

Research on the Impact of Foreign Direct Investment on Chinese Trade Structure Optimization

—Based on the Strategic Background of the Belt and Road

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Abstract

According to the data of Chinese OFDI and its domestic export trade during 2003 and 2016, the trade structure of China to host country is calculated in this paper, so as to analyze the influence of OFDI on domestic trade structure adjustment. It is shown that there is a close relationship between the OFDI and the domestic trade export, with OFDI not only expanding the scale of overall export trade, but also promoting the upgrade of domestic trade structure. Further, it is found that the marginal transfer effect of OFDI in China is not significant, while the value chain upgrade effect, industrial correlation effect and reverse technology spillover effect are positive. Specifically, OFDI has significantly promoted the increase in the proportion of exports of intermediate goods, capital goods and technology-intensive products in China, which is conducive to the improvement of Chinese international division of labor. In addition, this paper finds similar conclusions through regression analysis of Chinese OFDI and exports trade data of the Belt and Road countries.

Keywords

Foreign Direct Investment, Trade Structure, The Belt and Road

1. Introduction

Since the outbreak of the global financial crisis, as international trade frictions have increased and trade protectionism has become increasingly apparent, Chinese foreign trade is facing more and more enormous challenges. Under shrinking external demand, the biggest challenge to Chinese export trade is not whether it can restore the growth rate of the past, but whether it can strengthen

the quality of trade growth [1]. Du Xiuli and Wang Weiguo (2007) [2] found that if the increase of a country's trade exports is mainly due to the increase of resource-input exports, this trade pattern may be unsustainable and not conducive to long-term economic development. If the increase of trade export is based on an improvement of product technical content, this trade pattern may be sustainable. Therefore, the task of upgrading Chinese trade structure is imminent. At the same time, the "Twelfth Five-Year Plan" also explicitly put forward transformation and upgrading to improve the core competitiveness of the industry. Therefore, the upgrading of Chinese foreign trade structure is urgent and increasingly important. China must complete the transition from a large trading country to a strong trading country.

Under the background of economic globalization, international trade and Outward Foreign Direct Investment is the basic way for a country to participate in the international division of labor. In 2013, Chinese President Xi Jinping proposed the great initiative of jointly building the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road" during his visit to Central Asia and Central and South Asian countries. These two initiatives are referred to as "The Belt and Road" strategy. The Belt and Road strategy adheres to the concept of peaceful cooperation, openness and tolerance, mutual learning and mutual benefit, and mutual benefit and win-win ideals. It actively develops economic partnerships with countries along the route and jointly creates a community of interests and a community of destiny for political mutual trust, economic integration, and cultural inclusion. In recent years, the Chinese government has actively promoted the construction of the "Belt and Road", so as to steadily carry out international capacity cooperation, and the "going out" work system has been continuously improved, therefore the process of Chinese enterprises actively integrating into economic globalization has accelerated. In 2016, the world economy was difficult to recover and the domestic economy was stable. Chinese foreign direct investment reached a record high of US \$196.15 billion, ranking second in the world. At the same time, the total value of Chinese import and export of goods was 24.33 trillion Yuan according to customs statistics. China has rapidly developed from a major trading country and a big country that cites foreign capital into a major foreign investment country. Then, what is the impact of rapid development of foreign direct investment on the transformation and upgrading of Chinese trade structure and how to coordinate the relationship between the two?

Traditional multinational corporation theory believes that Outward Foreign Direct Investment would have a certain impact on international trade. The relationship between the Outward Foreign Direct Investment and trade was first proposed by Robert. A. Mundell (1957) [3], who believes that Outward Foreign Direct Investment completely replaces foreign trade due to the emergence of trade frictions. At present, there are three theoretical views on the relationship between Outward Foreign Direct Investment and trade: substitution, complementarity, and uncertainty. With the deepening of the division of labor within

the product, Outward Foreign Direct Investment is more closely linked to export trade, and literature research on the relationship between this two is becoming more and more widespread. Meanwhile, the research on the trade effect of Outward Foreign Direct Investment on the home country is no longer limited to the scale of trade, and the impact on the trade structure from Outward Foreign Direct Investment appears to be more realistic. Then, after making overseas direct investment, will the company replace the export trade of the host country due to localized production, or will it integrate into a global production network based on the division of labor within a more proactive way to optimize the structure of its export commodities?

