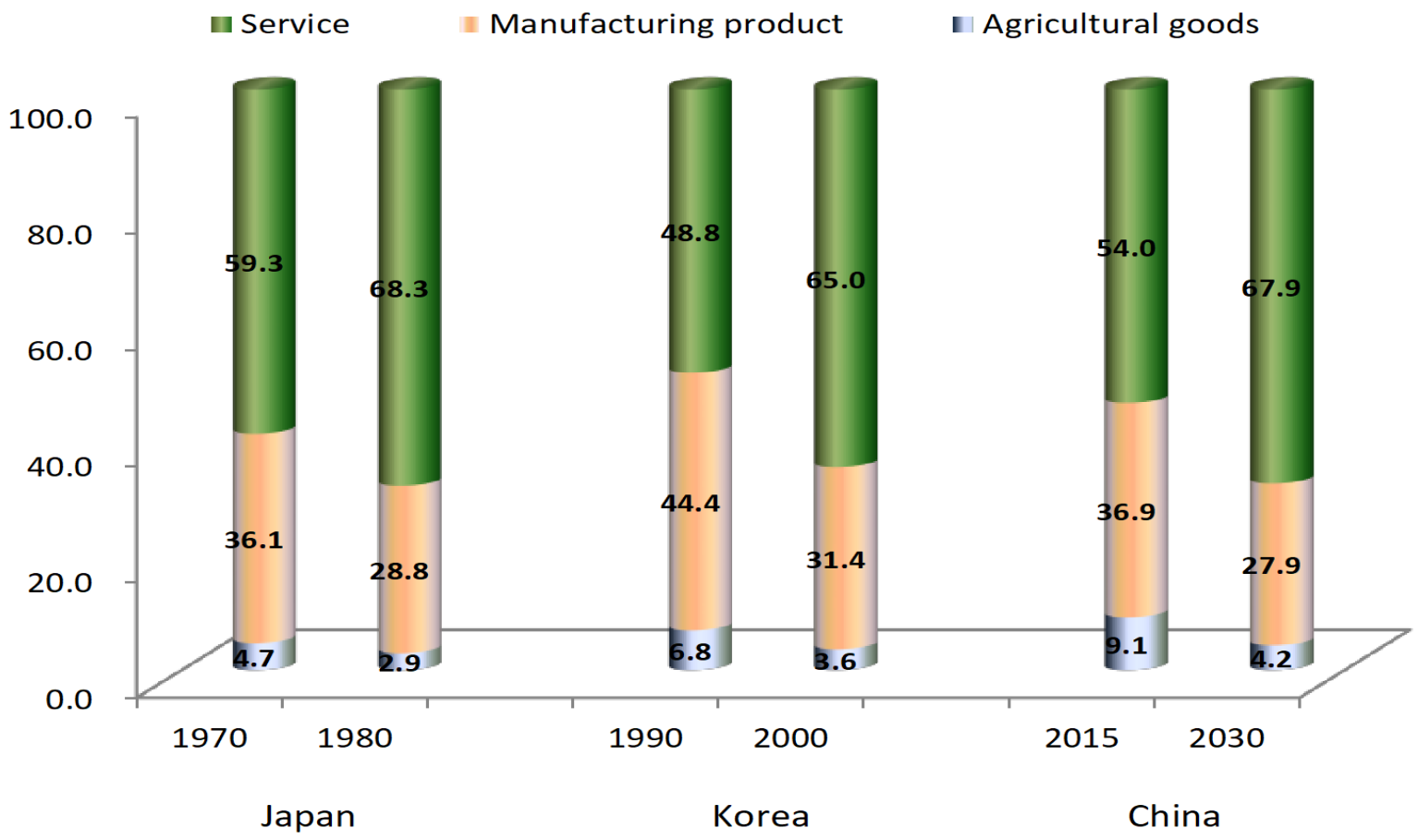
    - when other conditions remain unchanged, if the growth rate of investment demand declines by 1 percentage point, that of the secondary industry will decrease by 0.3-0.4 percentage point. If the growth rate of export demand declines by 1 percentage point, that of the secondary industry will decrease by 0.3 percentage point.

In the future, there will be even greater changes in China's economic structure

- **The proportion of agriculture and the secondary industry will continue to decline, and the proportion of the service sector will continue to rise rapidly**

- **The upgrading of the consumption structure and the faster rise of service prices will push the proportion of the service industry to continue to rise**

  - Income growth, urbanization and population aging will all contribute to changes in the consumption structure
  - the demand for services will grow even faster, which will in turn drive the rapid development of the service industry
  - According to the model simulation, the prices of the service industry will rise at a rate about 2 percentage points faster than that of the manufacturing industry in the next decade
  - The combined effect of these two factors will lead to a continuous increase in the GDP of the service sector from 49% in 2015 to 66% in 2030.

