

A Study on the Trade Effects of China's Direct Investment in Malaysia

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Abstract: Malaysia is geographically located in the center of Southeast Asia, holding the Malacca Strait, an important international waterway, and is an important node in the construction of the "Belt and Road". China and Malaysia have long maintained good economic and trade cooperation. Investment and trade are important ways of economic exchanges between the two countries. Malaysia has a favorable investment environment, and China has become the largest investor in Malaysia's manufacturing industry for six consecutive years. In terms of trade, China has become the largest trading partner of Malaysia for 14 consecutive years, the largest source of imports and the second largest export market of Malaysia. As an important investor and trade partner of China, Malaysia's research on the trade effects of direct investment in Malaysia can further promote bilateral economic cooperation and provide reference for China's investment in other countries along the "Belt and Road". Firstly, the paper defines the main concepts involved, and combs the relevant theories of trade effects of direct investment, which lays a theoretical foundation for the following research. Then, the paper analyzes the development of China's direct investment and trade in Malaysia, introduces the general situation of China's direct investment and trade in Malaysia, and preliminarily judges that China's direct investment and trade in Malaysia are promoting relations. Finally, the paper combines the status quo analysis and empirical conclusions, and puts forward relevant policy recommendations.

Keywords: Trade, Investment, China, Malaysia.

1. Introduction

1.1. Background

With the continuous development of China's economy, China plays a more and more important role in the international division of labor. International trade and foreign direct investment have also become the focus of China's foreign economic cooperation. In 2013, China proposed to build the "Belt and Road" initiative. With the acceleration of the construction process of the initiative, the economic cooperation between China and countries along the Belt and Road is also deepening. ASEAN is the latest stop of the construction of the "21st Century Maritime Silk Road", while Malaysia is located at the geographical intersection, with superior geographical location, and has been the trade center on the "Maritime Silk Road" since ancient times. As an important cooperative partner of China in the ASEAN region, Malaysia has maintained good relations with China for a long time.

Since China put forward the "Belt and Road" initiative, Malaysia has also actively responded to the initiative and carried out investment and trade cooperation with China. Zhao (2018) pointed out that Malaysia is the most representative country in the development of China ASEAN economic and trade relations. To a large extent, the development of China Malaysia economic and trade relations is the epitome of the development of China ASEAN economic and trade relations. When China and Malaysia first established diplomatic relations in 1974, there was little cooperation and contact. Now, the cooperation between China and Malaysia in the economic and trade field has entered a new era. In terms of investment, China's investment in Malaysia has grown rapidly. In 2016, China surpassed Japan and the United States as the largest investor in Malaysia. In 2022, China has become the largest investor in Malaysia's

manufacturing industry for six consecutive years; In terms of trade, China has been Malaysia's largest trading partner for 14 consecutive years since 2009, and is Malaysia's largest source of imports and second largest export market. As an important hub of the "Belt and Road" construction, Malaysia has a good investment and trade base. Whether there is a relationship between the rapid growth of investment and trade volume, and whether direct investment in Malaysia promotes or replaces trade between the two sides, how to adjust investment in Malaysia to further improve China Malaysia trade relations and promote bilateral cooperation has become a problem worth thinking about.

1.2. Research significance

At present, China is already a net capital exporter. With the implementation of the "Belt and Road" initiative, foreign direct investment and trade between China and countries along the Belt and Road have shown a positive development trend. As an important node country of the "Belt and Road", Malaysia has obvious regional advantages and naturally becomes one of the first choices for China's foreign direct investment. The pace of economic cooperation between China and Malaysia is fast. There are a lot of cooperation contents and projects, as well as many lessons learned. To a large extent, the investment and trade exchanges with Malaysia can serve as a good example. There has always been no shortage of research on the trade effects of foreign direct investment in academic circles. However, there are few studies on the trade effects of China's foreign direct investment in Malaysia, and most of them focus on the investment and trade effects of the overall ASEAN region. With this as the starting point, this paper deeply explores the trade effect of China's direct investment in Malaysia, and analyzes the trade effect of China's direct investment in Malaysia by combining theoretical analysis with empirical testing. This not only makes up for the gap in academic

research in this field, but also provides reference for China's investment in other countries along the "Belt and Road" to a certain extent. In addition, Malaysia is an important country along the "Belt and Road" and an important partner of China's international production capacity cooperation. The construction of the "Belt and Road" provides new opportunities and platforms for China and Malaysia to carry out investment cooperation. The development concepts of China and Malaysia are consistent, the development strategies are consistent, and the investment cooperation potential is huge. Exploring the trade effects of direct investment in Malaysia is of great significance for promoting the economic cooperation between the two countries, giving play to Malaysia's "gateway" role in the construction of the "Belt and Road" and promoting the construction of the "Maritime Silk Road" initiative.