The adjustment and optimization of foreign trade structure is the focus of Chinese open economy during the 12th Five-Year Plan period. With the further deepening of the “going out” strategy and the implementation of the “One Belt, One Road” strategy, Chinese foreign direct investment has continued to develop, and it will have an important and positive role to the expansion of Chinese trade scale, the enhancement of product technology content, the expansion of trade areas, and the rational allocation of capital have all started. It has a certain supplement and driving effect on the development of home country trade. However, the research on the effect of trade structure is relatively lacking at present. Based on the analysis of the influence mechanism of OFDI on trade structure, this paper’s empirical analysis with relevant data is complementary and rich in relevant literature. At the same time, in the context of the “Belt and Road”, this paper discusses the important influence of Chinese OFDI on the optimization and upgrading of trade structure, which is not only conducive to the transformation and upgrading of domestic industry through the adjustment of foreign trade structure, but also can coordinate the relationship between foreign direct investment and foreign trade development so as to promote the all-round development of Chinese open economy.

2. Literature Review

In the existing literature, the research on the trade structure effect of Outward Direct Investment to home country is far less than the research on the scale effect of Outward Direct Investment trade. As to foreign studies, Helpman (1984) [4] established a simple general equilibrium model of international trade, arguing that the behavior of multinational corporations’ foreign investment can cause changes of domestic factor endowments and changed this country’s export commodity structure in the long run. Kojima (1978) [5] argue that after the occurrence of foreign direct investment, the home country provides the relevant input factors and supporting services to the subsidiaries, which has an export-induced effect that the scale of the export of home country will expand. On the other hand, through the role of supply-demand linkages and technological linkages between industries, Outward Direct Investment can cause optimization and upgrading of the intermediate product industry and the auxiliary product

industry and change export products which have indirectly led to an increase in the trade structure. It is a quantitative analysis between Korean Outward Direct Investment and export structure by Korean scholar June-Dong Kim *et al.* (1997) [6]. The results show that Korean Outward Direct Investment has a significant positive effect on trade structure, but the situation is different in various industries. Hejazi and Safarian (2001) [7] made an empirical analysis basing on US data to extend the trade structure to the scope of merchandise trade and trade in services, and got a similar conclusion.

In recent years, domestic scholars have been constantly researching on the relationship between Outward Foreign Direct Investment and trade structure. China is in an important stage of industrial transformation, so the study of trade structure is also a hot issue which all of us concerned. Sui Yuehong and Zhao Zhenhua (2008) [8] used Granger causality test and regression analysis to empirically analyze the formation mechanism of export trade structure, and found that foreign direct investment and trade openness have positive effects on the formation of Chinese export trade structure, but Outward Foreign Direct Investment still has no effect on Chinese export trade structure. Li Xialing and Wang Zhihua (2015) [9] examined the regional differences in the effect of Outward Foreign Direct Investment on the trade structure of the home country based on the provincial panel data, and found that the effect of Outward Foreign Direct Investment on the eastern region is more effective than that in the central and western regions. Chen Yuyu (2012) [10] used time series data and industry panel data to conduct empirical analysis, and found that the Outward Foreign Direct Investment stock lag 2 phases have a positive effect on the trade structure, and from the analysis on industry data, Outward Foreign Direct Investment has a more significant impact on the structure of import trade. Ma Xin (2016) [11] used the time series data of China from 1997 to 2014 to analyze the impact of Chinese foreign direct investment on the structure of export trade. The analysis shows that Foreign Direct Investment in China inhibits the improvement of export trade structure, while Chinese Outward Foreign Direct Investment is conducive to the improvement of the structure of export trade, but its promotion is less than the promotion of industrial structure. All empirical studies of above literatures are based on the method of unit root test and cointegration test, and their used data are the time series data. There are also some studies basing on other methods of panel data. For example, Chen Juncong and Huang Fanhua (2013) [12] used provincial panel data of China from 2004-2010 to test the influences of Chinese Outward Foreign Direct Investment on export technology complexity using a two-step GMM system estimation method. The study found that the current expansion of Chinese foreign direct investment promote the export technology complexity of manufactured goods technology. Liu Gong and Zhang Zongbin (2007) [13] used ECM to empirically analyze the relationship between Outward Foreign Direct Investment and export trade from China. Yu Yi and Wan Lian (2009) [14] made a distinction between the trade of goods to

