

The Impact of China's OFDI on “One Belt, One Road” Country

Bohan Sun ^a

School of economic and business, Monash University, Melbourne, VIC3145, Australia


Keywords: "One Belt, One Road", Upgrading, OFDI.

Abstract: Based on the data of China's direct investment flow and stock in countries along the line from 2003 to 2015 and the economic indicators of 43 countries along the line, this paper discusses the impact of China's direct investment in countries along the line on the upgrading of domestic industries in the host countries along the line. It is found that China's OFDI has promoted the upgrading of domestic industries in the host countries along the line as a whole, and the close exchange of visits between the leaders of countries along the line and China will help to strengthen the role of China's OFDI in promoting the industrial upgrading of countries along the line. It is found that the industrial upgrading effect of investing in low - and middle-income countries along the line is more obvious than that of investing in middle - and high-income countries along the line. The industrial upgrading effect of countries along the line that are not adjacent to China is stronger than that of countries along the line that are adjacent to China.

1 INTRODUCTION

The "one belt, one road" initiative is an important strategic move taken by China and other countries along the line to actively participate in the division of labor, change the world political pattern headed by developed countries such as Europe and the United States (Han 2014), and benefit the economic development, and the political and international status of the countries along the line. However, China one belt, one road construction, often has "the internal hot cold" situation. At the same time, with the intensification of anti-globalization and trade protectionism, FDI has become an important way to make up for the savings gap of countries along the line, promote technological upgrading and realize leapfrog development. In late 2020 China's one foreign investor in one belt, one road and 63 other countries established more than 1.1 overseas enterprises, involving 18 sectors of the national economy, and the direct investment was 22 billion 540 million US dollars, up 20.6% over the same period last year, accounting for 14.6% of the total foreign direct investment volume in the same period. "One belt, one road one belt, one road" is an effective counterattack to China's outward FDI and a great role in promoting the "one belt and one road" construction.

The existing literature on the impact of foreign direct investment on the industrial upgrading of the host country mostly focuses on the impact of the actual amount of foreign capital utilized by the host country on its industrial upgrading. Most scholars believe that FDI improves the local market structure and export structure through technology spillover effect, competition effect and correlation effect (Marcela 2015), so as to promote the development of domestic industry in the host country (Maurice 2016). Some scholars believe that FDI will offset its positive "productivity effect" through a large negative "market grab effect". They propose that the home country can obtain "global key resources" through FDI, further consolidate its core position in the global value chain (Macelaru 2013), and continue to lock the host country's enterprises at the low end of the value chain (Keller 2009), Obtain monopoly profits, which will have an adverse impact on the upgrading of the host domestic industry. The research conclusions of the above two views are different. The reason is that, on the one hand, the impact of FDI on the upgrading of domestic industry in the host country depends on the national characteristics of the host country, and is related to the economic development, financial development level and human capital of the host country (Hermes 2010). More importantly, the

^a <https://orcid.org/0000-0001-6042-1534>

existing literature mostly focuses on the impact of a country's overall use of FDI on its economy and industrial structure, ignoring the differences of FDI caused by the heterogeneity of FDI source countries, which may also lead to inconsistent research conclusions. In fact, FDI from different source countries has significant differences in investment motivation, industry selection, technology transfer and home country institutional environment (Marano 2017), which affect the scale and quality of FDI. Therefore, it is particularly necessary to explore the impact of a country's foreign direct investment on the upgrading of the host country's industrial structure from the perspective of FDI source countries.