2. Literature Review

2.1. Research on the trade effects of foreign direct investment

The essence of foreign direct investment and trade is the flow of production factors in the international market. However, different scholars have different conclusions about the relationship between foreign direct investment and trade in different periods. Scholars represented by Mundell hold that there is an alternative relationship between foreign direct investment and trade. Mundell (1957), based on H-O theory, proposed that there is an alternative relationship between foreign investment and trade, and established an alternative relationship model between them. Horst (1972) took the direct investment and trade data of the United States to Canada as the research sample. Through empirical analysis, it was concluded that the direct investment of the United States to Canada had a substitution effect on trade under the influence of relevant taxes. Belderbos and Sleuwaegen (1998) took the foreign direct investment and trade data of more than 500 Japanese enterprises as the research sample, and confirmed that there was a substitution effect of foreign direct investment on export trade from the micro level. Helpman (2004) analyzed the panel data of foreign investment and trade of 52 industries in 38 countries, and also concluded that a country's foreign investment has a substitution effect on its export trade.

The scholars represented by Kojima advocated that there is a promoting relationship between foreign direct investment and trade. Kojima (1978) analyzed the foreign investment of Japanese enterprises, and concluded that Japanese enterprises chose to invest in countries with lower production costs in order to reduce production costs, so as to obtain profits, thereby promoting the development of bilateral trade. Lipsey and Weiss (1981) took the US manufacturing industry as the research object, and found that US foreign direct investment has a promoting effect on trade. Pfaffermayr (1994) conducted a cointegration test on the relationship between Austria's foreign investment and trade, and the results showed that foreign direct investment promoted trade. Eaton and Tamura (1996) analyzed the data of Japan's direct investment and trade in the United States from 1985 to 1990, and found that there was a positive correlation between them. Cai and Liu (2004) used the empirical method of ridge regression to study the relationship between China's foreign direct investment and trade. The study shows that the two are complementary. Wang and Liu (2008) analyzed China's

investment and trade data from 1985 to 2005. The empirical results show that foreign direct investment can not only promote trade scale but also improve trade structure. Sui (2010) used the "dual" analysis method to analyze China's foreign investment and trade data from 1984 to 2008. The results show that foreign direct investment can significantly improve China's trade structure. Zhang (2012) found that China's direct investment in major host countries (regions) has an obvious import and export creation effect. Chen and Hehuang (2013) used the GMM method to study and found that China's foreign direct investment has no significant impact on the trade scale, but it can improve the technical degree of China's export products. Li and Wang (2015), starting from the provincial level of China, divided China's provinces into central, eastern and western regions. The empirical results show that foreign investment can improve the trade structure and the eastern region has the most significant effect.

With the refinement and deepening of the research, some scholars argue that there is an uncertain relationship between foreign direct investment and trade. Patrie (1994) believed that market oriented FDI and trade are substitutive relations, production oriented FDI and trade promotion relations, and investment motivation determines the trade effect. Head and Ries (2001) studied the relationship between foreign investment and trade of 925 Japanese manufacturing enterprises over the past 25 years. On the whole, they were complementary, but their impact on products of different categories was inconsistent. Wei and Xie (2009) established a VAR model for China's foreign direct investment and trade data from 1983 to 2007, and the regression results showed that the foreign investment data had little impact on trade. Wong and Goh (2013) explored the relationship between Singapore's foreign direct investment and trade. The empirical results show that foreign direct investment can promote trade in goods, but there is no causal relationship between foreign direct investment and trade in services.

