

A Review of the Mechanisms of FDI's Impact on China's Green Economy Development

Ruoxiang Yin

College of art & science, Indiana University Bloomington, Blooming, Indiana, 47405, US

Abstract: The paper aims to explore how FDI affects the development of China's green economy and to provide insights into the current development patterns of FDI from different perspectives. Through a systematic study, we can better understand how FDI promotes China's green economy development and find effective solutions from it. Countermeasures are proposed based on the current actual situation in China in the expectation that FDI can be better utilized for the sustainable growth of China's green economy. These measures can not only bring new perspectives to theoretical research, but also bring positive impacts to practice.

Keywords: FDI; Green economy development; Mechanisms; Review.

1. Introduction

After the reform and opening up, China's economy has grown rapidly through a long period of sloppy development. However, the distinctive features of this development approach are "high energy consumption, high emissions and high hazards". Although it has contributed to the economic take-off and made China successfully rank among the world's leading economies, it has also brought about excessive consumption of resources and environmental damage, which hinders the sustainability of economic development[1]. According to the analysis of data from the China Environment Statistics Yearbook, since the release of the 12th Five-Year Plan, the contribution of Chinese industrial enterprises to GDP growth has decreased significantly from 45.91% in 2011 to 30.81% in 2020, which is significantly lower than historical levels. Although the energy consumption of industry has always been higher than 65%, the concept of green economy

has been increasingly recognized as China's economy and environment continue to improve, resulting in a significant increase in the energy utilization rate of industry (figure 1)[2]. In 2013, the release of "adhering to ecological civilization and green development" has attracted national attention. In 2015, the Fifth Plenary Session of the 18th CPC Central Committee deepened the reform, and "green development" was formally incorporated into the development plan; In 2017, the report of the 19th National Congress of the People's Republic of China (PRC) provided the basis for the development of green economy. In 2017, the "Nineteenth National Congress" report pointed out the direction for the development of green economy. In view of the current situation of resource scarcity and severe ecological damage, in order to balance economic development and environmental protection and promote green economic development, industrial enterprises, which consumes the largest proportion of energy, should abandon the traditional resource-dependent development model and adopt a more sustainable development model.

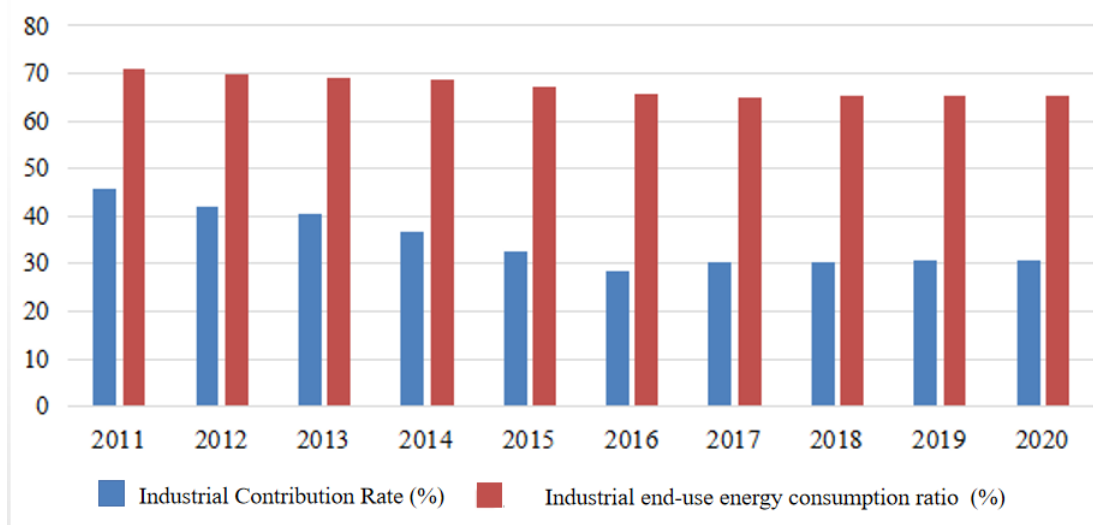


Figure 1. Contribution of industrial enterprises and share of end-use energy consumption in China (2011-2020)

