

Research on the Impact of OFDI on China's Industrial Structure Upgrading

-- Based on the Analysis of Countries Along the "Belt and Road"

Jiahao Wu, Zongming Wang

School of International Economics and Trade, Anhui University of Finance and Economics, Bengbu, 233000, China

Abstract: China's economy is currently in a critical "transition period", the conversion of the source of economic growth, economic restructuring is the key to ensure that China's economy continues to develop well and steadily. Among them, the transformation and upgrading of industrial structure will be the top priority of future economic development. This project is carried out in the context of China's active promotion of the "Belt and Road" construction and deepening supply-side reform, and it is important to explore the impact of OFDI on domestic industrial structure, which is important for China to resolve excess production capacity, accelerate technology accumulation and finally realize the optimization and upgrading of industrial structure. In this paper, the specific impact of OFDI on China's domestic industrial structure upgrading and the magnitude of the effect of OFDI to countries along the "Belt and Road" is the main line of research, and the path and mechanism of OFDI to countries along the "Belt and Road" are discussed. The main line of research is to explore the path and mechanism of OFDI's influence on China's domestic industrial structure upgrading in countries along the "Belt and Road".

Keywords: Ofdi, Industrial structure upgrading, One Belt One Road.

1. Introduction

The "Belt and Road" is a new open strategy for China to actively respond to the new changes in the international economic and trade landscape under the new economic normal, promote the transformation and upgrading of domestic industrial structure, and achieve sustainable and rapid economic development of countries along the route, and is committed to strengthening trade exchanges, two-way investment, industrial transfer and other economic and trade cooperation with Asian, European and African countries to better integrate and lead Global division of labor network. As China continues to integrate into the global economy, countries along the "Belt and Road" are increasingly becoming important destinations for Chinese outbound direct investment.

The development of China's OFDI has been slow compared with other countries, and it only started at the beginning of China's reform and opening up in the last century. In 2017, China's non-financial direct investment in 64 countries along the "Belt and Road" was US\$20.17 billion, accounting for 12.74% of China's total outward direct investment in the same period.¹ At present, although China's total economic volume has exceeded the actual use of foreign capital, China has started to transform into a net capital exporter. At present, although the total economic volume of China is in the forefront of the world, the quality of economic development needs to be improved, and the problems of overcapacity and imbalance in economic structure development are still prominent, so changing the mode of economic growth and adjusting the economic structure is the main task at present. The optimization and upgrading of industrial structure is an important part of economic restructuring, and it is also the core driving force of China's economic transformation, which is related to the sustainable development of China's economy.

At present, the domestic industrial structure is in a virtuous cycle of continuous optimization, the proportion of the output

value of secondary and tertiary industries in the national economy is increasing, and the industrial structure shows the form of "three, two, one", but at the same time, China's industrial structure is facing the problems of overcapacity, sloppy industrial development mode, poor development quality, low efficiency, serious pollution, and backward technology still exist within the industry. Therefore, it is necessary to constantly seek "new power" to open up new economic growth points. In the context of the "Belt and Road" initiative, OFDI can transfer "excess capacity" through reverse technology spillover, resource acquisition and industrial linkage. In the context of "One Belt and One Road" initiative, OFDI can transfer "excess capacity" and release capacity space through reverse technology spillover, resource acquisition, industrial linkage, etc., and help domestic industrial structure level move to a higher stage, so as to open up new growth points of Chinese economy.

1.1. Analysis of the Mechanism of Foreign Direct Investment Influencing Industrial Structure Upgrading

1.1.1. Analysis of Investment Effects in Macro Perspective

The theory of marginal industrial expansion suggests that a country can transfer its sunset industries, which take up production resources and hinder industrial progress, to other countries so that it can continue to make profits in other countries' markets with comparative advantages, which can not only eliminate excess capacity but also better allocate resources to support the development of new industries. By transferring these industries, which are at a comparative disadvantage in China, to other countries, the domestic factors of production can be released and flow to those new industries with comparative advantages, and the efficiency of resource allocation can be significantly improved.