2.2. Research on the trade effect of foreign direct investment in ASEAN region

The economic and trade exchanges between China and ASEAN are getting closer and closer, and the academic research on the effect of China's investment and trade in ASEAN is also gradually increasing. At present, most scholars believe that investment in the ASEAN region can promote bilateral trade and improve the trade structure in terms of research on trade effects of investment in the ASEAN region. In terms of overall research on ASEAN, Chai and Hu (2012) compared the trade effects of China's direct investment in ASEAN region and Europe and the United States, and believed that China's foreign direct investment has a promoting effect on trade, and its role in promoting trade for developing countries is stronger than that of developing countries. Liu and Xie (2014) found that China's direct investment in ASEAN countries has trade creation effects, and there are significant differences in the size of trade creation effects among different countries. Malaysia, Thailand and Vietnam have the largest creation effects, while Laos, Myanmar and Brunei have the smallest. Wang and Shao (2018) used the GTAP model to study and found that China has a significant trade creation effect on OFDI of countries along the "Belt and Road", of which Central Asia has the most obvious trade creation effect. Lin (2019) found that the trade creation effect of China's direct investment in ASEAN has

obvious heterogeneity. When the trade volume is relatively low, foreign direct investment has a greater creation effect on import and export trade.

In terms of research on single ASEAN countries, An (2018) analyzed the data of direct investment and bilateral trade between China and Vietnam from 1996 to 2016. The study found that there is a long-term equilibrium relationship between the two. Qin (2019) found that China's direct investment in Myanmar can significantly promote bilateral trade between China and Myanmar, and promote import trade more significantly, and the long-term impact is more significant in terms of time. Sun (2019) used OLS method to study and found that direct investment in Cambodia and bilateral trade between China and Cambodia are complementary, and investment can promote the export of capital and technology intensive products to Cambodia.

2.3. Research on Investment and Trade in Malaysia

Malaysia is China's key investment and trade target in the ASEAN region. At this stage, scholars at home and abroad have done some research on Malaysia. From the content, the research mainly focuses on China Malaysia economic and trade and China Malaysia relations under various backgrounds, and lacks the research on the trade effects of direct investment in Malaysia.

In terms of bilateral trade between China and Malaysia, Wang (2000) reviewed the economic and trade development process between China and Malaysia, summarized the characteristics of bilateral relations between China and Malaysia, and believed that the future cooperation between China and Malaysia in the economic and trade field is highly plastic and has broad prospects. Chen (2014) proposed countermeasures to further develop the economic relations between China and Malaysia by analyzing the problems in the current bilateral economic relations. Lu (2015) sorted out the economic and trade cooperation between China and Malaysia after entering the 21st century, and believed that the bilateral economic and trade relationship was good, but there were also constraints in trade deficit, market competition, labor policy and other aspects. Mohsen and Bahmani (2018) applied linear and nonlinear ARDL methods to study the impact of exchange rate changes on the trade balance between Malaysia and China, and found that nearly one third of the industries would be affected. Zhao (2018) explored the feasibility of economic development strategy docking between China and Malaysia and put forward corresponding policy suggestions. Hu (2018) used GARCH model to study the impact of exchange rate fluctuations on China Malaysia export trade. Yu (2018) believes that in the medium and long term, the political party rotation in Malaysia will open up wider development space for China Malaysia cooperation, but it is likely to cause political risks in the short term, and it is necessary to take targeted preventive measures.

In terms of research on China Malaysia relations under different research backgrounds, Tang (2015) studied the goods trade between China and Malaysia by building a comparative model of goods trade between China and Malaysia under the CAFTA background. The research results show that the differences in goods trade between the two countries mainly lie in the differences in structure, scale and tariff mechanism. Xu (2016) focused on Malaysia's position in the construction of the "Maritime Silk Road" and proposed a path for China and Malaysia to jointly build the "Maritime

Silk Road". Lv (2016) discussed how to accelerate capacity cooperation between China and Malaysia in the context of the implementation of China's "Belt and Road" strategy. Li (2018) used SWOT tools to analyze the economic and trade cooperation between Guangxi and Malaysia, believing that the in-depth cooperation between the two sides has great opportunities, but also faces great challenges.

2.4. Research review

Foreign investment is an important way to achieve economic growth, and foreign trade is an important way to participate in international division of labor. At present, the academic research on the trade effect of foreign investment has yielded fruitful results. There are not only solid theoretical research, but also rich empirical research, which provides reference for this study. With the implementation of China's "going out" strategy, the ASEAN region has become a key region for China's foreign investment. Although the total amount of investment in this region is small, the rapid growth of investment has aroused the attention and research of scholars at home and abroad. Many scholars have begun to explore the trade effects of investment in this region, but most of the studies are conducted on ASEAN as a whole, and few studies are conducted in individual countries. As an important node country of the "Belt and Road" construction, Malaysia's current research focuses on the prediction of Malaysia's investment, the scale of China Malaysia trade and the future trend. There is little research on the impact of China's direct investment in Malaysia on China Malaysia trade, leaving room for this study.