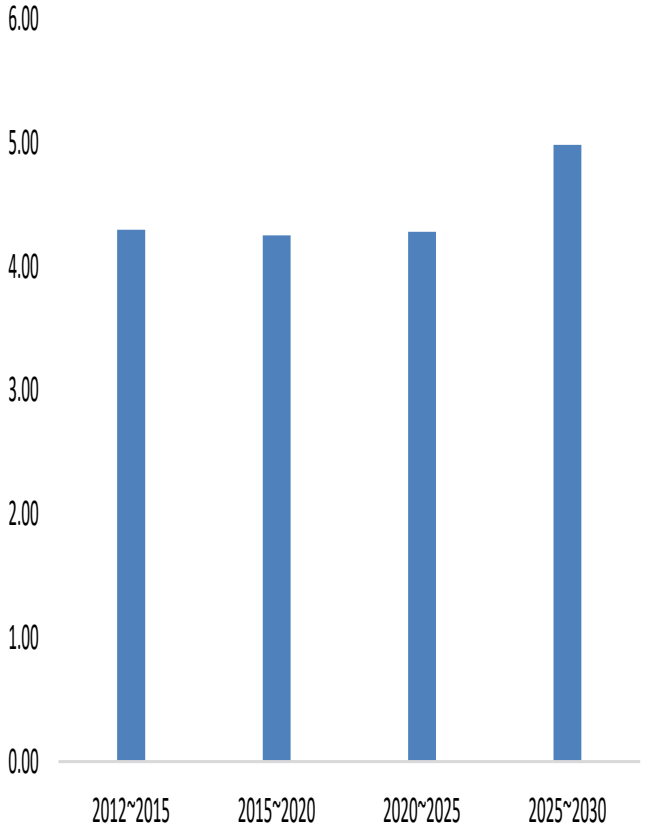


Composition of GDP of China, Japan and South Korea (%)

The problems in the existing model of development in the context of the baseline scenario have not been solved

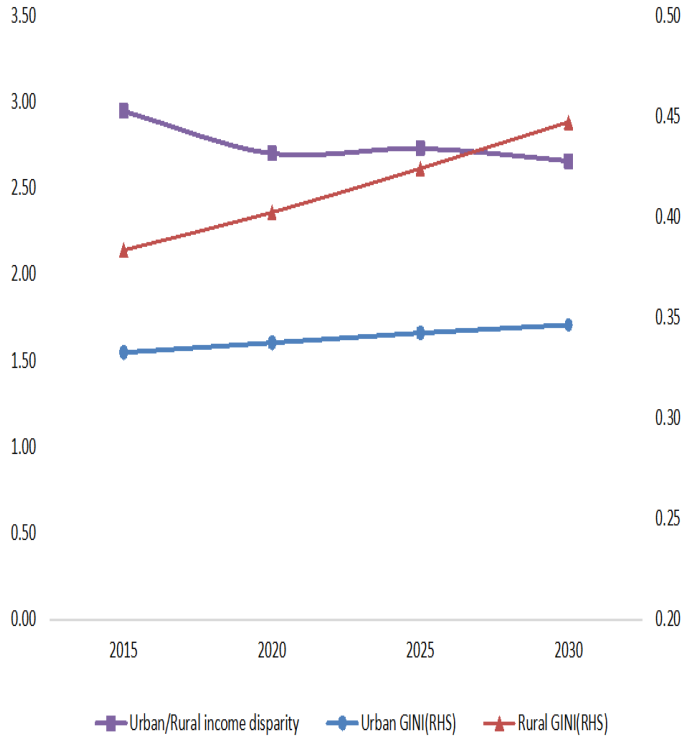
- **The efficiency of economic growth has not improved or even worsened**

- **Due to the sharp slowdown in investment growth and the slowdown of capital deepening, the growth rate of labor productivity will also drop sharply**
  - The growth rate of labor productivity in 2025-2030 will be about 2% lower than that in 2010-2015
  - While the investment growth rate is declining, the investment efficiency also shows a downward trend due to the significant drop in the rate of technological progress and efficiency improvement.
  - **The simulation results show that the ICOR is about 16% higher than that in 2010-2015 in the context of the baseline scenario by 2025-2030 (see Figure). This means that more capital is required to be invested to create the same output.**