According to this theoretical description, combined with

the characteristics of China's direct investment in countries along the "Belt and Road", we can see that there is an obvious marginal industrial expansion effect. (1) China and most developing countries along the belt and road do not have a particularly large gap in technological level, so when China enters the relevant countries for industrial layout, it will not be denied access to their markets by the host government on the grounds of excluding competition to protect domestic industries, and thus has the prerequisites to enter their markets and then gain a foothold. (2) In recent years, China has experienced serious overcapacity, and some traditional industries such as textiles and home appliances are particularly prominent, occupying most of the production factors in China without room for innovation. The "Belt and Road" initiative provides an opportunity for these industries to export their capital. On the one hand, by investing and setting up factories in the host countries, the relevant enterprises in China can save costs through the low-priced labor and raw materials in the host countries and continue to maintain their comparative advantages, and at the same time, they can expand their market shares in the host countries through localized operations, thus gaining better economic benefits.

China's direct investment in countries along the "Belt and Road" will also generate industrial linkage effects. The industry antecedent correlation effect is manifested in the further expansion of the market share of Chinese enterprises in the host countries after their outward FDI in the countries along the belt and road, which leads to the need for more production factors to meet the expanded demand for products, so the domestic upstream enterprises must expand the supply of upstream products to meet the increased demand. At the same time, since the investing enterprises face fierce competition from local enterprises in the host market, the upstream enterprises must provide higher quality products to help them cope with the competition, so the upstream enterprises must expand their investment in product technology research and development, which inevitably leads to the overall development of the domestic upstream industry. For example, due to the increase of labor cost and raw material cost, the upstream linkage of raw material production and assembly is transferred to the countries along the "Belt and Road". For example, due to the rising labor and raw material costs, China has shifted the upstream stages of raw material production and assembly to the countries along the Belt and Road, and the parent company has sent specialized technicians and managers to guide the production of primary and intermediate products in the host country. On the one hand, this will ensure the quality of primary and intermediate products while saving production costs, and on the other hand, it will free up domestic production factors, allowing the domestic parent company to specialize in the R&D and production of final products, thus promoting the further development of the domestic industry.

The reverse technology spillover effect refers to the direct investment of multinational enterprises from relevant developing countries in host countries in various ways to learn the advanced production technologies of these countries and promote the improvement of the parent company's technology level through continuous absorption and innovation, so as to promote the upgrading of domestic industrial structure. Generally speaking, these investment destination countries are developed countries with advanced technology level, although most of the countries along the

"Belt and Road" are developing countries, there are still many developed countries such as Poland in Central and Eastern Europe, which have technological advantages in many fields compared with China. "The mechanism of its effect is generally through greenfield investment, cross-border M&A and joint R&D to achieve technological progress and industrial structure upgrading.

1.1.2. Investment Impact Analysis in Micro Perspective

Although China is rich in mineral resources, the reserves of natural resources such as oil and natural gas are far from enough to meet the huge demand for resources in China's production and life, and the per capita possession of resources is lower than the world average. According to statistics, China's oil imports in 2018 amounted to 440 million tons, up 11% year-on-year, and its external dependence on oil rose to 69.8%; natural gas imports amounted to 125.4 billion cubic meters, up 31.7% year-on-year, and its external dependence rose to 45.3%. As the world's second largest economy, China's economic growth also requires more resource supply, which also determines that China's enterprises must obtain resources through foreign countries to achieve domestic supply, to ensure China's energy security. The countries along the "Belt and Road", such as Russia and Iran, have very rich oil and gas reserves, so OFDI to these countries has a significant resource orientation.

