Initial Analysis of China's Industrial Economy Planning
From the 14th Five Year Plan

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Abstract. The 14th Five-Year Plan for China National Economic and Social Development and the long range objectives Through the Year 2035 were adopted at the fifth plenary session of the 19th CPC Central Committee which closed in October. China will pursue innovation-driven development and shape new development advantages, the country will uphold the central role of innovation in its modernization drive and take self-reliance in science and technology as strategic underpinning for national development. All industries in China are facing a new situation of industrial transformation and upgrading. During this period, some new industries will also be born. Therefore, new industrial planning will become more important. This will play an important role in the development of China's industrial economy in the future.

1. Introduction

In recent years, the prevalence of international unilateralism has made the trend of anti globalization more obvious. Especially under the influence of the epidemic situation, the global economy will usher in a new pattern. In this context, the global industrial division of labor and trade pattern is accelerating to reshape. In the 14th five year plan, China should focus on cultivating new economic growth points. Among them, digital economy, intelligent economy, biological economy, marine economy and green sustainable economy will become the top priority in the development[1].

2. Overview of Key Industry Economy Planning Types

2.1. Digital Economy

In 2020, China has become the world's second largest digital economy after the United States. After years of practice, big data, Internet of things, industrial Internet and cloud computing have become the powerful driving force for the development of China's digital economy. In 2020, the scale of global digital economy will exceed 18 trillion US dollars, accounting for about 20% of global GDP. Countries around the world will continue to accelerate the research and development of emerging technologies and continue to release digital economic dividends. The number of devices connected to the industrial Internet is expected to reach 10 billion by 2021. By 2025, the relevant industries will create more than 80 trillion US dollars of economic output value. It accounts for 60% of GDP growth, which accounts for about 35% of China's GDP. Therefore, digital economy should become an important force to lead the industrial transformation and upgrading of traditional industries. In the next 5-10 years, with the continuous upgrading of information infrastructure, the rapid
breakthrough of 5g and other network information technologies, the accelerated integration of information and communication technology with traditional industries, and the continuous increase of the demand for digital technology and economy by residents' consumption upgrading, the promotion of digital economy to economic development will continue to expand. China includes the Internet, big data, Internet of things, software and information services. The digital economy including business, digital creativity and e-commerce will continue to develop rapidly. It is estimated that by the end of the 14th five year plan, the scale of China's digital economy will be about 40-45 trillion yuan, accounting for more than 35% of GDP. In the next five to ten years, the role of digital economy in promoting economic development will continue to expand. This is accompanied by the rapid increase of 5G information technology, the rapid integration of information and communication technology, and the continuous increase in the demand for information and communication infrastructure. It is estimated that by the end of the 14th five year plan, the scale of China's digital economy will be about 45 trillion yuan, accounting for more than 40% of GDP.

2.2. Intelligent Economy

After 2020, the breakthrough of Artificial Intelligence (AI) technology will be more obvious. Its driving effect on the economy is also more significant. Among them, 3D printing technology, robot and intelligent manufacturing, virtual (augmented) reality, intelligent terminal, intelligent Internet connected vehicle and other fields have made major breakthroughs. Smart home and smart city have become the new fashion of people's life and urban development. Therefore, the intelligent economy will become an important force to promote the transformation and upgrading of the real economy. Therefore, the intelligent economy will become an important force to promote the transformation and upgrading of the real economy. Intelligent economy is accelerating the transformation and upgrading of China's economy and reshaping the international pattern of manufacturing industry. By 2022, the global AI market is expected to reach $4 trillion. By 2030, AI will boost global GDP growth by 15%, contributing 16 trillion US dollars to the world economy. Among them, China, North America and Europe are expected to be the biggest beneficiaries of AI. In 2030, the scale of China's artificial intelligence core industry is expected to exceed 1 trillion yuan, and the scale of related industries may exceed 10 trillion yuan. It can be seen that during the period of the "14th five year plan", the scale of China's intelligent economy core industry still needs to be expanded, and its driving role in economic and social development also needs to be improved. It can be foreseen that the application of intelligent economy in many fields is becoming deeper and deeper, including manufacturing, education, environmental protection, transportation, commerce, health care, network security and social governance[2]. In addition, the integration of intelligent economy and emerging industries such as high-end equipment manufacturing, aerospace, satellite and application, rail transit, marine engineering equipment, and high-end new materials are also deepening. All of these require us to invest more in the intelligent economy in the next five to ten years. At present, the scale of China's artificial intelligence and high-end equipment manufacturing industry is close to 4 trillion yuan. By the end of the "14th five year plan", the industrial scale of intelligent economy is expected to exceed 8 trillion yuan, accounting for more than 3% of China's GDP. The application of artificial intelligence in smart home, intelligent car, intelligent agriculture, intelligent security, intelligent health, intelligent robot, intelligent wearable devices and other fields will continue to expand.
2.3. Bio-Economy