The problems in the existing model of development in the context of the baseline scenario have not been solved

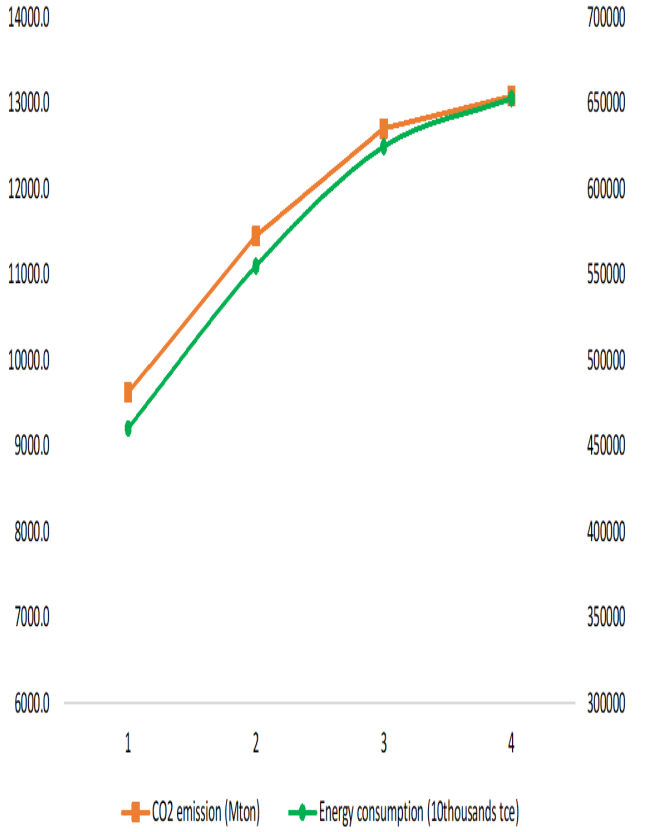
- **The income inequality has not been well improved**
  - **In the baseline scenario, as the urbanization rate further progresses, more rural population and labor force enter cities and non-agricultural industries, and the gap between urban and rural areas continues to show a downward**
    - The simulation results show that the ratio of income between urban and rural residents will decrease by about 8% in 2030 compared with that in 2015.
  - **The income disparity between urban and rural residents does not show any downward trend. The main cause is that with the industrial upgrading, the growth rate of traditional labor-intensive industries declines faster and the wage of high-quality labor force rises faster than that of the low-skilled labor force.**
    - the income disparity among rural and urban residents will increase to some extent in 2015-2030, but the income disparity among rural residents has risen more rapidly.



The problems in the existing model of development in the context of the baseline scenario have not been solved

- **The pressure on resources and the environment continues to show an upward trend**

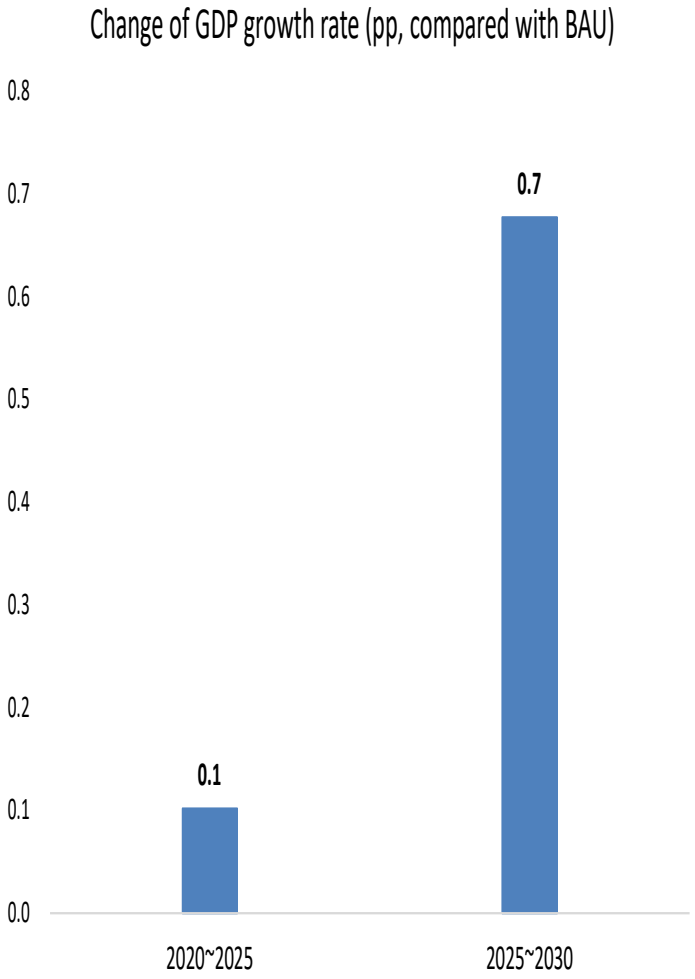
  - The intensity of energy consumption and CO_2 emissions will continue to show a downward trend in the future due to the structural changes in consumption and the declining investment growth
    - China's energy consumption intensity and CO2 emission intensity will drop 30-40% in the next 10-15 years
  - Since investment is still the most important driving force for economic growth, the structure of energy-intensive industry has not been well transformed and the total energy consumption and CO_2 emissions continue to grow due to the fact that energy-using technologies and efficiency improvements are not accelerating.
    - China's total energy consumption and CO_2 emissions will increase by 40% and 30% respectively over the next 10-15 years in the context of the baseline scenario. **In other words, the peak of carbon emissions will not appear by 2030.**