empirically analyzes the relationship between Outward Direct Investment and the import and export of primary products and manufactured goods, which based on the relevant data of China from 1982 to 2007. The conclusions drawn are similar with others, that is, Outward Foreign Direct Investment has played a positive role in improving the structure of Chinese export trade.

In summary, in the existing literature, studies from domestic and foreign scholars on the relationship between Outward Foreign Direct Investment and the trade structure of the home country seems to lack systematic. Some scholars mainly focus on empirical analysis, but the measurement of trade structure is not comprehensive enough, meanwhile there is no mechanism for inquiry. Some pointed out possible transmission mechanisms, but lacked empirical tests. In addition, the reliability and robustness of the relevant empirical tests are worth discussing. The reasons are as follows: First, the empirical test of the data on overall investment and trade may be misleading. For example, Chinese Outward Foreign Direct Investment for a certain country promotes the export of intermediate products such as machinery and equipment (that is, complementary effects) in the country, but at the same time, due to the entry of products which are from Outward Foreign Direct Investment into the market of the country and its neighboring countries, the export of manufactured goods may be reduce (that is, substitution effect); second, the use of time series data for analysis may mask the heterogeneous information of the host country, such as the missing resource endowments, technical differences and other country characteristics that have a significant impact on the trade structure. Third, individual studies examining the relationship between Outward Foreign Direct Investment and exports may have neglected two-way causality and created endogenous problems. Based on the comprehensive measurement of trade structure, this paper explores the impact mechanism of Outward Foreign Direct Investment on Chinese trade structure using the panel data of Chinese Outward Foreign Direct Investment and trade from 2003 to 2016, and uses the systematic GMM method to conduct an empirical test on the structure of import and export trade.

3. The Impact Mechanism

The impact of Outward Foreign Direct Investment on the structure of export trade through different channels, including the following four aspects:

3.1. Marginal Industry Transfer Effect

According to Kojima's theory of marginal industry transfer, through transferring domestic marginal industries to developing countries or regions with relatively low production cost, one country's multinational companies can continue to maintain their original comparative advantages and extend the life cycle of the product. For the parent company, more capital will be used in product design, technology research and development, so it will continue to push the improvement of its production level and enhance the international competitiveness of

enterprises. So Outward Foreign Direct Investment can promote the optimization of the structure of the domestic industry and inevitably lead to the optimization of export trade structure. In other words, by diverting marginal industries or excess capacity, and focusing on and integrating domestic scarce resources, Outward Foreign Direct Investment will increase the allocation efficiency of domestic production factors and promote the transfer of resources to new and more advantageous industries, thus changing the output and employment structure of various industries. It would achieve industrial upgrading, thereby promoting the upgrading of the trade structure. Due to the rising labor costs in China, Chinese labor-intensive industries are being transferred overseas.

3.2. Industry Correlation Effect

Overseas investment in a certain industry will lead to the expansion of the upstream and downstream industries and productivity growth through this inter-industry relationship. Many horizontal Outward Foreign Direct Investment in China replace the home country's exports of industrial manufactured goods to meet the needs of the local market. However, overseas investment and construction will also drive the export of intermediate products such as production equipment and parts in the home country, and the demand for intermediate products will expand, which can cultivate many domestic emerging Industry and promote the upgrading of export structure.