At present, the global biotechnology is developing rapidly, and is gradually entering the stage of industrialization. Gene detection, gene editing technology, cell and gene therapy technology are increasingly improved. Biological industry has become one of the fastest growing and most active industries in the world economy. Biotechnology is leading to profound changes in agricultural production, industrial manufacturing, health care and other fields. The rapid development of biotechnology will bring great economic benefits to people and form the bio-economy. Since 2015, the global output value of biological industry has maintained a growth rate of more than 20%. Many countries have taken the biological industry as a new economic growth point. According to relevant research, the global output value of biotechnology will exceed 72 billion US dollars by 2025. Moreover, China's biological industry has developed rapidly, with an average annual growth rate of more than 12% in recent years. In 2020, the industrial scale has exceeded 5 trillion yuan. During the 14th Five Year Plan period, biotechnology will be further developed. These technologies include gene sequencing, synthetic biotechnology, liquid biopsy, cellular immunotherapy, biological big data, bio generic drugs, and bio manufacturing. This will also drive the rapid development of biomedicine, biological agriculture, biological manufacturing and other related biological industries. By 2025, the output value of biological industry is expected to exceed 10 trillion yuan, accounting for more than 3% of GDP.

2.4. Marine Economy

Ocean is a strategic space to support future development and an important engine of economic growth. According to the UN data, the global marine economy is now the seventh largest economy in the world. Its scale can reach about 2.8 trillion US dollars, and the global marine economic value is expected to reach 8 trillion US dollars by 2030. In recent years, China's marine GDP has exceeded 8 trillion yuan, accounting for 10% of GDP over the years. The ocean and its related industries have played a positive role in promoting national economic and social development. However, there are still some problems, such as the proportion of marine emerging industries is still not high, the added value of products is low, and the driving role of innovation needs to be strengthened. Therefore, the transformation and upgrading of marine industry is very necessary. This is to face the new development trend of international marine emerging industries and the overall requirements of national economic transformation and upgrading and high-quality development during the "14th five year plan" period. This requires us to vigorously develop new marine industries such as desalination and comprehensive utilization, marine renewable energy, marine drugs and biological products, so as to enhance the competitiveness in the international market. From this point of view, marine industry and marine economy are very important to China's economic development in the future. Therefore, driven by emerging marine technologies, the average annual growth rate of marine economy can reach 8%–10%. By 2025, marine GDP is expected to exceed 14 trillion yuan, accounting for about 10% of GDP.

2.5. Green Sustainable Economy

Green economy mainly includes new energy, energy conservation and environmental protection, new energy vehicles and other industries. In recent years, in response to the development trend of global climate change, the application scale of cleaner production technology has been continuing expand. In addition, the concept of sustainable development has been effectively promoted. For example, the conversion efficiency of solar cells has greatly increased to 28%, more than 10
percentage points higher than 10 years ago. However, the cost of using solar energy has dropped from US $8 per watt in 1990 to less than 15 cents in 2020, which accounting for only 1 / 50 of the original. According to the International Energy Agency, in 2020, the installed capacity of low-level global renewable energy will exceed 2200gw[3]. The number of off grid renewable energy users also reached 146 million. The proportion of new energy in global energy consumption has reached about 15%. Over the same period, the global energy conservation and environmental protection industry was about 1.4 trillion US dollars. The total sales volume of new energy vehicles exceeded 1.7 million, and the number of new energy vehicles exceeded 5 million. China's green economy is developing rapidly, with an overall scale of about 7 trillion yuan in 2019. Among them, the installed capacity of renewable energy power generation exceeded 700 million kilowatts by the end of 2019, and the scale of wind power generation and photovoltaic industry ranked first in the world. The energy conservation and environmental protection industry continued to develop rapidly. The output value of energy conservation and environmental protection service industry reached 450 billion yuan, an increase of more than 15%. In 2019, the sales volume of new energy passenger vehicles has exceeded 1.2 million, and the number of new energy passenger vehicles has exceeded 4 million. China has become the country with the fastest development, the highest output and the largest number of new energy vehicles. In addition, energy conservation, environmental protection and new energy technologies are making rapid breakthroughs. The market environment is also gradually improving. China's green economy is expected to continue to develop rapidly. According to the annual growth rate of 10%, the total output value of green economy is expected to exceed 12 trillion yuan by 2025, accounting for more than 3% of GDP.