3. Empirical Study on Trade Effects of Direct Investment in Malaysia

3.1. Trade scale effect of direct investment in Malaysia

The trade scale effect of foreign direct investment refers to the impact of foreign direct investment on trade volume, which is the change of quantity. It can be studied from the aspects of import and export. Generally speaking, we call the growth of trade volume caused by foreign direct investment as the creation effect, and the reduction of trade volume caused by foreign direct investment as the substitution effect. This section mainly uses empirical methods to explore the relationship between China's direct investment in Malaysia and the scale of China Malaysia trade, whether it is trade creation or trade substitution?

3.2. Model Setting and Data Source

3.2.1. Model Setting

The gravity model was originally an analytical model in physics, which was modified by Tinbergen in 1962 and was first used in the field of international trade. The basic principle of the model in the field of economics is that the bilateral trade volume between the two countries is proportional to the total economic volume of the two countries, and inversely proportional to the geographical distance between the two countries. The basic formula form is:

$$X_{ij} = \frac{A(GDP_i * GDP_j)}{D_{ij}}$$

Where, X_{ij} represents the bilateral trade volume, GDP_i and GDP_j represent the gross domestic product of the two countries, D_{ij} represents the geographical distance between the two countries, and A is a constant.

Summarize the methods used by many scholars to explore the trade effect of investment, and find that the gravity model is one of the common methods used by many scholars. In addition to investment, there are many factors that can affect the volume of import and export trade. When setting the gravity model of the trade effect of investment, some scholars only set the amount of investment in the explanatory variables of the model, and some scholars add explanatory variables other than the amount of investment as control variables according to their own research needs, such as market size, geographical distance, economic system, etc. The main purpose of this chapter is to measure the impact of direct investment on trade. When setting up the model, indicators such as Malaysia's GDP are selected. However, there is multiple collinearity between the test and the amount of direct investment. Therefore, when setting up the gravity model, only the amount of investment is set as an explanatory variable, and other control variables are not included. Lai (2002) found that the role of foreign direct investment in China needs a certain absorption period. Cai (2004) said that China's foreign direct investment in other countries also has a certain lag. Therefore, when setting the gravity model, China's exports to Malaysia and China's imports from Malaysia were selected as the explained variables, The investment stock lagging behind by one period and the current investment flow are selected as the explanatory variables, in which the stock represents the long-term impact and the flow represents the short-term impact. Because time series data is very easy to have heteroscedasticity, taking natural logarithm can solve this problem, and will not change the characteristics of the variable itself or affect the correlation with other variables. In addition, taking the natural logarithm can also

reduce the residual difference to a certain extent, making the time series more stable. Finally, we decided to establish the following model:

$$\ln EX_t = \alpha_1 + \beta_1 \ln OFDIstock_{t-1} + \gamma_1 \ln OFDIflow_t + \mu_1$$

$$\ln IM_t = \alpha_2 + \beta_2 \ln OFDIstock_{t-1} + \gamma_2 \ln OFDIflow_t + \mu_2$$

Where, EX_t represents the export trade volume of China to Malaysia in year t, IM_t represents the trade volume of China's imports from Malaysia in year t, $OFDIstock_{t-1}$ represents the stock of China's direct investment in Malaysia in year t-1, i.e. the stock of investment in the previous period, $OFDIflow_t$ represents the current flow of China's direct investment in Malaysia, μ represents the random error term, α represents the constant term, and β 、 γ is the parameter to be estimated.

The main observation object of this model is β 、 γ , where the positive and negative β 、 γ represents whether the effect of OFDI on trade is promotion or substitution, and the value of β 、 γ represents the impact of OFDI on trade.

3.2.2. Data source

Since the data of China's foreign direct investment in Malaysia has been counted since 2006, this paper selects the data of China's foreign direct investment flow, investment stock and import and export trade volume in Malaysia from 2006 to 2021 as the research sample. Among them, the data of FDI flow and investment stock in each year are from the Statistical Bulletin of China's FDI, and the data of import and export trade volume in each year are from the Uncomtrade database. The explanatory variables and explained variables selected in this paper are denominated in US dollars, so there is no need to consider exchange rate translation. This paper uses Eviews 10 measurement software for empirical analysis.