Innovative growth scenario

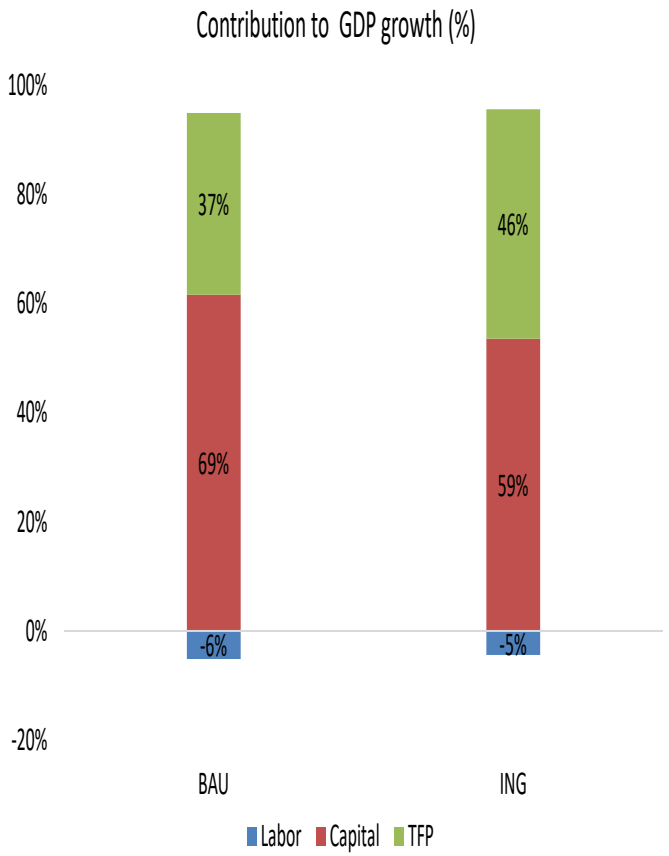
Economic growth is faster and the well-being of residents is improved

- Improvements in technology and efficiency are significantly accelerated compared with the baseline scenario. The most direct result is that economic growth is faster.
  - In comparison with the baseline scenario, the average growth rate of China's economic growth in 2020-2030 is 0.4 percentage points higher.
- Due to faster technological progress and efficiency improvement, residents' incomes and expenditures have been raised to varying degrees.
  - The residents' welfare level in 2030 in the context of the innovative growth scenario is 6.8% higher than the baseline scenario



The driving force structure of economic growth is improved

- To a certain extent, the unfavorable effects of shrinking inefficient technology catching-up delay in the decline of TFP
  - he growth rate of overall TFP in 2020-2030 in the context of the innovative growth scenario with the effect of various policies is about 0.4 percentage point higher on average annually than the baseline scenario.
- The contribution of technological progress and efficiency improvement to economic growth is also significantly higher than the baseline scenario.
  - in 2025-2030, the contribution to economic growth of the TFP improvement will be nearly 50%, up 10 percentage points from the baseline scenario.



The driving force structure of economic growth is improved

- The innovative growth scenario will enhance the efficiency of the service industry by promoting the reform of the service regulation and opening up of the service industry.
  - the average growth rate of China's service industry in 2020-2030 will be 0.6 percentage point higher than the baseline scenario under the effect of this series of policies
  - If measured at a constant price, the proportion of China's service industry to GDP will be about 3 percentage points higher than the baseline scenario in 2030.