Most of the time, market-oriented OFDI is to bypass the complex and strict trade barriers in the host country and directly set up production and operation in the host country, so as to open up and expand the market. At present, most of the traditional industries in China are facing the situation of overcapacity and the domestic market is gradually saturated, leading to fierce competition in the market. By investing and establishing factories in these countries, local production and sales can, on the one hand, break through the restrictions of trade barriers in the host countries, save production costs through the cheap productivity and raw materials in the host countries, and save the high transaction costs in export and international transportation, which can rapidly expand the market scale. On the other hand, the transfer of domestic production capacity can release more factors of production, which will flow to domestic industries or industries with higher value-added or higher technology, and the huge economic benefits brought by the expansion of foreign markets also provide sufficient capital for domestic parent companies. Therefore, these multinational enterprises will gradually shift from relying on raw material production and processing industries to technology-intensive and capital-intensive industries, and eventually realize the upgrading of domestic industrial structure.

1.2. "The Current Situation of China's Outward Foreign Direct Investment Development under "One Belt, One Road"

The development of China's OFDI was relatively late and showed certain stages, starting from the early stage of reform and opening up, after the Third Plenary Session of the Eleventh Central Committee began to implement the economic reform policy of OFDI, but at that time, the number of enterprises involved in OFDI in China was very small, and the amount and area of investment was also limited due to the strength of the company. However, due to the lack of strategic planning for long-term investment driven by short-term interests and the increasingly prominent problem of

unreasonable domestic industrial structure, the efficiency of OFDI was low, resulting in the overall volatility of OFDI in China. After 2002, China started to vigorously promote the "going out" strategy and introduced many policies to encourage enterprises to make outward FDI, and China's accession to WTO has created favorable conditions for enterprises to carry out international operation and participate in global competition. The scale of China's outward FDI has shown a rapid growth trend and has been maintaining a high growth; until the "One Belt, One Road" initiative was put forward, the national level has made more efforts to encourage enterprises to invest in countries along the route, at this time, the flow and stock of China's outward FDI have a certain scale and have entered a stable growth stage. By the end of 2016, China's OFDI has achieved 14 consecutive years of growth.

Figure 3-1 and 3-2 show the trend of China's OFDI stock and flow from 2002 to 2017 and the global share of OFDI. As can be seen from the figures, the stock of China's OFDI has been showing a steady growth trend, and the stock of China's OFDI was US\$180.94 billion in 2017, 60.5 times of the stock in 2002, accounting for 5.9% of the global stock of FDI outflows and ranking second only to the US (US\$7.8 trillion). However, in terms of stock size, the gap between China and the United States is still relatively large, only equivalent to 23.2% of the United States.

The countries along the "Belt and Road" have a huge population base and economic development potential. According to the World Bank, they have 62% of the world's population and 30% of the world's GDP. The proportion of China's direct investment in these countries is only about 10%. It can be seen that the direct investment of Chinese enterprises in the countries along the route does not match its corresponding economic scale, and there is a lot of room for growth. In addition, China's urgent need for industrial structure upgrading, China's direct investment in countries along the "Belt and Road" will continue to increase.

This is also consistent with the development stage of China's domestic industrial structure in the same period, from low-end to high-end industries, and from secondary industries to tertiary industries, indicating that the industrial structure of China's OFDI is being upgraded in the process of continuous optimization of China's domestic industrial structure, from factor- and capital-oriented investment to technology- and capital-oriented investment. The industrial structure of China's OFDI is also being upgraded from factor and market-oriented investment to technology and capital investment. From the previous analysis, we can see that the industrial layout of China's OFDI can be further optimized as there is still much room for the upgrading of China's domestic industrial structure.

Because the industrial development of the countries along the "Belt and Road" varies greatly, China's investment in the selection of industries will also have different targets according to the differences between countries. In the Middle East, investment will be concentrated in the oil extraction industry, in Southeast Asia, mainly in the energy industry, in South Asia, mainly in the field of infrastructure construction, and in developed countries such as Central and Eastern Europe, mainly in information and communication, automotive and machinery and other technology-intensive industries. Overall, at this stage, China's direct investment in countries along the "Belt and Road" is mainly in the energy sector, and the investment structure needs to be optimized.