3.3. Reverse Technology Spillover Effects

Through invest in Foreign country, the company can obtain advanced technology and core technology from overseas, and reverses the technology to the domestic market through technology spillovers or internal transmission methods. So the enterprise, industry and national technology level can be improved as a whole, thereby the efficiency of input and output between industries could be improved. In other words, Outward Foreign Direct Investment can promote the industrial organization level of a country and promote the optimization of the foreign trade structure. In fact, a considerable number of overseas investment companies in China are technology-seeking investments that enable companies to absorb and learn advanced technologies, improve their technology, and enhance the overall competitiveness of technology-intensive products in the market.

3.4. Value Chain Upgrade Effect

The company can gain advanced technology and management experience from overseas through Outward Foreign Direct Investment which also promote capital inflows. This way can help companies promote the competitiveness themselves, and promote the overall technical level of the home country industry, thereby promoting the upgrading of the home country industry's position in the global value chain. Liu Bin, Wang Jie, and Wei Qian (2015) [15] have shown that

investing in developed countries is conducive to enterprise product upgrades, while investing in developing countries is more conducive to enterprise function upgrades.

4. Model Design and Data Description

4.1. Model Design

According to the data of Chinese Outward Foreign Direct Investment and its domestic export trade during 2003 and 2016, the trade structure of china to host country are calculated in this paper, so as to analyze the influence of Outward Foreign Direct Investment on domestic trade structure adjustment. This paper draws on the treatment methods of Hu Bing and Qiao Jing (2013) [16], adding hysteresis items to the model, and construct the basic model on the basis of gravity model is shown as below:

$$\ln EST_{it} = \beta_0 + \beta_1 of \ di_1_{it} + \gamma \ control_{it} + \varepsilon_{it} \quad (1)$$

where i and t represent country i and year t , respectively, EST_{it} represents the explained variable which indicates the export trade structure of country i at year t , of di_1_{it} represents the explaining variable which indicates Outward Foreign Direct Investment of China to country i at year t , $control$ represents the control variable, ε represents the error term of the model.

4.2. Selection of Main Variables and Data Sources

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1) Explained variable: trade structure(EST). In accordance with the mechanism of the OFDI promotion of trade structure upgrading, we refer to the relevant literature and use different variables to measure the trade structure:

a) The trade structure (labor) is expressed by the proportion of the export value of labor-intensive products to total exports, to measure the marginal industrial transfer effect of OFDI;

b) The trade structure (intermediate) is expressed by the proportion of the export value of intermediate products to the total export, to measure the upgrading effect of the value-added chain of foreign direct investment;

c) The trade structure (micap) is expressed by the proportion of the sum of intermediate products and capital goods exports to total exports, to measure the industry-related effects of OFDI;

d) The trade structure ((captech)) is expressed by the proportion of the export value of capital goods and technology-intensive products to the total export, to measures the spillover effects of reverse-investment reverse technology.

Among them, the classification criteria for labor-intensive products, intermediate products, technology-intensive products, and capital goods and technolo-

gy-intensive products are based on the classification of existing documents such as Hu Weizhen (2016) [17]. The using data is the 1-digit SITC Rev.3 data in the UN Comtrade database. The labor-intensive products are represented by the sum of the products of 6, 8, and 9. The intermediate products are the sum of the products of 5 and 6, and the capital goods are the products of the 7th. Said that technology-intensive products are represented by the sum of Category 7 and Category 7 products.

2) Core explanatory variable: $OFDI_{t-1}$. For the OFDI variable, some domestic literature uses flow data. However, since the entire investment stock will trigger the trade effect and need a process, this paper selects the one-stage lag OFDI stock data. The data comes from the “Statistical Bulletin on China’s Foreign Investment.”