Economic efficiency improves significantly

- both labor productivity and capital efficiency have improved over the baseline scenario in the context of innovative growth scenario
  - labor productivity in 2030 in the scenario of innovative growth scenario is about 3% higher than the baseline scenario.
  - The ICOR is about 16% lower than the baseline scenario, which means that a unit of GDP in 2030 in the context of innovative growth scenario will require a capital investment 16% less than the baseline scenario
- the inclusiveness and sustainability of economic growth have not been well promoted
  - the income disparity between urban and rural areas in the context of the innovative growth scenario has even expanded due to the rapid growth of urban service industry which enhances the income of urban residents
  - the income disparity of urban and rural residents continues to show an upward trend as in the context of the baseline scenario.
  - the future trend of China's total energy consumption and carbon dioxide emissions has not changed.

Inclusive growth scenario

The inclusiveness of China's economic development has obviously improved

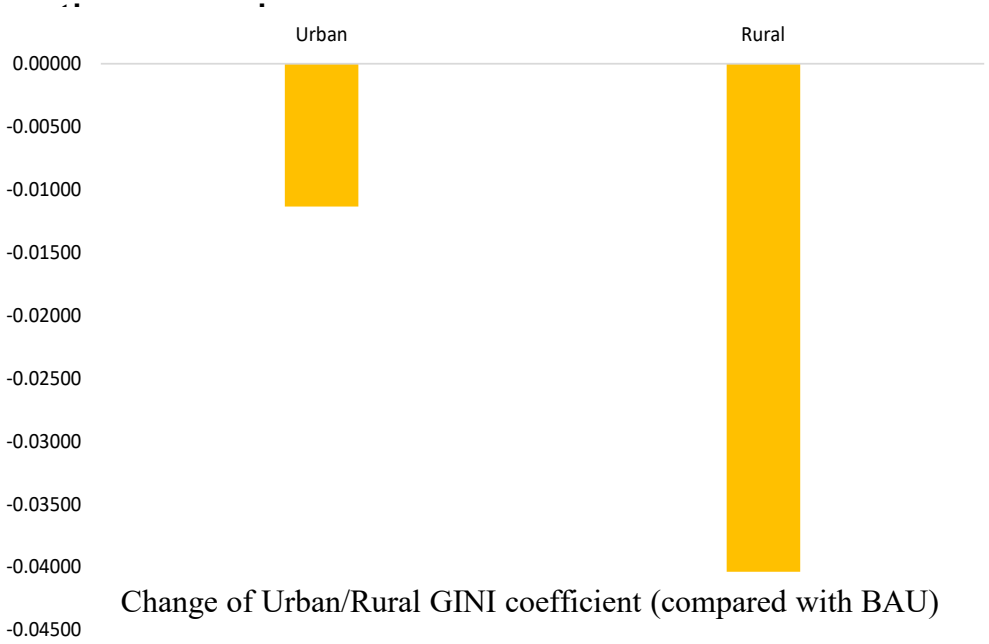
- **More residents live in cities and more labor force work in the non-agricultural sector**
  - In comparison with the agricultural sector, productivity in the industrial and service sectors is higher, and thus the labor force employed in industry and service sectors receives higher remuneration for labor;
  - Compared with rural areas, urban areas have higher productivity and better public services due to the agglomeration effect, so the level of living of urban residents and the public services they have are also higher.
- China's urbanization rate will increase by about 3 percentage points in 2030 over the baseline scenario.
- This means that the population living in cities in 2030 will be 40-50 million more than in the context of the baseline scenario.

The inclusiveness of China's economic development has obviously improved

- **Lower income disparity between urban and rural residents**
  - As more agricultural labor force and rural population are transferred to non-agricultural sectors and cities, The combined effect of various factors will speed up the income growth of rural residents and reduce the income disparity between urban and rural residents accordingly.
  - more rural residents will have non-agricultural income
  - The decline of surplus agricultural labor force also makes the marginal output increase faster
  - Government subsidies for the poor will also improve the income level of rural residents
- the income of agricultural labor force in 2030 in the context of the inclusive growth scenario is about 20% higher than the baseline scenario
- per capita income of rural residents will increase by more than 15% over the baseline scenario.

The inclusiveness of China's economic development has obviously improved

- **Fairer distribution of income in urban and rural areas**
  - income distribution of urban and rural households also improves in the context of the inclusive gr
    - income disparity (Gini coefficient) of u 3% and 9% respectively in the contex the baseline scenario.
  - The further decline in rural in promotion of poverty reductic low-income groups.