Can China's foreign direct investment (FDI) as one of the "one belt, one road" and the world's largest outward direct investment developing countries drive the industrial upgrading of the countries along the border? One belt, one road and China's responsibility for the big powers (Zhang 2016), which is also a positive response to the "China Threat Theory". One belt, one road (Huang 2016), however, China mostly studies China's outward FDI and industrial upgrading along the line from macro strategic level (Jia 2016). Based on the perspective of countries along the line, using the flow and stock data of China's direct investment in countries along the line from 2003 to 2015 (Zhuan 2012), this paper studies the impact of China's OFDI on the upgrading of domestic industries in the host countries along the line, further considers the differences in economic development level, geographical distance from China and cultural origin, and makes a sub sample analysis on the host countries. Investigate the heterogeneous impact of China's direct investment on the upgrading of domestic industries in the host countries along the line. This paper attempts to answer the following questions: how does China's foreign direct investment affect the industrial upgrading of countries along the line? What factors regulate the impact? What is the mechanism of action? What are the differences in the impact of China's foreign direct investment on the upgrading of domestic industries of different types of hosts along the line?

The possible marginal contributions of this paper are as follows: first, it enriches the research field of foreign direct investment. Different from the previous literature on the spillover effect of FDI in the host countries along the line, this paper creatively starts from the source countries of FDI to investigate the industrial upgrading effect of a country's direct investment on the countries along the line. China's "one belt, one road, one belt, one road, second, which makes up for the deficiencies of the existing

literature research focusing on the Chinese perspective and explores the "one belt and one way". This article stresses China's positive influence on the industrial upgrading of the countries along the line, and provides theoretical support for further promoting the "one belt and one road" construction.

2 RESEARCH DESIGN

In order to specifically investigate the role of China's OFDI in industrial upgrading of countries along the line, this paper will separate China's direct investment from the total FDI of countries along the line, test the impact of China's OFDI on the upgrading of domestic industries in the host countries along the line, and further reveal the intermediary effect and degree of technology spillover, factor supply and production rate.

Firstly, a regression model is constructed to test the impact of Chinese investment on the industrial structure of countries along the line, which is set as follows:

$$Industry_{it} = \alpha_{it} + \beta_1 OFDI_{it} + \delta_1 x_{it} + \varepsilon_{it} \quad (1)$$

Using the proportion of the added value of the secondary and tertiary industries or the proportion of the added value of the tertiary industry to measure a country's industrial structure; is the indicator of China's direct investment in countries along the line, expressed in the flow or stock of China's direct investment in countries along the line in the current year; X represents the control variable. Combined with the existing literature, the control variables selected in this paper are: a country's economic development level ($PGDP$), capital density ($kshare$), host country export ($export$), China's export to countries along the line ($export_ch$), knowledge stock of countries along the line ($Ledu$) and labor factor supply of countries along the line ($labor$). The data of the above control variables are from the World Bank database.

"one belt, one road" country and China's data from 2003 to 2015 are mainly divided into three parts: first, China's annual outward direct investment flows and stock data for various countries along the route are derived from China's external investment statistics bulletin. The second is the economic development data of the host countries along the line, which comes from the World Bank Database.

3 EMPIRICAL ANALYSIS

Firstly, the fixed effect model is selected according to test to investigate the impact of China's OFDI on the upgrading of domestic industries in the host countries along the line, as shown in Table 1. The core explanatory variable in columns (1) - (3) is China's OFDI flow to the host countries along the line, and the explanatory variable is the proportion of the secondary and tertiary industries of the host countries along the line. It is found that China's OFDI can significantly promote the industrial upgrading of the countries along the line. Considering that the macro impact will affect the estimation results, the time fixed effect is added in column (4). It is found that the coefficient of the variable *ofd1* is still significantly positive. The regression coefficient shows that for every increase of 1 unit of China's OFDI flow to countries along the line. The domestic industry upgrading index of the host countries along the line will increase by about 0.106 units. According to this driving role, China's OFDI to the countries along the line increased by 62.69% annually from 2003 to 2015, which promoted the industrial structure upgrading index of the countries along the line to increase by 6.64 units annually.

Table 1: Impact of China's OFDI on the industrial structure of host countries along the line.

