The Influence of Foreign Investment on the Optimization of Industrial Structure in Jilin Province Based on the Background of Ecological Protection

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Abstract. Jilin Province is a large agricultural province. Under the ecological protection environment in recent years, the agricultural industrial structure has been greatly adjusted. The project of returning farmland to forests, green farming, and energy conservation and emission reduction is aimed at improving the ecological environment of Jilin. Improve economic output under the premise of the environment. Under the premise of ecological protection, the introduction of foreign capital can promote the economic development of Jilin Province and contribute to technological progress. However, for the moment, Jilin Province has not fully utilized foreign capital to enhance the industrial economy of Jilin Province. The entry of foreign investors has also broken the original industrial balance and has had an impact on the development of small enterprises in the province. How to attract foreign investment, rational use of foreign capital, and use of foreign capital to optimize the industrial structure is the subject of this paper.

1. Introduction
In recent years, under the call of ecological protection and “bringing in and going out”, Jilin Province has achieved certain results in using foreign capital to promote technological progress. However, in general, it has not fully played its due role. Therefore, it is of great theoretical and practical significance to explore how to make use of the favorable situation after entering the WTO, actively carry out foreign investment, promote the technological progress of enterprises in Jilin Province, and enhance the competitiveness of enterprises. As one of the old industrial bases in Northeast China, Jilin Province is also a large agricultural province with a low level of economic development and relatively backward industrial restructuring. While making up for the funding gap and technical gap in Jilin Province, foreign direct investment also affects the industrial structure of Jilin Province through technology spillover effects, competitive effects, and related effects. The role of foreign direct investment in the economic development of Jilin Province depends to a large extent on the changes and transformation of the industrial structure. Then, what is the general situation of foreign direct investment in Jilin Province? How does foreign direct investment affect the industrial structure of Jilin Province? How to use foreign direct investment to promote the optimization and upgrading of industrial structure in Jilin Province? These are the questions to be answered in this paper.
2. Status of industrial structure in Jilin Province

2.1. The proportion of the structure is unreasonable

From 2005 to 2017, the industrial structure of Jilin Province has been in the sequence of “two, three, and one” for a long time (see Figure 1). Before 2013, it was basically in line with the whole country, and by 2017, the original industrial structure was still maintained, but the country has achieved the “three, two, one” trend since 2012. By 2017, the composition ratio of the three industrial added value of Jilin Province in the regional GDP is 11.4:49.8:38.8, compared with the national 8.8:40.9:50.3, Jiangsu 5.7:45.7:48.6, Shanghai 0.4:31.8:67.8, Beijing 0.6. Compared with the industrial composition of 19.7:79.7 and Guangdong 4.6:44.8:50.6, the gap is large.

![Figure 1. Jilin Province industry share structure](image)

2.2. The employment structure shows the characteristics of reverse industrialization

Judging from the proportion of employment in the three industries, the number of employed people in the primary industry in 2005-2017 was maintained at around 40% in Jilin Province. The decline was small and basically stabilized, while the country showed a sharp decline, down from 49.1% in 2005 [1]. In 2008, 28.3%, a decrease of 20.8 percentage points; during this period, the number of employments in the secondary and tertiary industries was not high in Jilin Province, rising from 17.4% and 33.3% in 2005 to 23.2% and 41.4% in 2015. Respectively, while the country showed a steady upward trend, rising from 21.6% and 29.3% to 29.3% and 42.4% respectively. It can be seen that the industrial transfer trend of the labor force in Jilin Province is obviously not in line with the general law of industrial labor changes, showing the characteristics of reverse industrialization.

2.3. Jilin Province industry category is relatively single

The industrial composition of Jilin Province is dominated by industry, while industrial development is mainly concentrated in heavy industry. In 2017, among the added value of industrial enterprises above designated size, light and heavy industries accounted for 33.7% and 66.3% respectively, which was improved compared with the proportion of 18.5% and 81.5% in 2005, but it is still unreasonable. In 2017, the total value added of the eight pillar industries such as automobiles and petrochemicals reached 1,683.49 billion-yuan, accounting for 73% of the industrial economy above designated size. Among them, the added value of state-owned and state-owned holding enterprises reached 307.57 billion-yuan, accounting for 50.8% of the added value of all industrial enterprises above designated size. It can be seen that the economic development of Jilin Province still relies mainly on the state-owned industrial economy, while industrial development is dominated by heavy chemical industry and resource-based enterprises, resulting in a lack of vitality in its economy.