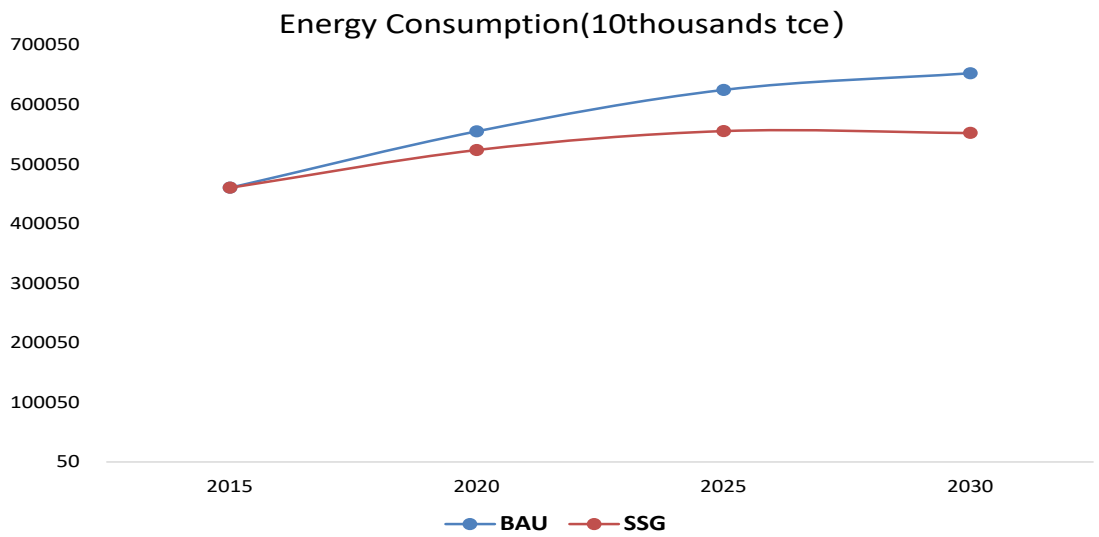
Change of Urban/Rural GINI coefficient (compared with BAU)

Sustainable growth scenario

Lower energy consumption

- energy efficiency will significantly improve under the effect of a series of a series of policies
- with the introduction of carbon tax, the economic structure will also be transformed towards a cleaner development

- the energy consumption per unit of GDP in 2030 is about 16% lower than the baseline scenario
- the total energy consumption will be reduced by about 1 billion tons over the baseline scenario.