Table 1. Variables of empirical model and data sources

| Variables | Name | Symbol | Expected symbol | Source |
|----------------------|---------------------------------|-----------|-----------------|---|
| Interpreted variable | Exports | EX | N/A | Uncomtrade database |
| | Imports | IM | | |
| Explanatory variable | Foreign direct investment stock | OFDIstock | + | Statistical Bulletin of China's Foreign Direct Investment |
| | Foreign direct investment flow | OFDIflow | | |

3.3. Empirical test

3.3.1. Stability test

When conducting regression analysis, the phenomenon of pseudo regression should be avoided. When the data is not stable, it is very easy to lead to this phenomenon. Time series data are often non-stationary series, so we need to test the

stability of the data before carrying out econometric regression. If the data is a non-stationary series, it is necessary to make its difference into a stationary series for regression analysis. This paper adopts Augmented Dickey Fuller test, namely ADF unit root test method, which can test the stability of time series. The results of ADF test for each variable are shown in Table 2.

Table 2. ADF test for all variables

| Variables | ADF test statistic | P-value | Conclusion |
|--------------|--------------------|---------|----------------|
| lnEX | -1.270298 | 0.8549 | Not stationary |
| dlnEX | -3.938291 | 0.0497 | Stationary |
| lnIM | -1.397187 | 0.8180 | Not stationary |
| dlnIM | -2.404332 | 0.0205 | Stationary |
| lnOFDIstock | -2.197343 | 0.4573 | Not stationary |
| dlnOFDIstock | -5.128022 | 0.0060 | Stationary |
| lnOFDIflow | -1.738802 | 0.3748 | Not stationary |
| dlnOFDIflow | -16.86438 | 0.0000 | Stationary |

Note: (1) d represents the first order difference of the sequence; (2) All variables in this table are stationary or not stationary at the 5% significance level

It can be seen from the above table that under the 5% significance level of the original sequence of all variables, the P value is greater than 0.05, so the original hypothesis is accepted, that is, the original sequence of all variables is unstable. In order to make the sequence stable, after the first order difference of all sequences is performed, the test results show that the P value of the first order difference sequence of all variables is less than 0.05, so the original assumption is rejected, that is, the first order difference sequence of all variables is stable, and it is a first order single integer sequence.

3.3.2. Cointegration test

Cointegration refers to the long-term stationary relationship between multiple series. Engle and Granger put

forward the cointegration theory in 1987. The theory believes that cointegration relationship can only exist between data series with single integration of the same order. It can be seen from the previous tests that $\ln EX$, $\ln OFDI_{stock}$ and $\ln OFDI_{flow}$ are first-order single integer sequences, indicating that there may be a cointegration relationship between them. To determine whether the cointegration relationship really exists, we need to use the cointegration test to determine. Next, we will conduct Johansen cointegration test on the export scale effect gravity equation and the import scale effect gravity equation respectively.

First, check the cointegration relationship between $\ln EX$ and $\ln OFDI_{stock}$, $\ln OFDI_{flow}$. The test results are shown in Table 3.

Table 3. Test results of co-integration relationship of Johansen method

| Number of hypothetical cointegration relationships | Trace statistics | Test critical values (5%) | P-value |
|--|------------------|---------------------------|---------|
| None* | 67.09922 | 42.91525 | 0.0000 |
| At most 1 | 10.46662 | 25.87211 | 0.9036 |
| At most 2 | 4.213901 | 12.51798 | 0.7110 |

It can be seen from Table 3 above that at the 5% significance level, the test p value assuming the number of cointegration relationships is 0 is 0.0001, and the original assumption that there is no cointegration relationship is rejected, indicating that there is at least one cointegration relationship between $\ln EX$ and $\ln OFDI_{stock}$, $\ln OFDI_{flow}$. Therefore, we can think that there is a long-term and stable co

integration relationship between China's direct investment stock, direct investment flow and export trade volume in Malaysia from 2006 to 2021.

As above, we tested the cointegration relationship between $\ln IM$ and $\ln OFDI_{stock}$, $\ln OFDI_{flow}$. The test results are shown in Table 4 below.