2. The Current Distribution of FDI in China

With China's economic development and increasing

openness to the outside world, the amount of foreign direct investment (FDI) in China has been increasing year by year. According to data from China's National Bureau of Statistics, the actual amount of foreign investment utilized in China for the whole year of 2018 was US\$297.1 billion, up 19.6% year-

on-year. Among them, FDI accounted for about 45% of the total investment. From a regional perspective, Guangdong Province is one of the provinces that attract the most FDI in the country. According to statistics, the cumulative FDI in Guangdong Province in the first quarter of 2019 was 31 billion yuan, up 10.7% year-on-year.[3] This is followed by Jiangsu Province, Zhejiang Province and Shandong Province. These regions has stronger economies and better industrial structures, which have attracted a large inflow of international capital. At the same time, some emerging market cities have gradually become important destinations for FDI. For example, cities such as Hangzhou, Suzhou and Nanjing have achieved good results. In addition to the geographical distribution, FDI also shows certain characteristics of industry distribution. Manufacturing, real estate and service industries are the main focus of FDI. In addition, FDI in the

fields of energy, environmental protection and new energy has also increased. It can be seen that FDI has played an important role in promoting the economic development of China.

According to the data in table 1, it can be seen that during the past period from 2012 to 2021, the total amount of China's outward FDI has been steadily increasing, from \$111.716 billion in 2012 to \$173.483 billion in 2021, and the FDI in the three major industries has been growing, especially the FDI in the tertiary industry has increased substantially, which has brought a positive impact on China's FDI in the tertiary sector in particular has increased significantly, bringing a positive impact on China's international trade and investment activities. In 2012, the total amount of FDI in the tertiary sector reached \$57.196 billion, but this figure has decreased over time to \$130.272 billion in 2021, while the fdi in the primary and secondary sectors has also decreased.[4]

Table 1. Scale of FDI attracted by Chinese industries

| Indicators | Total actual utilization of foreign direct investment (USD billion) | The amount of actual utilization of foreign direct investment in the primary industry (USD billion) | The amount of actual utilization of foreign direct investment in the secondary industry (USD billion) | The amount of actual utilization of foreign direct investment in the tertiary Industry (USD billion) |
|------------|---|---|---|--|
| 2012 | 1117.16 | 20.62 | 524.58 | 571.96 |
| 2013 | 1175.86 | 18.00 | 495.69 | 662.17 |
| 2014 | 1195.62 | 15.22 | 439.43 | 740.96 |
| 2015 | 1262.67 | 15.34 | 435.95 | 811.38 |
| 2016 | 1260.01 | 18.98 | 402.13 | 838.91 |
| 2017 | 1310.35 | 10.75 | 409.49 | 890.11 |
| 2018 | 1349.66 | 8.01 | 483.15 | 858.50 |
| 2019 | 1381.35 | 5.62 | 423.00 | 952.73 |
| 2020 | 1443.69 | 5.76 | 365.94 | 1072.00 |
| 2021 | 1734.83 | 8.23 | 423.85 | 1302.72 |

3. The Mechanism of FDI To Promote the Development of China's Green Economy

As the global economy develops and awareness of environmental protection increases, more and more countries are paying attention to environmental protection issues. Internationally, governments have taken a series of measures to promote sustainable development, which include increasing environmental regulation and investing in research and development of environmental protection technologies. In such a context, foreign investors are also gradually recognizing the green advantages and development potential of China. Therefore, the role of foreign direct investment (FDI) in the development of China's green economy has attracted much attention. From a historical perspective, the role of FDI in the development of China's green economy has been well proven.

