

The research of Chinese Equipment Manufacturing Industry

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Abstract: In the value chain, the manufacturing industry needs to fully integrate the global value chain into it, and obtain technical support from enterprises that have not yet integrated into the value chain, to further expand its market, and fundamentally improve the comprehensive competitiveness of manufacturing enterprises, so that enterprises increase the added value, so as to enter a higher link.

1. Introduction

Generally speaking, the traditional factor drive has been unable to meet the development requirements of the new market environment. Supply-side structural reform has become an inevitable trend in the information age. Although under the influence of reform and opening up, China has formed a manufacturing base based on unique geographical and labour advantages, which is mainly driven by foreign investment and is a product export processing industry. However, the current pattern of China's direct investment still lacks rationality. China belongs to an independent market body country, and the precise model of large in and small out is not conducive to China's long-term development. From the perspective of long-term strategic growth, Chinese enterprises should adhere to the principles of cooperation and joint development and maintain trade balance in their event. In the process of pursuing the strategy of going out, we must pay attention to technological innovation and growth. This situation severely limits the industrial upgrading of China's equipment manufacturing industry. Based on this, from the perspective of the national value chain, this study focuses on the analysis and research on the industrial upgrading of China's equipment manufacturing industry.

2. Research Status of Equipment Manufacturing Development

Regarding the development of the manufacturing industry, China's research is relatively abundant. In your study, Xia Youfu (2018) analysed the mechanism and path towards high-end in the global value chain from the perspective of equipment manufacturing. Before the in-depth analysis, the above scholars examined the machinery manufacturing industry. It believes that the machinery manufacturing sector plays a significant role in promoting the development of China's national economy. In the research process, combined with the current development process of China's equipment manufacturing industry, combined with the specific local characteristics and industry characteristics of the research area, and using the relevant theories of industrial policy, the development of China's equipment manufacturing industry in the global value chain Technology promotion policy measures. Liu Jiabin (2018) expounded the relevant connotation of the equipment manufacturing industry. The above scholars believe that equipment manufacturing is the core content of the machinery industry in the research of equipment manufacturing industry breaking through the global value chain "low-end lock" from the perspective of intelligent manufacturing. In all sectors and links of national economic development, through relatively simple production or expansion of reproduction, we provide corresponding equipment for various manufacturing industries. From an individual perspective, the machinery manufacturing industry bears a heavy burden related to the development of related industries. The equipment manufacturing industry is

the basis and prerequisite for the improvement of the country's overall national strength. From the perspective of the sector of the national economy, the equipment manufacturing industry can be generally divided into eight heavy industries, such as metal products industry, special equipment manufacturing industry, electrical machinery and equipment manufacturing industry. Sun Shaoqin (2018) summarized the development status of the equipment manufacturing industry in his research. In its study, it has constructed a framework for technological innovation capabilities in the equipment manufacturing industry from the perspective of global value chains. At the same time, in the process of analysing the influencing factors of technological innovation capabilities, an evaluation index system for technological innovation capabilities of the equipment manufacturing industry was constructed. Through the analysis of the evolution of the status of China's equipment manufacturing industry, it has fundamentally revealed the influencing factors of its standing in the global value chain of China's machinery manufacturing industry. In the research, Li Pingnv (2017) analysed the impact of the upgrading of China's machinery manufacturing value chain on the level of Internet finance. The above scholars believe that Internet finance has a positive effect on the development of the equipment manufacturing industry.