Table 4. Test results of co-integration relationship of Johansen method

| Number of hypothetical cointegration relationships | Trace statistics | Test critical values (5%) | P-value |
|--|------------------|---------------------------|---------|
| None* | 58.49583 | 42.91525 | 0.0007 |
| At most 1 | 16.77946 | 25.87211 | 0.4316 |
| At most 2 | 5.169939 | 12.51798 | 0.5722 |

It can be seen from Table 4 above that at the 5% significance level, the test p value assuming the number of cointegration relationships is 0 is 0.0000, and the original assumption that there is no cointegration relationship is rejected, indicating that there is at least one cointegration relationship between $\ln IM$ and $\ln OFDI_{stock}$, $\ln OFDI_{flow}$. Therefore, we can think that there is a long-term and stable co integration relationship between China's direct investment stock, direct investment flow and import trade volume in Malaysia from 2003 to 2018.

3.3.3. Result analysis

From the previous test, the variables $\ln EX$ and

$\ln OFDI_{stock}$, $\ln OFDI_{flow}$, $\ln IM$ and $\ln OFDI_{stock}$, $\ln OFDI_{flow}$ are single integer of the first order at the 5% confidence level, and there is a cointegration relationship. Therefore, we can further conduct regression analysis on these variables according to the two equations set above to analyze the impact of China's foreign direct investment in Malaysia on the scale of China Malaysia import and export trade and how much impact it will have. After the linear regression analysis of the export equation, the following regression results are obtained.

Table 5. Regression results of export volume effect

| Variables | Coefficient | Std. Error | t-statistic | P-value |
|-------------------------|-------------|--------------------|-------------|----------|
| C | 15.40079 | 1.477373 | 10.42444 | 0 |
| $\ln OFDI_{stock} (-1)$ | 0.385156 | 0.151893 | 2.535706 | 0.0277 |
| $\ln OFDI_{flow}$ | 0.039499 | 0.100689 | 0.392286 | 0.7023 |
| R-squared | 0.85884 | Adjusted R-squared | | 0.833174 |
| F-statistic | 33.46282 | Prob(F-statistic) | | 0.000021 |

According to the above table, the following regression equation can be obtained:

$$\ln EX_t = 15.400 + 0.385 \ln OFDI_{stock}_{t-1} + 0.039 \ln OFDI_{flow}_{t-1} + \mu_1$$

According to the regression results, the adjusted value of the model is 0.83, and the p value of F statistic is also less

than 0.05, indicating that the regression results of the model are good and the fitting degree is high in a statistical sense. Then observe the p value of each variable. The p value of constant C and the stock of outward direct investment lagged by one period is less than 0.05, indicating that at the level of 5% significance, the coefficient of constant C and the stock

of outward direct investment lagged by one period is significant, which has good explanatory power to the model; The p value of outward direct investment flow is greater than 0.05, indicating that the coefficient of outward direct investment flow is not significant in the statistical sense, and the explanatory ability of the model is not good. From the above analysis, we can see that the stock of OFDI represents a long-term impact, while the flow of OFDI represents a short-term impact, that is, OFDI has a lag, which is significant in the long term, but not significant in the short term.

In the sense of economics, the regression coefficients of

FDI stock and FDI flow are both positive, indicating that China's direct investment in Malaysia can promote China's exports to Malaysia. It can be seen from the regression results that for every 1% increase in the stock of China's direct investment in Malaysia, the export to Malaysia will increase by 0.38%. This research result is basically consistent with other research results of the same type, so it is also significant in the economic sense.

After the linear regression analysis of the import equation, the following regression results are obtained.

Table 6. Regression results of export volume effect

| Variables | Coefficient | Std. Error | t-statistic | P-value |
|------------------|-------------|--------------------|-------------|----------|
| C | 18.24907 | 1.502762 | 12.14368 | 0 |
| LnOFDIstock (-1) | 0.293813 | 0.151893 | 1.901662 | 0.0837 |
| LnOFDIflow | 0.011628 | 0.10242 | 0.113537 | 0.9117 |
| R-squared | 0.743984 | Adjusted R-squared | | 0.697435 |
| F-statistic | 15.983 | Prob(F-statistic) | | 0.000557 |

According to the above table, the following regression equation can be obtained:

$$\ln IM_t = 18.249 + 0.293 \ln OFDIstock_{t-1} + 0.011 \ln OFDIflow_t + \mu_2$$

According to the regression results, the adjusted value of the model is 0.69, and the p value of F statistic is less than 0.05, indicating that the regression results of the model are good and the fitting degree is high. Then observe the p value of each variable, the p value of constant C is less than 0.05, and the p value of the stock of outward direct investment lagged by one period is less than 0.1, indicating that at the 10% significance level, the coefficient of constant C and the stock of outward direct investment lagged by one period is significant, which has good explanatory power for the model; The p value of outward direct investment flow is greater than 0.05, indicating that the coefficient of outward direct investment flow is not significant in the statistical sense, and the explanatory ability of the model is not good. Here, it is consistent with the previous interpretation of the export model, and also because the effect of FDI flows is lagging behind, so the regression coefficient of FDI flows is relatively small and the p value cannot pass the test.