3) Control variables: Based on other literature studies, this paper selects the factors that affect the trade structure.

a) Gross Domestic Product (gdp), used to measure the country’s market potential, from the World Bank database;

b) Per capita GDP (pgdp), used to measure the size of the country’s market, data from the World Bank database;

c) Exchange rate level (rate). The bilateral real exchange rate data of the renminbi against trading countries or regions is derived from the World Bank database;

d) Natural resources (raw). The total natural resource rent is expressed as a percentage of GDP, and the data is derived from the World Bank database.

e) tariff (tar). The data is derived from the World Bank database.

f) Whether to sign a free trade agreement(fta). Using the dummy variable fta, the data comes from the World Trade Organization’s RTA database and PTA database;

	Variables	Variables Name	Data Source
Explained variable (EST)	labor	Marginal industry transfer variable	UN Comtrade database
	middle	Value chain upgrade variable	
	micap	Industry related variable	
Core explanatory variable	captech	Industry related variable	Statistical Bulletin on China’s Foreign Investment
	lnnofdi_s	Foreign Direct Investment	
	lnpgdp	Per capita GDP	
	lngdp	GDP	
Control variables	lnraw	Natural resources	World Bank database
	Intar	tariff	
	lnrate	Exchange rate	
	fta	Whether to sign a free trade agreement	

This paper selects the 2003-2016 trade countries as a sample to study the impact of China's direct investment and export trade in the host country on China's trade structure. Among them, China's OFDI, export volume, host country GDP and per capita GDP are converted into 2010 constant dollar prices (unit: 10,000 US dollars) using the dollar GDP deflator, in order to avoid the heteroscedasticity of the measurement model and better reflect For the elastic relationship between variables, this paper performs logarithmic processing on of di_1, gdp, pgdp, dist, rate, and raw variables.

5. Empirical Results and Analysis

In order to test whether Chinese foreign direct investment has an optimized effect on Chinese trade structure, this paper uses the panel data of direct investment and export of 206 countries in China from 2003 to 2016 for regression analysis. The panel random effect model and the fixed effect model were screened by Hausman test, and it was concluded that the model of this paper is more suitable for estimation with fixed effects. The preliminary regression results are shown in **Table 1**.

Table 1. Preliminary regression results.

	(1) lnexport	(2) labor	(3) middle	(4) micap	(5) captech
lnnofdi_s	0.110*** (0.019)	-0.000 (0.007)	0.116*** (0.019)	0.115*** (0.018)	0.109*** (0.019)
lnpgdp	-0.521 (0.525)	-0.244 (0.150)	-0.683 (0.532)	-0.187 (0.510)	-0.290 (0.504)
lngdp	2.722*** (0.479)	0.154 (0.122)	2.784*** (0.456)	2.535*** (0.465)	2.757*** (0.461)
fta	0.113* (0.061)	0.003 (0.025)	0.200*** (0.066)	0.153*** (0.055)	0.108 (0.070)
lntar	-0.173*** (0.060)	-0.011 (0.021)	-0.155** (0.060)	-0.144** (0.058)	-0.142** (0.061)
lnrate	-0.120 (0.091)	0.032 (0.020)	-0.132 (0.090)	-0.147 (0.100)	-0.152 (0.106)
lnraw	0.123*** (0.037)	-0.010 (0.016)	0.114*** (0.034)	0.128*** (0.036)	0.136*** (0.045)
_cons	-24.760*** (7.747)	-3.816* (2.005)	-27.423*** (7.531)	-21.260*** (7.570)	-24.687*** (7.490)
N	1249	1249	1076	1246	1249
R2	0.730	0.009	0.713	0.721	0.680

Note: *, **, and *** indicate that the parameter estimates are significant at the 10%, 5%, and 1% levels, respectively; the values in parentheses are the robust standard errors of the corresponding variable estimation coefficients.