3. Research Status of Industrial Upgrading

In terms of the influencing factors of industrial upgrading, Qi Liangqun (2017) analysed the influencing factors of technical improvement in the article by analysing the efficiency of the global value chain and the research and development of China's equipment manufacturing industry. The study pointed out that the advantages of the transformation of scientific and technological achievements have a dual nature, which can not only effectively improve the practical application of scientific and technical results, but also play an essential role in industrial upgrading and social benefits. At the same time, he pointed out in his research that the transformation of scientific and technological achievements belongs to a social process. Transformation effects and the economic status of technology acquirers are closely related to culture and environment. Therefore, it can be confirmed that the love in the global value chain environment and the scientific and reasonable achievement transformation mechanism can adequately promote the orderly upgrade of the industry. In his research, Liu Shuai (2017) analysed the specific status of the development of manufacturing industry in Fuxin City and the measures of its upgrade path from the perspective of the global value chain, taking Fuxin City as an example. In the research process, through the development status of Fuxin City's manufacturing industry and its industrial upgrading, it summarizes the influencing factors of industrial upgrading. The above scholars believe that industrial structure, trade structure, production monopoly, and enterprise size are all critical factors that affect industrial upgrading. In response to this phenomenon, when studying the upgrade path of the manufacturing industry in Fuxin City, from the perspective of the above factors, an optimized way consistent with the upgrade of the manufacturing industry in Fuxin City was formulated. Pan Hui (2018) has analysed the impact of industrial upgrading of Shanghai's advanced manufacturing value chain from a theoretical perspective.

In terms of the power of industrial upgrading: Sun Dong (2017), in his research, believes that a certain amount of energy is needed in the process of industrial modernisation of enterprises. From the perspective of the integration of the "diamond model" and the industrial value chain, the scholars, as mentioned above, explored the dynamics of industrial transformation and upgrading. It believes that industrial change and improvement cannot be separated from internal and external power. Among them, the civil power is mainly the upgrade caused by the company under the influence of its internal optimization; the external power is primarily the upgrade caused by the impact of domestic and foreign economies or policies. The theory of the role of technological progress is an essential driving force for industrial upgrading. National industrial improvement is inseparable from technological progress. The development of technology can prompt the rapid formation of new industries and provide them with technical support in the event of new industries. In his research, Lin Xuejun (2018) analysed the driving force of industrial upgrading from the perspective of global innovation chain and global value chain, taking Huawei as the object. The

scholars, as mentioned above, believe that the country's economic growth is closely related to the development of its industry. An increase in the total amount of production factors will increase the product output rate, and technological changes can also increase the output level of the primary industry without changing the total amount of production factors. In his research, Ma Fengtao (2017) explored the driving force for upgrading the manufacturing industry. The study points out that the government has played an essential macro-control role in the upgrading of the manufacturing industry. Under the government's macro-control, a series of policies or regulations can be issued to standardize the sustainable development of the industry further. Under the policy guidance, manufacturing can cooperate with other sectors to improve the overall competitiveness of the manufacturing industry.

4. Research Status of Equipment Manufacturing Industry Upgrade

Song Zhijie (2018) explored the industrial upgrading and efficiency innovation of the manufacturing industry from the perspective of the value chain. The above-mentioned scholars have carried out a comprehensive analysis of the vast market potential of China's manufacturing industry under the summary of relevant research results of the current domestic and foreign equipment manufacturing industry upgrade experience. At the same time, from the perspective of manufacturing innovation efficiency, it is believed that the industrial upgrading of the manufacturing industry is inseparable from the scale of the enterprise and the size of the company's trade. Through the analysis of the status quo of manufacturing innovation efficiency, the manufacturing data is high-speed, and a relatively suitable manufacturing upgrade path is summarized. Huang Guangcan (2019) analysed the upgrading of China's manufacturing industry from the perspective of the construction of the entire industry chain. The study pointed out that using panel data models to conduct in-depth analysis of China's manufacturing data can draw out the impact of factors such as foreign economy, economic exchanges between countries, product production R & D capabilities, and other factors on the upgrading of manufacturing industries. On this basis, the panel data of China's manufacturing sector is calculated reasonably, and a path suitable for the improvement of China's manufacturing sector is found. Through analysis, it is found that the chain upgrade is more in line with the upgrade needs of China's manufacturing industry and China's necessary national conditions than direct upgrade. Yao Zhanqi (2019) conducted an in-depth analysis from the perspective of the global value chain in the research on China's manufacturing export and upgrade. The study pointed out that the national government has individual support and support for the manufacturing industry. Large-scale system projects are successfully completed under the support of national policies. The upgrading of the equipment manufacturing industry also requires the efforts of enterprises and the government to achieve. Therefore, the government needs to find a suitable path for China's manufacturing industry upgrading and product export based on the current situation of the region, combined with the intermediate inputs of manufacturing service and manufacturing services.