In the economic sense, the regression coefficients of the

stock and flow of outward direct investment are both positive, indicating that China's direct investment in Malaysia can promote China's imports from Malaysia. It can be seen from the regression results that for every 1% increase in the stock of China's direct investment in Malaysia, the import from Malaysia will increase by 0.29%. The regression result is basically consistent with other research results of the same type, so it is also significant in the economic sense.

In order to further test the robustness of the model and prove that direct investment in Malaysia can indeed promote the scale of China Malaysia trade, this paper chooses the proportion of China's exports/imports to Malaysia in China's total exports/imports to replace the import and export trade volume of Malaysia in the model. The change in the proportion of imports and exports can also reflect the change in the scale of China's trade with Malaysia. Through empirical analysis, the regression results are basically consistent. Although the size of the impact coefficient is different, the symbols in the model are positive, indicating that the model is robust. The robustness test results are shown in Table 7 below.

Table 7. Robustness test results of export/import volume effect

| Model | Variables | Coefficient | P-value | R-squared |
|--------------|------------------|-------------|---------|-----------|
| Export scale | LnOFDIstock (-1) | 0.097848 | 0.0002 | 0.693014 |
| | LnOFDIflow | 0.05729 | 0.0001 | |
| Import scale | LnOFDIstock (-1) | 0.173825 | 0.0019 | 0.678393 |
| | LnOFDIflow | 0.025657 | 0.0015 | |

4. Analysis of Trade Effect Mechanism of Direct Investment and Existing Problems

4.1. 4.1 Theoretical analysis of trade effects of direct investment

The main explanatory variable considered in the actual analysis is the amount of direct investment. When analyzing the specific production mechanism, we can start from the investment motivation to analyze how direct investment affects the trade scale. According to the World Investment Report, investment motivations can be divided into four

categories. The mechanism of different types of foreign direct investment on trade scale is as follows:

Resource seeking: The purpose of this type of OFDI is to obtain the natural resources of the host country. On the one hand, the exploration and mining work requires relevant machinery and equipment, which usually needs to be purchased from the home country, which will drive the export of relevant machinery and equipment from the home country. On the other hand, these resources are usually transported back to the home country after mining, which will promote the import of primary resource products from the home country to the host country. After the relevant resources enter the production of the home country, they become other

products, and then promote the export of products from the home country again.

Market seeking: This type of foreign direct investment can also be divided into two categories. One is to open up new markets, that is, enterprises go to the host country, invest in setting up factories, open new markets and establish sales networks. Such investment will drive the export of relevant production equipment, raw materials or intermediate products from the home country. The other is to bypass trade barriers by enterprises have occupied a certain market share in the host country. The host country establishes trade barriers to protect the local market. At this time, enterprises will choose to invest abroad to avoid barriers. In this case, investment will lead to the reduction of exports of the home country.

Efficiency seeking: This type of foreign direct investment is generally initiated by enterprises in the home country that lose their competitive advantage due to high production costs. The host country of the investment is usually rich in labor or land resources and cheap. Investment in the host country can reduce the production cost of enterprises and improve production efficiency, which will promote the export of raw materials, intermediate products and production equipment of the home country, while the finished products are usually sold back to the home country to promote the import of the host country.

Innovation seeking: This type of foreign direct investment is aimed at acquiring the advanced technology of the host country, usually in scientific research, information equipment and other industries. During the investment process, the home country exchanges and cooperates with advanced enterprises. In order to absorb advanced technology, it will increase the import of technology intensive products and products with high scientific and technological content to the host country.