2. Literature References

With the continuous promotion of the "Belt and Road" initiative, a large number of studies on the influencing factors of OFDI under the "Belt and Road" have started to emerge, and from the research results of scholars, they mainly analyze the following three aspects. In terms of bilateral factors, Xu Xiaoping (2016) argues that bilateral trade between China and countries along the Belt and Road can promote direct investment in the countries along the route, and the promotion effect is more obvious for developing countries compared with developed countries along the route. Zhang Yabin (2016) found that in addition to GDP and labor force size, bilateral trade and investment agreements can significantly boost the incentive of enterprises to invest along the Belt and Road, while distance and tax burden level can discourage enterprises from investing. Using panel data, Guo Ye and Xu Chen-sheng (2016) concluded that the participation of national leaders in bilateral meetings can have a positive effect on OFDI in the Belt and Road, with visits having the most significant effect, and receiving visits having a less significant effect than visits. For example, Chen Houxiang (2016) found that the level of infrastructure construction in countries along the "Belt and Road" is positively related to China's direct investment in the relevant countries, and the impact of economic infrastructure such as transportation, energy and information is most obvious. Huang Weidong (2016) studied the institutional differences and concluded that China's outward FDI is affected by the host country's system, among which the quality of economic system has a significant impact, but the quality of political system has a less significant promotion effect, while the quality of legal system has a significant negative effect. Yu Genmei (2017) also studied the issue of national systems and found that China's direct investment in the Belt and Road is significantly related to the political system of the host country and is more inclined to invest in countries with poor systems and chaotic governance along the route because of the "specific ownership advantage" of SOEs. The study finds that China's FDI in Belt and Road is significantly correlated with the political system of the host country and is more likely to invest in countries with poor institutions and chaotic governance along the route because of the "specific ownership advantage" of SOEs.

Several scholars have studied the current situation of China's OFDI in countries along the Belt and Road. Zheng Lei and Liu Zhigao (2015) found that most of China's OFDI to the "Belt and Road" is concentrated in Southeast Asia and less in West Asia, and analyzed the investment environment and locational advantages and disadvantages of Central Asia, Southeast Asia, Central and Eastern Europe, and South Asia, and concluded that China's investment in the "Belt and Road" are complicated geopolitical relations, single investment field, low transnational operation capability of enterprises, and large barriers to investment in strategic resources. Zhou Wuqi (2015) found through his study that the proportion of Chinese investment in countries along the route varies greatly and there is a problem of uneven distribution of investment, which is mainly distributed in some developing countries along the route, and the scale of investment shows a rising trend, while the proportion of investment in developed countries related to South Asia and Central and Eastern Europe, which are farther away in space, is less. Bao Jiabin and Li Hongrui (2017) found that although the total

amount of China's investment in countries along the "Belt and Road" is large and the concentration of investment in countries along the route is high, mainly concentrated in Singapore, Russia, Thailand, Kazakhstan and other countries, but the proportion of China's OFDI flow to its own fixed assets is low in The construction of "Belt and Road" faces huge risks and challenges, including investment environment risks, investment mode risks, monetary and financial risks, etc.

3. Summary

This paper focuses on the research theme of the impact of "Belt and Road" OFDI on China's industrial structure upgrading, and conducts research on the current situation of China's direct investment in the countries along the route, the theoretical mechanism and empirical analysis of the impact of OFDI on China's industrial structure upgrading, etc. Based on the relevant analysis and empirical results, the following main conclusions are drawn.

China's direct investment potential in the "Belt and Road" is large. By analyzing the development of China's direct investment in countries along the "Belt and Road" in Chapter 3, we can know that although China's direct investment in countries along the "Belt and Road" is increasing year by year, the investment potential of these countries has not been fully explored and there is a lot of room for growth.