2.4. Industry innovation and entrepreneurship ecological environment is not perfect

According to the 2016 China Urban Innovation and Entrepreneurship Environment Ranking, the urban innovation and entrepreneurship environment in Northeast China is lower than the national average. Statistics show that the annual added value of high-tech manufacturing in Jilin Province was 61.572
billion yuan in 2017, accounting for only 10% of the added value of industrial enterprises above designated size, while the annual added value of high-tech industries in Zhejiang Province was 562.4 billion-yuan, accounting for more than the scale, 40.1% of industrial added value. The important components of Jilin's economy are still dominated by the automobile manufacturing, food industry, petrochemical industry and metallurgical building materials industry. In addition to high-tech industries, Zhejiang Province accounts for the largest proportion of industrial added value above designated size, strategic emerging industries and information. The economic core industry and high-end equipment industry have occupied a large proportion, reaching 22.9%, 11.4%, and 14.0% respectively. This shows that compared with the economically developed provinces, the development of high-tech industries in Jilin Province lags behind, which is related to the weak investment in government policies, scientific research investment, and innovation and entrepreneurship education in Jilin Province. In 2016, Jilin Province invested only 1.507 billion yuan in scientific research and technical services, and did not clearly show the investment situation in high-tech industries, while Zhejiang's investment in high-tech industries reached 315.7 billion yuan. The imperfection of the innovation and entrepreneurial environment in Jilin Province has seriously affected the development of innovation and entrepreneurship.

3. Jilin Province attracts foreign direct investment status

In addition, from the industrial point of view, the foreign investment attracted by Jilin Province in 2005-2017 has obvious characteristics in the investment direction, that is, it mainly concentrates on the secondary and tertiary industries, while the primary industry accounts for a relatively small share. According to the data released by the Jilin Provincial Bureau of Statistics, there are currently 127 foreign-invested enterprises in the first industry in Jilin Province, accounting for 4.6% of the total. The cumulative contractual foreign investment is US$560.58 million, accounting for only 0.9% of the total. The actual use of foreign investment is US$39.87 million, only 0.8% of the total. The accumulated foreign-invested enterprises in the secondary industry reached 2,088, with a cumulative contractual value of 477.517 million US dollars. The accumulated actual use of foreign investment was 428.161 million US dollars, accounting for 76.89% and 82.71% of the total respectively, accounting for the absolute number of enterprises and the amount of foreign investment utilized. Advantage. In the secondary industry, foreign investment mostly flows into the manufacturing industry, which makes the cumulative contractual foreign investment and the actual use of foreign investment in the manufacturing industry account for more than 89% of the total secondary industry. Within the manufacturing industry, foreign investment in transportation equipment manufacturing is much higher than in other industries [2]. In addition, the use of foreign capital in the tertiary industry also occupies an important position. The cumulative number of enterprises is 560, accounting for 20.18% of the total. The cumulative contractual foreign investment and actual foreign investment are 137.725 million and 85.521 million, respectively, accounting for 22.21% and 16.52. %. In the tertiary industry, foreign investment mainly invested in the real estate industry, and its accumulated contractual foreign investment reached 478.027 million US dollars, accounting for 34.65% of the total foreign direct investment attracted by the tertiary industry. In general, although the foreign investment attracted by Jilin Province has grown rapidly in recent years, its overall scale is still small, and its industrial distribution is also extremely uneven, that is, it is mainly concentrated in the secondary and tertiary industries, especially in the secondary industry. Transportation equipment manufacturing.
4. The impact of foreign investment on industrial optimization in Jilin Province

4.1. Promote the upgrading of industrial structure in Jilin Province through the resource filling effect

Attracting foreign direct investment cannot only make up for the capital shortage of economic construction in Jilin Province, but also introduce capital goods that it cannot produce. It can also improve the stock of production factors, optimize the allocation of production factors, and promote the productivity of enterprises and the improvement of national income. With the increase of per capita income level in Jilin Province, the demand structure is continuously advanced and diversified. Since the change of demand structure is the direct cause of the change of industrial structure, the increase of demand structure will inevitably lead to the investment of products with high income elasticity of product income. Thus, the industrial structure has developed to a higher level. In general, the technical content of foreign capital, especially of multinational corporations, is higher than the technological content of developing local capital in the Middle East. The entry of foreign capital, whether it is greenfield investment or cross-border mergers and acquisitions, has brought different levels of new technology to enterprises in Jilin Province [3], directly improving the technological level of enterprises. In addition, foreign direct investment in Jilin Province has also produced technological spillover effects through industrial linkages, competition demonstrations, and human capital flows, prompting Jilin Province's industrial structure to move toward more advanced forms under the influence of technological progress. Change. The development of Jilin FAW Group confirms this point. Through cooperation with Toyota Motor, FAW Group not only actively learns from Toyota's automobile manufacturing technology, but also introduces Toyota's TPS production management mode to enhance its management level. Enhance the international competitiveness of enterprises.