It can be seen from the empirical analysis in the previous chapter that direct investment in Malaysia promotes trade scale, which can be explained from the following perspectives:

First, resource seeking direct investment has driven the growth of China's import and export trade with Malaysia. Although China is rich in its own resources, its per capita resource share is low, while Malaysia is rich in oil, natural gas and other resources, making it the second largest oil and gas producer in Southeast Asia. China needs a lot of energy resources in the process of economic development. According to the analysis of investment motivation, resource orientation is one of the main motivations. Many Chinese enterprises choose to go directly to Malaysia for investment and mining. When carrying out survey and mining, they need a lot of machinery and equipment, which will increase China's export of relevant machinery and equipment to Malaysia, such as surveyor, excavator, transport vehicle, etc. During the operation period, the export of China's relevant parts will also increase due to the loss of equipment. If the mined mineral resources are directly transported back to China, it will increase China's imports of petroleum and natural gas from Malaysia. If simple processing is carried out in Malaysia, it will increase China's exports of refining equipment and imports of petroleum products from Malaysia. In addition, the raw materials obtained in Malaysia can be processed in China and then made into other products for export to Malaysia.

Secondly, the market seeks the growth of import and export trade driven by direct investment. Malaysia has a vast market. In order to obtain the Malaysian market, enterprises will invest to set up offices or sales companies, which will

undoubtedly increase China's export trade to Malaysia through the efforts of enterprises. In order to further expand market share and gain more profits, enterprises will choose to invest and produce directly in Malaysia, which will drive Malaysia's import of production equipment, raw materials and intermediate products from China.

Third, the growth of trade scale driven by efficiency seeking direct investment. After decades of rapid development, China's manufacturing industry has gradually lost its competitive advantage in some labor-intensive industries and resource intensive industries, and has become a "marginal industry" with surplus production capacity in China. Malaysia is rich in natural resources, mineral resources and labor resources. In order to reduce costs and improve efficiency, many enterprises directly relocate their production bases to Malaysia. For example, China Malaysia United Steel has settled in China Malaysia Industrial Park, which can make use of Malaysia's rich energy resources and transfer domestic surplus steel production capacity. Some enterprises disperse production links, and some labor-intensive production links are arranged in Malaysia. Such direct investment has increased China's exports of machinery and equipment, raw materials and intermediate products to Malaysia, and some intermediate products and finished products will be sold back to China.

The last is the growth of trade scale driven by innovation seeking direct investment. Specifically, for China's direct investment in Malaysia, Chinese enterprises seeking advanced technology will set up subsidiaries or acquire Malaysian enterprises. On the one hand, increase the import of technology intensive products and products with high scientific and technological content; on the other hand, learn advanced technology, improve their production level and product competitiveness, and then increase the export of related products.

In conclusion, from the perspective of theoretical analysis, the promotion effect of China's direct investment in Malaysia on the export scale will be stronger than the import effect, and there will be a certain lag. The empirical conclusions in the previous chapter also confirm the mechanism analysis here. One unit of direct investment increase can bring 0.38 units of export trade increase and 0.29 units of import trade increase. The investment stock lagging behind one period is more significant than the investment flow.

4.2. Policy Suggestions on Direct Investment in Malaysia

From the empirical test results, we can see that direct investment has a good positive effect on trade scale. From the review of the development history of Malaysia's direct investment, we can see that in recent years, the flow of China's direct investment in Malaysia has increased significantly. It can be seen that friendly exchanges between governments have a significant stimulating effect on direct investment. The government should first create a good investment atmosphere to lay the foundation for the smooth development of direct investment, which can produce corresponding trade effects according to the expected mechanism. Therefore, it is necessary to deepen government exchanges and create a good investment atmosphere.

In the future, the government should strengthen friendly exchanges with the Malaysian government, increase the number of leaders' mutual visits, actively carry out economic cooperation negotiations with Malaysia, strive to reach

consensus in the field of investment, sign more cooperation agreements or memorandums of understanding that benefit enterprises investing abroad, help enterprises to obtain more preferential policies and investment facilitation permits abroad, and reduce enterprises' concerns about political risks. Secondly, the development of foreign direct investment is a long-term operation process. From bidding to actual implementation, it involves many aspects of negotiation and approval. The government can build a "green channel", focus on risk control, simplify administrative procedures, and omit unnecessary procedures to save time for enterprise investment. The government can also take the lead in establishing an efficient dialogue platform and information sharing platform to facilitate enterprises to more comprehensively understand Malaysian information, obtain relevant investment preferential policies, dispute handling policies, etc. More importantly, this platform should be built as a strong backing for enterprises investing abroad, so that enterprises can timely feed back problems encountered in the process of investing abroad to the government and obtain help from the government. Deepening government exchanges and creating a good investment atmosphere can not only win more preferences and conveniences for domestic enterprises, but also mobilize the enthusiasm of enterprises to invest abroad, increase the intensity of foreign investment, and thus have a positive impact on trade.

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