The results in column (1) show that the impact of the lag of Outward Foreign Direct Investment of China is positive and significant on Chinese total export at the level of 1%, indicating that there is a very obvious complementary relationship between Chinese Outward Foreign Direct Investment and export trade. This conclusion is consistent with Zhang Chunping (2012) [18] who is domestic scholar. The reason is that, on the one hand, Outward Foreign Direct Investment will increase the demand for related domestic facilities and services, which will lead to an increase in export levels; On the other hand, it will also alleviate the shortage of domestic resources, thereby expanding the export of manufactured goods and avoiding the substitution effect. Columns (2)-(5) are further tests for the optimization effect of trade structure. For labor-intensive products, the coefficient of Outward Foreign Direct Investment is negative, but it is not significant, indicating that the marginal transfer effect of Chinese Outward Foreign Direct Investment is not obvious which is consistent with the coefficient of GDP per capita. Although Chinese Outward Foreign Direct Investment prefers the economy which has low labor costs, but this result is not significant. However, the improvement of Chinese Outward Foreign Direct Investment on the export level of intermediate products is positively promoted, which means that the value chain upgrade effect of Outward Foreign Direct Investment in China is significant and lagging. The expansion of the proportion of exports of intermediate goods indicates that the degree of specialization in China has deepened and the status of the value chain has continued to rise. The coefficient of Outward Foreign Direct Investment lag term in column (4) is positive, indicating that Chinese Outward Foreign Direct Investment has obvious industrial correlation effect. This is mainly because the resource development of overseas subsidiaries can drive the export of related equipment, parts and intermediates and intermediate products to the host country. Especially to countries with relatively rich mineral resources and relatively backward industrial technology, the export demand of intermediate products is even more obvious (Chen Juncong, 2014) [19]. The results in column (5) show that the increase in Outward Foreign Direct Investment of China is conducive to the further expansion of the export ratio of capital goods and technology-intensive products in China. For every 10% increase in Chinese foreign direct investment, Chinese capital goods and technology-intensive products will increase by 1.09%. In general, the inverse gradient Outward Foreign Direct Investment to developed countries can bring in the import of related patented technologies and high-tech products. Strategic assets can be introduced into the country as a scarce production factor, which can quickly improve the technical level of domestic products, thereby promoting external Optimization of trade structure.

The empirical analysis of the control variables is as follows: first, except for column (2), the coefficient of GDP is positive at the level of significance of 1%, indicating that Chinese exports of total goods, intermediate goods, capital goods and technology-intensive goods are more tends to some regions where there is

economically developed, which is related to China called “world factory” for many years. Second, the coefficient of *fta* indicates that Chinese exports, especially the export of intermediate goods and capital goods, are more likely to sign countries with trade agreements. Third, the impact of tax rate on exports is negative, that is to say, the export of all products in China is more inclined to countries with lower tax rates. Fourth, the coefficient of the explanatory variable *raw* is significantly positive, indicating that Chinese investment has a very obvious characteristics that Chinese Outward Foreign Direct Investment more likely to seek natural resources and energy. For example, China has made large-scale direct investments in energy resources in Russia and Pakistan, oil resources in Kazakhstan and the United Arab Emirates, natural gas resources in Indonesia and Turkmenistan, and mineral resources in Mongolia.

(II) Regression results of countries along the “Belt and Road”

In recent years, the Chinese government has actively promoted the construction of the “Belt and Road”. Trade and economic cooperation between China and countries along the Belt and Road has become increasingly frequent, especially import and export and foreign direct investment having grown rapidly. Therefore, this paper matches the national data along the “Belt and Road” to test whether Chinese Outward Foreign Direct Investment in countries along the “Belt and Road”¹ can also optimize Chinese trade structure. The regression results are shown in **Table 2**.

At the overall level of exports, China has a greater role in promoting Outward Foreign Direct Investment in countries along the Belt and Road. Outward Foreign Direct Investment has a greater negative impact on labor-intensive products, but this result is not significant. The third (3)-(5) shows that Chinese reverse technology spillover effect, value chain upgrading effect and industrial correlation effect on Outward Foreign Direct Investment along the Belt and Road, and the industrial correlation effect is more significant than all sample countries, which also shows that China Investment along the way along the route tends to be resource-seeking. The results of other control variables are consistent with the results of the overall sample return.