	(1)	(2)	(3)	(4)
<i>OFDI</i>	0.194*** (3.51)	0.170*** (2.63)	0.132** (2.05)	0.106* (1.71)
<i>PGDP</i>		0.455** (2.12)	0.358** (2.27)	0.251** (2.05)
<i>Kshare</i>		0.257 (1.00)	0.068 (0.26)	0.054 (0.22)
<i>Export</i>		0.040 (0.47)	0.030 (0.35)	0.036 (0.43)
<i>Export_ch</i>		-0.003 (-0.83)	-0.005 (-1.19)	- 0.011*** (-2.78)
<i>Labor</i>			5.366 (0.38)	-18.188 (-1.30)
<i>Ledu</i>			2.230*** (3.34)	0.159** (2.21)
<i>Constant</i>	87.141** * (534.52)	83.075** * (56.19)	74.347** * (14.30)	- 110.006** * (5.84)
<i>Year</i>	No	No	No	No
<i>Observations</i>	347	347	347	347
<i>R-squared</i>	0.039	0.067	0.113	0.230
<i>F</i>	12.30	4.312	5.389	4.485

In terms of control variables, the study found that a country's economic development level (*PGDP*) has a significant role in promoting industrial upgrading. This is because there is an interactive promotion between a country's economic development and industrial upgrading. The more developed a country's economy is, the more conducive its institutional environment, cultural environment and industrial composition are to industrial upgrading, and the improvement of technology and productivity in the process of industrial structure optimization promote economic growth. Although can promote industrial upgrading, it is not obvious. The reason may be related to the speed of capital deepening in various industries. Coefficient of host country export is positive and not significant, indicating that the export of the host country has no significant impact on its own industrial upgrading, which is caused by the differences in export trade structure and regional export added value. China's to countries along the line is significantly negative, which is related to China's continuous export of relatively mature technical products to countries along the line, which intensifies the product competition of the host country and inhibits its industrial upgrading to a certain extent. The labor coefficient of the employed population in the host country is not significant, indicating that the supply of labor factors does not significantly promote the industrial structure of countries along the line, which is related to the development stage of countries along the line. The government needs to consider the employment rate while considering industrial upgrading. The supply of labor population may become a burden of industrial structure upgrading to a certain extent. The coefficient is significantly positive, indicating that human capital significantly promotes local industrial upgrading. This conclusion is consistent with the existing research.

4 HETEROGENEITY ANALYSIS

Considering that the differences between the host countries along the line will also affect the industrial upgrading effect brought by China's OFDI, we will further conduct sub regional investigation on the host countries along the line (Zheng 2011). Firstly, according to the 2010 World Bank standard and the per capita national income of US \$4035, the host countries along the line are divided into low-income and middle and high-income samples for test. See columns (1) - (2) of Table 3 for details. It is found that China's direct investment in low-income countries along the line has significantly promoted the

upgrading of local industries, the industrial upgrading effect of direct investment in middle and high-income countries along the line is negative (Grossman 2008), but not obvious, which is in line with expectations. China's one belt, one road initiative, which has been accelerating the fourth wave of industrial transfer, has been accelerated in the world. Based on this, "along the gradient" will transfer part of China's excess capacity and domestic mature industries to low-income countries along the line through direct investment (Henderson 2012), effectively lead low-income countries along the line to integrate or improve their layout in the global value chain, and then promote local industrial upgrading. For a few middle and high-income countries along the line, China OFDI mostly focuses on market development and technical cooperation. In the long run, such investment is conducive to "forcing" the improvement of local technology and productivity to promote industrial upgrading (Kolstad 2012), but it may inhibit their industrial upgrading in the short term. Therefore, in the sample test, China's direct investment in middle and high-income countries along the line is negative, but it's not obvious.

Then, considering that there may be differences in China's investment in neighboring countries and non-neighboring countries, the samples are divided into two categories according to whether they are adjacent to China. The results are shown in columns (3) - (4) of Table 3. It is found that China's direct investment in countries along the line adjacent to itself does not significantly promote the industrial upgrading of the host country, while investment in countries along the line not adjacent to itself significantly promotes the industrial upgrading of the host country.

Table 2: Heterogeneity Analysis.