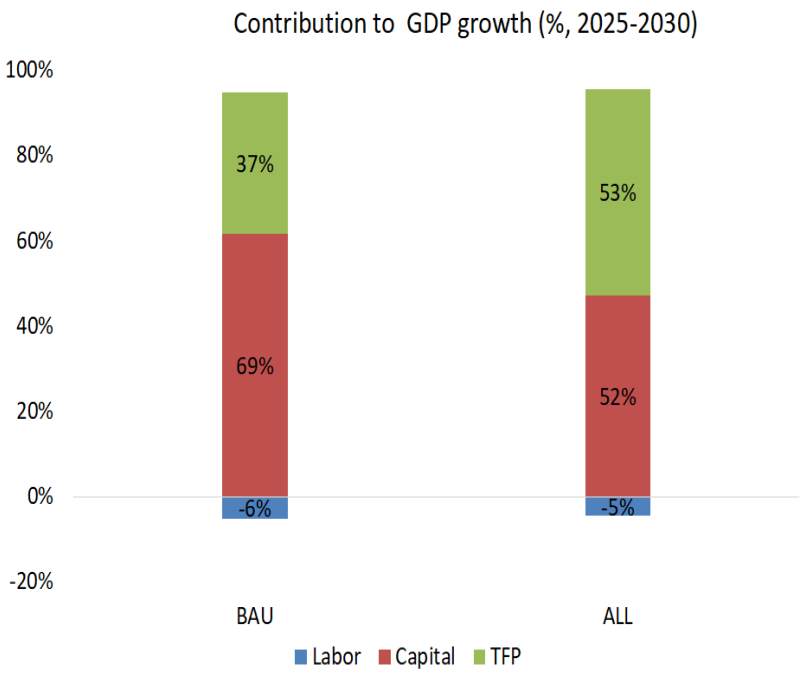
Lower carbon emissions

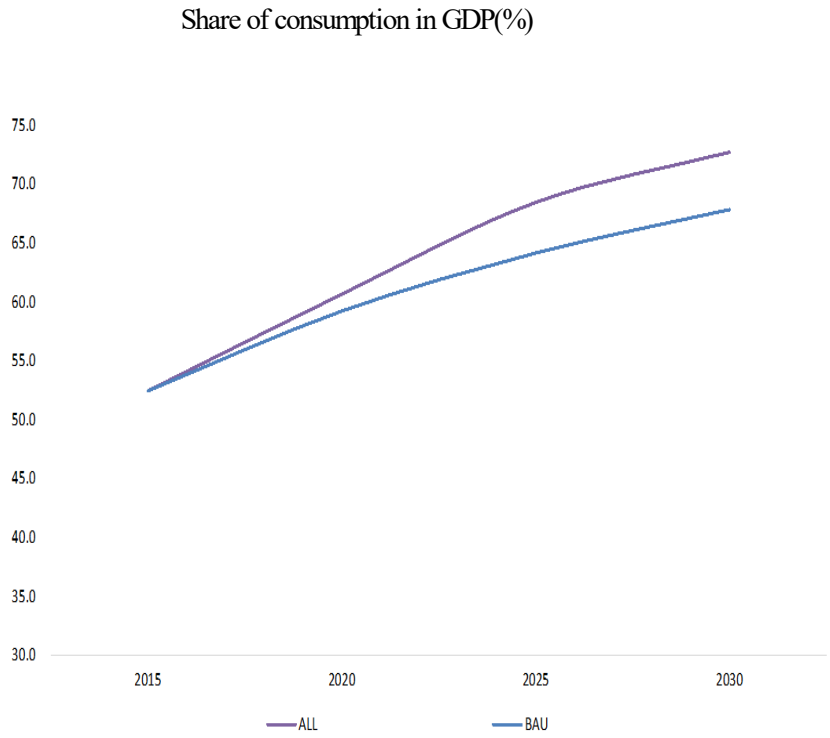
- Declining energy use in the context of sustainable growth scenario can also lead to declining pollution and carbon emissions.
- Meanwhile, the introduction of carbon tax will also adjust the structure of energy use and make greater use of clean low-carbon energy.
  - in the context of the sustainable growth scenario in 2030, the use of coal is reduced by nearly 20% compared with the baseline scenario while the use of natural gas is increased.
  - the emission of carbon dioxide per unit of GDP is 16% lower than the baseline scenario in 2030 in the context of the sustainable growth scenario.
  - Carbon dioxide emissions are 1.8 billion tons less than the baseline scenario.
- carbon emissions will peak by 2030 in the context of the sustainable growth scenario.

Comprehensive scenario

The driving force structure of economic growth changes, and the efficiency of economic growth has obviously improved

- **Technological progress and efficiency improvements will be the most important source of economic growth**
  - technological progress and efficiency improvements will contribute more than 50% to the economic growth in 2030, 1 percentage point higher than the contribution of capital accumulation, and become the true primary source of economic growth
- **The growth of consumer demand will contribute more to economic growth**
  - the proportion of consumption in the context of the comprehensive scenario in 2030 will exceed 70%, an increase of nearly 20 percentage points from 2015 and about 5 percentage points higher than the baseline scenario


Contribution to GDP growth (%, 2025-2030)
100%
80%
60%
40%
20%
0%
-20%
37%
69%
-6%
53%
52%
-5%
BAU
ALL
Labor
Capital
TFP


Share of consumption in GDP(%)
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
2015
2020
2025
2030
ALL
BAU

The driving force structure of economic growth changes, and the efficiency of economic growth has obviously improved

- **The service industry will become the main driver of economic growth**
  - **In the context of the comprehensive scenario, the consumer demand will grow faster due to factors such as the upgrading of consumption structure, the improvement in income distribution and the improvement in the efficiency of the service industry**
  - **Taking into account the differences in technological progress making the prices in the service industry rise faster, the proportion of the service industry in GDP will rise faster**
    - in 2030 will close to 70%, an increase of nearly 20 percentage points from 2015 and about 3 percentage points higher than the baseline scenario.

The driving force structure of economic growth changes, and the efficiency of economic growth has obviously improved

- **Corresponding with the shift of driving force for economic growth, the efficiency of economic growth will also be greatly improved**
- **Driven by faster technological progress and efficiency improvement, both labor productivity and capital efficiency will be improved to some extent**.
  - the labor productivity in the context of the comprehensive scenario in 2030 will increase by nearly 4% over the baseline scenario
  - The ICOR will be reduced by nearly 30% from the baseline scenario, which means that to create the same GDP in the context of in the context of the comprehensive scenario requires a capital investment 30% less than the baseline scenario
  - compared with consumer goods, investment products are mostly energy-intensive products; compared with the service industry, the intensity of energy consumption in manufacturing industry is also greater. Therefore, the growth in consumption and the service industry, which contributes a lot to the economic growth, will also increase energy efficiency and reduce pollution intensity.