3. Focus of Industrial Economy Planning For the 14th Five Year Plan

The five new key economic fields are characterized by intensive knowledge and technology, wide market demand, high enterprise efficiency and strong driving effect. These industries can represent the direction of a new round of scientific and technological revolution and industrial transformation, and also meet the people's growing need for a better life.[4] Therefore, the five new key economic industries should be the focus of industrial development in the period of the 14th five year plan. Therefore, the following points should be focused on the upgrading and transformation of the five new economic industries:

3.1. Transformation of Traditional Manufacturing Industry

We should take advanced manufacturing industry as the foundation and core, and keep the proportion of manufacturing industry basically stable. This is because all industrial powers have a certain scale and proportion of manufacturing industry, especially advanced manufacturing industry as support. This requires the transformation and upgrading of traditional industries, strengthening the docking of five new industries and sustainable development of advanced manufacturing industry. By 2030, the proportion of China's manufacturing industry in GDP should be maintained at about 30%, at least above 27%.

3.2. Implementing Innovation Driven Strategy

During the period of the 14th five year plan, industrial development should be driven by technological innovation. From the perspective of structure, the focus of high-quality industrial development includes process quality improvement and result quality improvement. Process quality improvement refers to the reduction and optimization of factor inputs in the process of industrial
operation. The improvement of process quality can reduce the adverse impact on the environment and society. In terms of resources and energy input, the proportion of primary energy consumption should be reduced. This requires enterprises to adopt more environmentally and friendly production equipment and processes to reduce emissions of pollutants; In terms of capital and technology investment, the industry should continuously improve the intensity of R & D investment in manufacturing industry. In addition, the industry should also focus on promoting the digital and intelligent transformation of manufacturing industry to realize the development of innovation driven manufacturing industry; In terms of labor input, the industry should realize the intensive transformation of labor productivity of manufacturing industry. The improvement of results quality is the significant improvement of added value and technology content of industrial products and services. Among them, the proportion of advanced manufacturing industry should be significantly increased.

3.3. Implement the "Intelligent +" Strategy and Promote the Deep Integration of Industries

The development of the five emerging industries mainly depends on the power of their own technological innovation. Traditional manufacturing industry and advanced manufacturing industry should be deeply integrated. The Internet of things, big data, artificial intelligence and other new generation of information technology has become an important force to empower the development of the five emerging industries. Service oriented transformation has become an important direction of the development of manufacturing industry. During the period of the 14th five year plan, the focus of industrial restructuring should be shifted from the increase of the proportion of output value of some specific industrial sectors to the integrated development of industry and other industries. China should vigorously promote "Internet + manufacturing" and "intelligence + manufacturing". In addition, the major industries should accelerate the transformation of digitalization, networking, intelligence and service. This requires that the industry should not only pay attention to the innovation of the mode and format of the digital economy, but also attach importance to the empowerment of the real economy by the digital economy.

3.4. The Status Change of Global Value Chain

The competition pattern of global value chain will change greatly after 2020. China has a huge market advantage and domestic demand potential. However, the domestic supply capacity cannot fully match the domestic demand, and a large number of domestic needs are met by import. At the same time, with the economic growth, the scale of domestic demand should continue to expand, and the level of domestic demand should continue to upgrade. China will arrange the new development paradigm with domestic circulation being the mainstay and the two circulations reinforcing each other. Therefore, during the period of the "14th five year plan", the industrial development should seize the opportunities of domestic market expansion and demand upgrading brought by consumption upgrading and industrial upgrading.

4. Summary and Prospect

With the full implementation of the 14th five year plan, China's industrial upgrading and transformation will also be comprehensively promoted. The five major new economic industries should focus on development. However, there are still many restrictive factors in the aspects of government supervision, market cultivation, factor support, investment and financing and fiscal and tax policy support. Therefore, China's government and various industries should adhere to the idea
of "innovation leading, supply and demand combining and high-end developing". It should focus on breaking through the bottleneck restricting the development of the new economy, so as to speed up the development of the five new economic industries.

References