	Middle and low income	Middle and high income	Adjacent to China	Not adjacent to China
OFDI	0.227** (2.15)	-0.017 (-0.43)	-0.127 (-1.37)	0.063* (1.67)
Constant	21.357*** (-6.53)	46.170*** (-3.58)	84.159*** (-4.66)	24.097*** (-5.71)
control variable	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Observation	185	162	197	150
R-squared	0.389	0.453	0.424	0.345
F	4.697	5.492	5.850	3.182

5 CONCLUSIONS

From the perspective of foreign capital source countries, this paper emphasizes China's economic contribution to the countries along the line, and analyzes the impact and mechanism of China's OFDI on the industrial upgrading of the countries along the line. The results show that China's direct investment in countries along the line has significantly promoted the industrial upgrading of countries along the line. Quantitatively speaking, in the 13 years from 2003 to 2015, China's OFDI has promoted the industrial structure upgrading index of countries along the line, with an average annual growth of 6.64 units. Further analysis shows that the impact of China's OFDI on industrial upgrading of countries along the line is quite different among heterogeneous host countries. Compared with investing in middle and high-income countries along the line, investing in low and middle-income countries along the line can better promote the industrial upgrading of countries along the line. The industrial upgrading effect of countries along the line that are not adjacent to China is stronger than that of countries along the line that are adjacent to China.

REFERENCES

- Grossman, G.M., Rossi-Hansberg, E. (2008). Trading Tasks: A Simple Theory of Offshoring. *American Economic Review*. 98(5): 1978-1997.
- Henderson, J., Adam, S., David, N. (2012). Measuring Economic Growth from Outer Space. *American Economic Review*. 102 (2): 994-1028.
- Hermes, N., Lensink, R. (2010). Foreign Direct Investment, Financial Development and Economic Growth, *The Journal of Development Studies*. 40 (1): 142-163.
- Jianhong Zhuan, Li Yang. (2012). Location determinants of OFDI in China -- a test based on geographical distance and cultural distance. *Economic Geography*, 32 (12): 40-46.
- Keller, W., Yeaple, S.R. (2009). Multinational Enterprises, International Trade, and Productivity Growth: Firm-level Evidence from the United States, *The Review of Economics and Statistics*. 91(4): 821-831.
- Kolstad, I. and Wiig, A. (2012). What Determines Chinese Outward FDI? *Journal of World Business*. 47(1): 26-34.
- Liangxiong Huang, Yonghui Song, Jialin Wang, Zhongjie Li. (2016). "One belt, one road" construction in China's economic development: An Empirical Analysis Based on the brightness data at night time. *Economist*. (9):25-33.
- Lijuan Zhang, Xiaoqing Zhang, Han Jiang, Chang Liu. (2016). "One belt, one road" Country and China, the industrial transfer of the countries. *World economic research*. 6: 82-92.

- Macelaru, P.S. (2013). Transfer Pricing and FDI, *Acta Universitatis Danubius: Oeconomica*. 9(4): 355-366.
- Marano, V., Tashman, P., Kostova, T. (2017). Escaping the Iron Cage: Liabilities of Origin and CSR Reporting of Emerging Market Multinational Enterprises, *Journal of International Business Studies*. 48(3): 386-408.
- Marcela, E., Fieler, A.C., Daniel, Y.X. (2015). (Indirect) Input Linkages, *American Economic Review*. 105(5): 662-666.
- Maurice, K. (2006). Spillovers from Foreign Direct Investment: Within or Between Industries, *Journal of Development Economics*. 80(8): 444-477.
- Nisha Jia, Yonghui Han. (2016). Foreign direct investment, foreign direct investment and Industrial Structure Upgrading -- an analysis based on nonparametric panel model. *Inquiry into Economic Issues*. (2): 142-152.
- Ruogu Zheng. (2011). Undertaking international outsourcing and upgrading and transformation of China's industrial structure. *Shanghai University of Finance and Economics*.
- Yonghui Han, Xinghua Zhou. (2014). China's trade with West Asia on the background of "One belt, one road", its current situation and Prospect. *International Trade*. (8): 21-28.