5. Research Status of Technological Progress

In terms of factors influencing technological progress: Pei Qiurui (2017) used the global value chain of the Internet economy era as a background to analyse the upgrade path of small and medium-sized enterprises in China. In the research, the above-mentioned scholars analysed the development status for small and medium-sized businesses in our country and believed that the technological progress of enterprises has a vital role in upgrading enterprises. The study measured the total factor productivity of SMEs and pointed out that external factors, economies of scale, etc., all have a positive correlation with technological progress. In addition, the state-owned economy and industry concentration have a clear negative relationship with technical progress. Therefore, in the process of upgrading and development of small and medium-sized enterprises, it is necessary to pay attention to the development of enterprise economies of scale. He Ning (2018) took the equipment manufacturing industry as the research object and analysed the specific countermeasures

of China's machinery manufacturing sector towards the high-end technology in the global value chain. The study believes that in the process of the equipment manufacturing industry moving towards high-end technology in the global value chain, technological progress is its essential support. Technological progress can improve the innovation ability of industrial products and improve the production efficiency of enterprises. Moreover, technological advancement has different characteristics in different stages of an enterprise's life cycle. Therefore, when the equipment manufacturing industry shifts to the development of middle and high technology, it is necessary to pay full attention to the importance of technological progress. He Ning and Xia Youfu (2018) also conducted a comprehensive analysis of the upgrade path of the equipment manufacturing industry in the new environment.

Zhao Tong (2018) through the analysis of the binary value chain division of labour in the equipment manufacturing industry, discussed in depth the way to achieve technological progress in the equipment manufacturing industry. It believes that there are many ways to make technological progress. Under normal circumstances, technological innovation, introduction and diffusion can be used to make technological progress. Based on the analysis, the study summarizes the way of technological progress and believes that independent innovation and technology introduction can be used as the way to achieve technological advancement in the equipment manufacturing industry. However, there is still some justice in the academic field as to who will dominate and who will complement the two technologies. Xie Weihong (2018) analyzed the technological progress of domestic manufacturing transformation and upgrading from the perspective of Citespace's knowledge graph. The above scholars suggested that in the economic growth theory, manufacturing industry companies usually have a purposeful and planned increase in investment, and lay the foundation for technological progress through investment in research and development. In an open economic environment and under a specific inherent economic model, national technology development and local application, basic research has achieved certain technological achievements. Technological progress not only requires increased local R & D investment but also has a close relationship with technology spillovers from international cooperation. Liu Huizheng (2018) conducted an in-depth analysis of the international division of labour in the equipment manufacturing industry in his research. In his research, by grasping the development status of the equipment manufacturing industry, he pointed out that the development of the equipment manufacturing industry needs to rely on advanced technologies of developed countries, through technological spillovers, to promote technological progress, and actively accept the technological diffusion of Western countries. It can effectively improve the technological progress of the equipment manufacturing industry. In the research, Xiahou (2017) analysed the innovation platform of high-end new sectors in the equipment manufacturing industry. From the perspective of intelligent production, the above-mentioned scholars believe that independent innovation and technology introduction has an important impact on the development of the manufacturing industry. Compared with independent innovation and technology introduction, independent innovation has a more significant impact on technological progress.