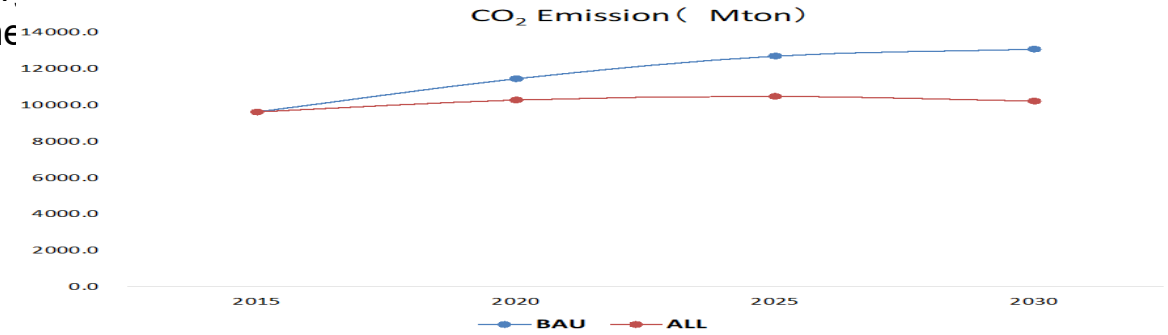
The inclusiveness of economic development obviously increases

- **Similar to that of the inclusive growth scenario, with the elimination the barriers to the mobility of urban and rural labor force and population, there will be more residents living in urban areas and more labor force in non-agricultural industries.**
  - in 2030, the proportion of labor force in the agricultural sector of the total will be 4% lower as compared to the baseline scenario
- **As more agricultural labor force and rural population are transferred to non-agricultural sectors and cities and the government increases subsidies to the poor, the income level of rural residents will be higher and the income disparity between urban and rural residents will be narrowed correspondingly.**
  - the ratio of urban-rural income in the context of the comprehensive scenario will drop from the current 2.7 to about 2.0 in 2030; in 2030, this gap will be more than 20% lower than the baseline scenario
- **Influenced by the policies of poverty alleviation and tax adjustment as well as government subsidies, the income distribution of urban and rural residents also improves.**
  - income disparity (Gini coefficient) of urban and rural households in 2030 decreases by 3% and 8% respectively

The sustainability of economic development is obviously strengthened

- **through straightening out the price formation mechanism of energy resources products, collecting carbon tax and a series of policies and measures to internalize external costs, we will promote the rational allocation of resources and improve the efficiency of resource utilization, thereby saving more energy and reduce pollution emissions.**

- there is a rather drastic drop in both the intensity of energy consumption and the emission intensity of CO2
- both the intensity of energy consumption and the emission intensity of CO2 in the context of the comprehensive scenario in 2030 will fall by more than 50%；
- Compared with the baseline scenario, both the intensity of energy consumption and the emission intensity of CO2 in the context of the comprehensive scenario in 2030 will fall by more than 20%
- In terms of total energy consumption and total pollutant emissions, both are expected to decline by about 20%
- with the improvement of energy efficiency and the adjustment of energy consumption structure, the peak of CO2 emissions will be reache



Main Conclusions and Policy Implications

- **The changes in the objective development environment at home and abroad are important impetuses for China's economic transformation**
  - **This transformation is not only reflected in the fact that the rate of economic growth will shift from a high growth rate of about 10% in the past to a medium-speed growth rate of about 5%, but also that the economic structure will shift towards "more consumption and more service industries".**

Main Conclusions and Policy Implications

- **The changes in the objective development environment at home and abroad can not directly address the problems of China's low-quality economic development**
  - **In the absence of relevant policies, the changes in the objective environment can not address the problems facing China's economic development.**
  - **The efficiency of economic growth does not rise due to the declining growth rate and structural change.**
  - **The situation of income inequality does not disappear naturally due to the growth of income.**
  - **The pressure on resources and environment does not decrease due to the slowdown of growth**

Main Conclusions and Policy Implications

- **To have a successful transformation of China's economy is to take comprehensive measures to solve the problems in the aspects of efficiency, inclusiveness and sustainability in the context and conditions of new domestic and international development and promote the development of high quality**
  - **The results of the model show that to promote China's economic transformation, it is necessary to increase investment in innovation, create a better ecological environment, eliminate obstacles to the free flow of factors of production and improve the efficiency of factor allocation**

Thank you very much !