3.1. Financial support effect

With the support of government policies and changes in market demand, FDI has gradually become one of the important forces driving China's economic development. At the same time, FDI has also brought some negative effects, such as waste of resources and environmental pollution. Therefore, how to use the advantages of FDI to promote China's green development has become an issue of great concern. In FDI, the green funding support effect is one of the important aspects. Green capital refers to the investment used

to achieve environmental protection goals, including but not limited to clean energy, energy conservation and emission reduction. Theoretically, FDI can improve the production efficiency and product quality of enterprises by providing technology, management experience, and capital in many ways. These factors can effectively reduce corporate emissions and reduce environmental pollution. In addition, FDI can provide more jobs and higher wages for local businesses. These are all important components of green economic growth. However, the effect of FDI on green economic growth is not entirely positive. On the one hand, due to the larger and more technologically advanced foreign firms, the amount of waste and pollutants they produce can increase. On the other hand, FDI may also lead to local industrial restructuring and labor transfer problems. Therefore, the relationship between FDI and green economic growth and its mechanisms need to be further studied.[5]

3.2. Competition and demonstration effect

First, with the continuous advancement of globalization and the rapid development of China's economy, foreign investors are increasingly choosing to invest in China. These foreign investors not only bring a large amount of capital and technical support, but also provide strong support for the upgrading of China's industrial structure. At the same time, due to the huge size and unlimited development potential of China's market, many multinational companies have also started to pay attention to and actively participate in the construction and development of the Chinese market. The main role of FDI is to promote the development of China's

green economy through competition and demonstration effects. Specifically, FDI can improve the efficiency and competitiveness of enterprises by providing advanced production equipment and management experience. This helps enterprises to achieve the goal of sustainable development and thus contribute to the growth of green economy. In addition, FDI can also drive the development of upstream and downstream industries in the relevant industrial chain by introducing advanced technology and management concepts. For example, the parts manufacturing industry in the automobile manufacturing industry can improve its product quality and service level with the introduction of technology and management mode improvement by foreign investment. This competition and demonstration effect is important to promote the development of China's green economy.[6]

3.3. Technology spillover effect

FDI not only brings a large amount of capital and technical support, but also provides strong support for China's economic restructuring. At the same time, FDI has also made positive contributions to the development of China's green economy. This paper will discuss the role played by FDI on the development of China's green economy from the perspective of technology spillover effect. First of all, it should be clarified that what is technology spillover effect is an additional benefit generated by the knowledge exchange and learning process between the technology introduced by foreign investors and domestic enterprises. This added benefit includes knowledge of technology transfer, management experience, marketing, etc., which have a significant impact on the production efficiency and competitiveness of enterprises. Second, the technology introduced by FDI can provide new impetus and direction for the development of China's green industry. For example, some foreign companies will adopt a more environmentally friendly way of production and operation during their entry into China, which injects some strength into the cause of environmental protection in China. In addition, FDI can help improve the innovation capacity and development of enterprises in China. Many multinational companies have their R&D centers in China, which also provides more opportunities and resources for scientific and technological research and development in China. Finally, FDI can also promote the process of industrial upgrading and transformation and upgrading in China. Many foreign companies will choose to acquire or cooperate with local high-tech enterprises in the process of entering China, thus accelerating the modernization of China's industrialization process. In conclusion, FDI can promote the development of China's green economy through technology spillover effect, and also provide strong support for the development of other fields. [7]

4. Research Recommendations

4.1. Optimizing the government performance assessment system

In promoting the development of China's green economy, the role of the government cannot be ignored. As an important role of policy maker and implementer, the government needs to take a series of measures to promote the full role of foreign direct investment (FDI) in China's green economy. One important initiative is to change the government performance appraisal system and closely integrate it with aspects such as

environmental protection and resource conservation. At the same time, the market-oriented reform process needs to be further strengthened in order to enhance the environmental awareness and responsibility of enterprises. First, the government should establish a new performance appraisal system that incorporates environmental and social responsibility into the assessment indicators. This will motivate companies to actively participate in environmental protection and also better guide them to focus on social responsibility issues. Second, the government should also increase its efforts to open up the market and encourage foreign investors to enter China's green industry sector. This will not only help attract more foreign capital to invest in the development of domestic green industries, but also provide better development opportunities for local enterprises. Finally, the government should also increase its supervision to ensure that foreign enterprises comply with laws and regulations and the principles of compliance. Through these measures, the government can ensure the interests of national security while also being able to effectively promote the realization of China's green economic development goals.