6. Conclusions and Limitation of Research

According to the data of Chinese Outward Foreign Direct Investment and its domestic export trade during 2003 and 2016, the trade structure of china to host country are calculated in this paper, so as to analyze the influence of Outward

¹According to the statistical statistics of China’s Foreign Direct Investment Statistics Bulletin, the countries along the “Belt and Road” include 65 countries in Asia, Africa and Europe: Mongolia, Singapore, Malaysia, Indonesia, Myanmar, Thailand, Laos, Cambodia, Viet Nam, Brunei and the Philippines, Iran, Iraq, Turkey, Syria, Jordan, Lebanon, Israel, Palestine, Saudi Arabia, Yemen, Oman, United Arab Emirates, Qatar, Kuwait, Bahrain, Greece, Cyprus and the Sinai Peninsula of Egypt, India, Pakistan, Bangladesh, Afghanistan, Sri Lanka, Maldives, Nepal and Bhutan, Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan and Kyrgyzstan, Russia, Ukraine, Belarus, Georgia, Azerbaijan, Armenia and Moldova, Poland, Lithuania, Estonia, Latvia, Czech Republic, Slovakia, Hungary, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Searle Asia, Albania, Romania, Bulgaria and Macedonia.

Table 2. Regression results of national samples along the Belt and Road.

	(1) lnexport	(2) labor	(3) middle	(4) micap	(5) captech
lnnofdi_s	0.113*** (0.026)	-0.004 (0.010)	0.108*** (0.018)	0.116*** (0.021)	0.118*** (0.023)
lnpgdp	0.113 (0.377)	-0.129 (0.145)	0.284 (0.405)	0.446 (0.376)	0.325 (0.363)
lngdp	1.929*** (0.348)	0.155 (0.121)	1.905*** (0.329)	1.761*** (0.328)	1.887*** (0.303)
fta	0.015 (0.058)	0.069*** (0.019)	0.278*** (0.045)	0.116** (0.049)	-0.060 (0.053)
lntar	-0.304*** (0.075)	-0.013 (0.036)	-0.274*** (0.057)	-0.263*** (0.058)	-0.273*** (0.061)
lnrate	-0.057 (0.084)	0.022 (0.018)	-0.060 (0.060)	-0.074 (0.084)	-0.067 (0.085)
lnraw	0.107** (0.042)	0.034* (0.019)	0.121*** (0.035)	0.096** (0.037)	0.076* (0.042)
_cons	-13.286** (5.363)	-3.242* (1.886)	-13.335** (5.440)	-10.054* (5.319)	-12.552** (4.936)
N	498	498	429	496	498
R2	0.757	0.024	0.781	0.785	0.759

Note: *, **, and *** indicate that the parameter estimates are significant at the 10%, 5%, and 1% levels, respectively; the values in parentheses are the robust standard errors of the corresponding variable estimation coefficients.

Foreign Direct Investment on domestic trade structure adjustment. It is shown that there is a close relationship between the Outward Foreign Direct Investment and the domestic trade export, in the context of the increasing international trade friction, with Outward Foreign Direct Investment not only expanding the scale of overall export trade, but also promoting the upgrade of domestic trade structure.

Further, Outward Foreign Direct Investment improves trade structure mainly through four important ways, and it is found that the marginal transfer effect of Outward Foreign Direct Investment in China is not significant, while the value chain upgrade effect, industrial correlation effect and reverse technology spillover effect are positive. Specifically, Outward Foreign Direct Investment has significantly promoted the increase in the proportion of exports of intermediate goods, capital goods and technology-intensive products in China, which is conducive to the improvement of Chinese international division of labor. In addition, this paper finds similar conclusions through regression analysis of Chinese Outward Foreign Direct Investment and exports trade data of the Belt and Road countries.

In terms of research methods, the research methods in this paper are relatively simple and it can be innovated. At the same time, there are still many factors affecting the structure of domestic trade, such as domestic industrial structure, infrastructure level, intellectual property protection system, etc., which can incorporate domestic influence factors into the model and conduct more comprehensive empirical analysis.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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