4.2. Promote the upgrading of industrial structure in Jilin Province through the employment effect

The first is to improve the employment structure [4]. The first Clarke theorem tells us that with the continuous improvement of industrialization level and per capita income, the labor force gradually shifts from the primary industry to the secondary industry; with the further increase of per capita income, the labor force gradually starts from the secondary industry to the tertiary industry. Transfer. Judging from the employment of industrial enterprises invested by foreign investors in Jilin Province, the number of foreign-invested enterprises employed in 2009 was 61,500, accounting for 1.9% of all employees. Although the proportion is very low, the growth is relatively rapid. Foreign-invested enterprises have promoted the transfer of agricultural workers from non-agricultural production in Jilin Province, which has played a positive role in upgrading industrial structure. At present, the improvement of the quality of human resources has become increasingly important for the economic development of Jilin Province. Its contribution to the optimization of industrial structure is to improve the labor productivity and management level of enterprises. Due to the lack of human resources in Jilin Province, in order to maintain its competitive advantage, foreign-invested enterprises need to
train local employees in Jilin Province to improve the technical and management level of the labor force through training. When these people flow from foreign-invested enterprises to other enterprises in Jilin Province, their professional skills and management experience will also flow into these enterprises, resulting in technology spillover effects.

Figure 3. The impact of foreign investment on industrial optimization

4.3. Promote the upgrading of industrial structure in Jilin Province through the trade promotion effect

One of the impacts of foreign direct investment on the economic development of Jilin Province is to expand the scale of foreign trade in Jilin Province. With the increasing investment attraction, the role of foreign-invested enterprises in the foreign trade of Jilin Province is becoming more and more important. In 2000, the total import and export volume of Jilin Province was only 2.71 billion US dollars, and in 2017 it reached 13.3 billion US dollars, of which the proportion of foreign-invested enterprises rose from 31.3% to 42.9%. Foreign-invested enterprises not only promoted the rapid development of foreign trade in Jilin Province, but also improved the demand structure of export commodities in Jilin Province, enhanced the international competitiveness of export commodities, and directly promoted the optimization and upgrading of industrial structure. In recent years, the export of mechanical and electrical products and high-tech products in Jilin Province has grown rapidly, which is inseparable from the investment of foreign businessmen in Jilin Province [5].

4.4. Promote the upgrading of industrial structure in Jilin Province by accelerating the process of industrialization

Since the 1990s, a number of internationally renowned multinational companies have settled in Jilin Province, such as: German Volkswagen, Japan Toyota, Siemens Germany, American Motorola, Japan Marubeni Corporation, Hong Kong Hutchison Whampoa, etc. Mainly concentrated in the automotive, chemical, agricultural products deep processing, biomedical, electronic information, equipment manufacturing and other industries, promoting the transformation of Jilin Province's industrial structure into capital-intensive technology. The entry of multinational corporations has brought a large-scale technology transfer to Jilin Province. At the same time, they have indirectly influenced the development of enterprises in Jilin Province through demonstration of competitive effects and industrial linkage effects, and contributed to the technological progress and productivity improvement of industrial enterprises in Jilin Province. Huge. In the 21st century, foreign investors have increased their investment in capital-intensive industries in Jilin Province. This is consistent with the direction of industrial development in Jilin Province. It is a necessary condition for Jilin Province to improve its industrialization level, and it is also an acceleration of industrialization.
5. Conclusion
Since the beginning of the 21st century, the industrial structure of Jilin Province has generally become more rational and advanced. However, compared with the neighboring provinces, developed regions and the overall level of the country, there are still some shortcomings. The specific performance is that the proportion of the primary industry is relatively high. The secondary industry is large but not strong, and the development of the tertiary industry is relatively lagging behind. At the same time, the level of using foreign direct investment in Jilin Province has gradually got rid of the low status and started to enter a period of rapid growth, which has injected new vitality into the economic development of Jilin Province. However, the characteristics of foreign direct investment to the secondary industry, especially to the industry, are also very prominent. This uneven industrial distribution has affected the coordinated development of the three industries in Jilin Province to some extent.

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