4.2. Formulate corresponding policy measures

In the current context of globalization, the entry of foreign enterprises has brought a huge impetus to China's economic development. However, with the increasing awareness of environmental protection and the international community's higher requirements for environmental protection, FDI is also facing more severe pressure. Therefore, in order to better play the role of FDI, it is necessary to strengthen its supervision and formulate corresponding policy measures. First of all, for FDI enterprises, they should establish the same environmental quality standards as domestic enterprises. At present, China has established a series of laws, regulations and management systems, and these regulations can provide certain protection for FDI enterprises. Secondly, government departments should increase their efforts to carry out environmental protection publicity and education activities to enhance the public's awareness and attention to environmental protection. At the same time, the government should encourage FDI companies to actively participate in the construction of environmental protection projects and promote the development of China's green economy through capital investment. Finally, the government needs to improve the legal system and regulations to ensure the legal compliance of FDI enterprises. Only in this way can the advantages of FDI be truly brought into play to achieve the goal of sustainable economic development in China.

4.3. Encourage and guide the cooperation between foreign and local enterprises

FDI plays an important role in promoting the green development of China. However, to make better use of the advantages of foreign investment, the government needs to take a series of measures to encourage and guide the cooperation between foreign and local enterprises. First, the government should increase supervision to ensure that foreign companies comply with local laws and regulations and fulfill their social responsibilities. Second, the government can provide preferential policies and tax breaks to attract more foreign companies to enter the Chinese market. In addition, the government can improve the confidence and stability of foreign enterprises by establishing a good legal environment and a stable political system. Finally, the government can

regulate the behavior and management style of foreign-funded enterprises by setting relevant regulations and standards to ensure that they are in line with national interests and social needs. In addition to these macro-level initiatives, the government should also focus on specific practical operations. For example, the government can provide financial support and technical training to foreign enterprises to help them adapt to the needs and trends of the local market. At the same time, the government can also encourage local enterprises to participate in international competition by providing them with better opportunities and resources.

References

- [1] Hu Angang, Zhou Shaojie. Green development: functional definition, mechanism analysis and development strategy[J]. *China Population, Resources and Environment*, 2014,24(01): 14-20.
- [2] Li Fuzheng, Yang Peng, Yin Changbin, et al. The basic theory and research prospect of green development of agriculture in China[J]. *China Agricultural Resources and Zoning*, 2020, 41 (10): 1-7.
- [3] Tong Yun, Liu Haimeng, Ma Yong, et al. The impact of China's tourism economy on urban green development and spatial spillover effects[J]. *Journal of Geography*, 2021,76(10): 2504-2521.
- [4] Li Chunzhong, Li Xiaobin. An empirical analysis of green GDP development in China[J]. *Statistics and Decision Making*, 2017,(22): 143-146.
- [5] Jiang Q, Wang Y. Quality of government, science and technology innovation and green GDP: A comparison of inter-provincial spatial spillover effects and regional differences in China[J]. *Journal of Guizhou University of Finance and Economics*, 2020,(06): 87-99.
- [6] Li Jia Kai, Liu Jiahuan. Research on high-quality green development in Guizhou from the perspective of resource and environmental constraints[J]. *Business and Economic Research*, 2021, (23): 157-161.
- [7] Shi JK. Study on the relationship between energy consumption and green GDP growth in Hebei Province[D]. Jilin University, 2021.