6. Research Status of Global Value Chain

The relationship between the global value chain and industrial upgrading: Liao Qingmei (2018) analysed China's manufacturing industry from the perspective of the global value chain. The above studies believe that it is particularly necessary to examine industrial upgrading at the global value chain level. When analysing the global value chain, Lu Chenxing (2017) explored China's manufacturing overseas investment from this perspective. It believes that the global value chain is an important factor influencing the efficiency of manufacturing companies' overseas investment. In the global value chain environment, upgrade the industry, from the process flow to the product upgrade, and then to the value chain upgrade. On this basis, analysing the current situation of China's manufacturing overseas investment, and on the premise of clarifying the relationship between a global value chain and industrial upgrading, analyses how to improve the efficiency of manufacturing overseas investment after industrial upgrading. In his research, Li Yang (2017)

analysed the relationship between the global value chain and industrial upgrading. It believes that under the influence of global value chains, companies that are integrated into the global value chain and companies that are not integrated into the global value chain have unequal phenomena in terms of negotiation capabilities. At present, there are still many companies that have not integrated the global value chain into their companies, resulting in a relatively low level of international competition and slow and unreasonable industrial upgrading. There is a close positive correlation between a global value chain and industrial upgrading. Guo Rui (2018) explored the innovation-driven approach to industrial upgrading in China from the perspective of global value chain theory. It believes that China's participation in the global industrial chain division of labour system can enhance the comprehensive competitiveness of Chinese companies and further promote the upgrading of the manufacturing industry structure from the perspective of industrial relevance effects. Zheng Xiuxiu (2018) believes in the research that the production of the equipment manufacturing industry is to use equipment and tool manufacturing to truly apply scientific and technological inventions to the practice of physical objects.

The relationship between global value chain, technological progress and industrial upgrading: Tang Xiaohua (2019) believes that before the emergence of the global value chain concept, commodity transactions and knowledge transfer were all completed under international trade. The fusion of global value chain, technological progress and industrial upgrading ideas can be traced back to the relevant theories in "The Wealth of Nations". The study believes that the level of division of labour has a certain dependence on the size of the market. Therefore, national trade can be viewed as a way to expand the market and improve the division of labour. Yin Weihua (2017) pointed out in his research that the innovation of endogenous technology and the progress of factor productivity are closely related to the relevant theories in open economics. The study analyses the driving force and reasons for the growth of technological progress and points out that knowledge is an increasing component of products. Through conscious R & D activities, industrial transformation and economic development can be achieved. Zhang Wencheng (2017) believes that China's international trade is closely related to technological progress and economic growth. As the frequency of international trade increases, costs will decrease, and technology will continue to innovate and progress in trade exchanges, promoting rapid economic development. From a certain perspective, a large amount of knowledge accumulation can provide a strong basis for industrial upgrading, and the increasing role of trade opening is closely related to the degree of knowledge accumulation in the country. Duan Wei (2018) analysed the role of the economy and its impact on continuous innovation and growth. The acceleration of trade has caused the spill over of knowledge worldwide, which has greatly intensified the competition among companies in the industry. When the effects of technological progress overflow, inter-country trade cooperation with similar factor endowments can improve the product innovation of the cooperating countries and increase the level of economic growth. Chen Yimao (2019) analysed China's industrial structure in the global value chain division of labour system. It believes that there is a close relationship between the industrial structure and product trade, and the industrial structure can have an impact on the overall product trade structure. On the contrary, the product trade structure will also lead to changes in the industrial structure.

7. Conclusion

Based on the above research results, it can be found that there are currently more domestic and foreign-related research documents on the equipment manufacturing industry, industrial upgrading and global value chain. Still, there are relatively few systematic research documents. There is a lack of research literature on the improvement of the equipment manufacturing industry under the global value chain. In the new technology revolution environment, scholars lack in-depth exploration of the integration of the two sectors did not analyses the content of the global value chain equipment manufacturing industry upgrade, and lack of analysis of the equipment manufacturing sector upgrade case.

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