First of all, at this stage, the flow of China's investment in the countries along the route is regional, mainly concentrated in Southeast Asia and West Asia and North Africa, such as Singapore, Russia, Indonesia and Pakistan, accounting for more than 80% of China's total investment in the countries along the route, indicating that the investment space in other countries and regions is not properly utilized and needs to be developed. Secondly, China's direct investment in the countries along the route is targeted, mainly to those countries and regions with good infrastructure and rich natural resources, and the largest proportion of investment is also concentrated in the energy industry. However, as China continues to improve the infrastructure construction of the countries along the route, the investment environment will become better and better, providing conditions for China's foreign direct investment and economic cooperation with the countries along the route. At the present stage, the main body of China's direct investment in the countries along the route is state-owned enterprises, and the proportion of private capital is not high enough; as we continue to attract private capital investment in the future, we can fully and flexibly explore the investment potential of various industries. This shows that China's direct investment in the countries along the "Belt and Road" will have a large growth.

China's direct investment along the "Belt and Road" will promote the upgrading of China's industrial structure. By analyzing the path and mechanism of OFDI influencing industrial structure upgrading, it is found that at the macro level, its promotion effect is mainly through the marginal

industrial expansion effect, industrial linkage effect and reverse technology spillover effect, and at the micro level, it is found that resource-seeking, market-seeking, efficiency-seeking and strategy-seeking OFDI has a promotional effect on domestic industrial structure upgrading.

Acknowledgment

Anhui University of Finance and Economics graduate research and innovation fund project "Research on the Impact of OFDI on China's Industrial Structure Upgrading-Based on the Analysis of Countries Along the Belt and Road" (No.ACYC2021180)

References

- [1] Yu Jagan. Research on the industrial structure upgrading effect of China's outward foreign direct investment [D]. Liaoning University,2016.
- [2] Jiang Xiao Juan, Du Ling. The theory of outward investment and its significance for China [J]. Economic Research Reference,2002 (73) : 32-44.
- [3] Wei Qiaoqin, Yang Dakai. Research on the relationship between foreign direct investment and economic growth [J]. Quantitative Economic and Technical Economics Research,2003(01):93-97.
- [4] Xie Dan. The impact of foreign direct investment on domestic employment and industrial restructuring in investing countries[J]. Hubei Social Science, 2007(06):84-85.
- [5] Zhao Wei, Jiang D. ODI and industrial upgrading in China: a mechanistic analysis and empirical evidence [J]. Journal of Zhejiang University (Humanities and Social Sciences Edition), preprint, 2010(01):1-10.
- [6] Yin Zhongming, Li Dongkun. The mechanism of China's outward foreign direct investment on domestic industrial upgrading: an exploration based on different investment motives [J]. Journal of Northern University for Nationalities (Philosophy and Social Science Edition), 2015(01):37-41.
- [7] Bao Jiabin, Li Hongrui. Current situation and risk issues of foreign investment in the construction of "One Belt and One Road" [J]. International Business Finance, 2017(12):12-14.
- [8] Tian Ze, Xu Dongmei. The efficiency and countermeasures of China's investment in countries along the "Belt and Road" [J]. Economic Vertical,2016(05):84-89.
- [9] Li Jiguang, Zhao R, Zhang Caiyun. Analysis of China's investment potential in "Belt and Road" countries based on stochastic frontier model [J]. Asia-Pacific Economy, 2016(04):96-103.
- [10] Zhang Yabin. Investment Facilitation and China's Outward FDI Choice along the "Belt and Road"-An Empirical Study Based on Cross-country Panel Data and Investment Gravity Model[J]. International Trade Issues, 2016 (09) :165-176.
- [11] Guo Y, Xu CS. Bilateral high-level meetings and China's direct investment in countries along the "Belt and Road" [J]. International Trade Issues,2016(02):26-36.