*Original Paper*

# Research on the Trade Effects of China's Direct Investment in ASEAN

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*Abstract*

*Based on the data of China's direct investment and trade in ASEAN countries from 2004 to 2018, this paper established a variable parameter model, variable intercept model and constant coefficient model with panel data, and investigated the heterogeneous impact of China's direct investment in ASEAN countries on their import and export trade and the impact mechanism. It is found that China's direct investment in ASEAN will be deposited in the trade between China and 10 ASEAN countries, creating effects for trade, and the size of the effect varies with the host country. On average, when other factors remain unchanged, every 1 percentage point increase in China's direct investment flows to ASEAN countries will increase exports to ASEAN countries by 0.54%, imports will increase by 0.44%. Further studies have found that our country to Brunei, Indonesia, the Philippines, Singapore and Thailand's export create effect is greater than the imported create effect, on the whole, China's investment in the five countries promoted the net exports, mainly on its investment in China, led to many mechanical equipment and other related products exports, and imports mainly import countries have their comparative advantages of products, variety is less.*

*Keywords*

*China-ASEAN, FDI, trade effect, the panel data model*

## 1. Introduction

In 2018, world economic growth was basically the same as that of the previous year, and the growth of trade in goods slowed down. Global FDI outflows shrank, falling for three consecutive years from 2016 to 2018. The Chinese economy has made steady progress, the level of opening-up has been constantly

improved, relevant departments have actively guided qualified Chinese enterprises to "go global", and the structure and quality of outbound investment have been further improved. According to the UN conference on trade and development (UNCTAD)'s world investment report 2019, the global outflow of foreign direct investment in 2018 was $1.01 trillion and the year-end stock was $3.098 billion. Based on this basis, China's OFDI accounted for 14.1% and 6.4% of the world's annual flow and stock in 2018, accounting for 3 percentage points and 0.5 percentage points, respectively, up from the previous year. China's OFDI ranked second in terms of the world's countries (regions) and third in terms of the stock. Among the countries that have investment and trade with China, ASEAN countries hold an extremely important position. ASEAN and China are not only geographically adjacent, but also similar in cultural background, ethnic customs and close trade contacts. ASEAN countries' natural resources, market size and investment environment also attract Chinese companies to increase investment. With the major "One Belt And One Road" initiative put forward by President Xi during his visit to Kazakhstan and Indonesia in 2013, bilateral trade and investment between China and ASEAN countries have ushered in new opportunities. As shown in Figure 1, the proportion of ASEAN in China's OFDI and import and export trade keeps rising, and two-way investment and trade grow rapidly. In 2002, the two sides signed the framework agreement on comprehensive economic cooperation to launch the free trade area. The China-ASEAN free trade area has strongly promoted the long-term and stable development of bilateral economic and trade relations and become a good example of mutual benefit and win-win cooperation among developing countries. In 2002, when China-ASEAN free trade area was just launched, bilateral trade volume was 54.8 billion us dollars.
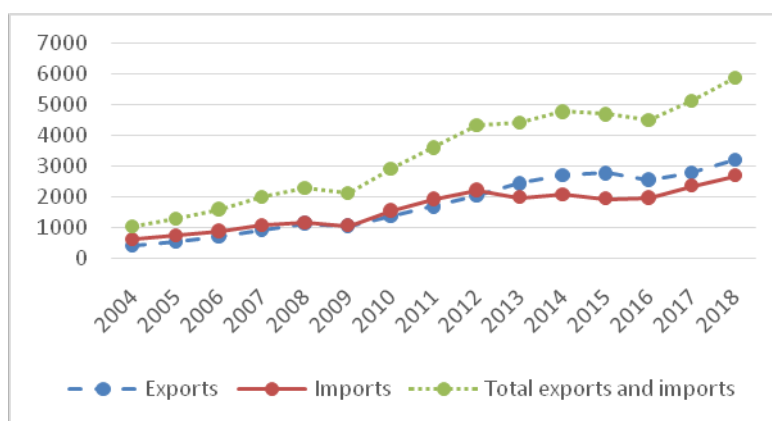


**Figure 1. Import and Export Trade between China and ASEAN Countries (2004-2018) (Unit: $100 Million)**

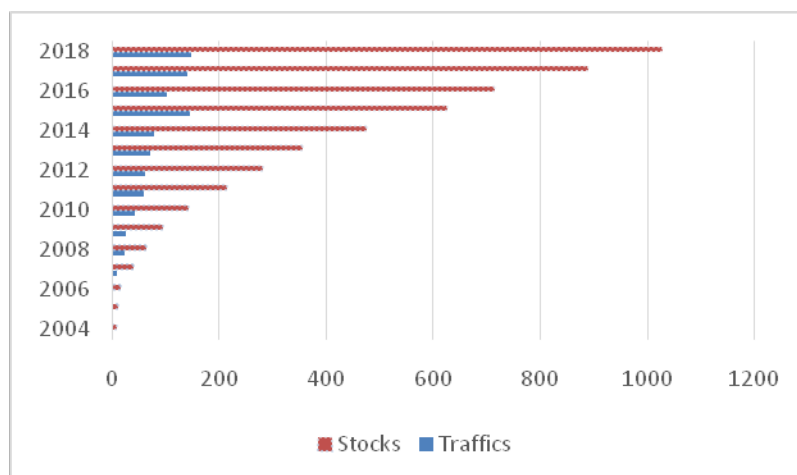*Source*: "World Investment Report 2019".

**Figure 2. China's Direct Investment in ASEAN Countries (2004-2018) (Unit: $100 Million)**

*Source*: "World Investment Report 2019".

By 2018, bilateral trade volume had reached 578.7 billion us dollars, an increase of nearly 11 times in 16 years. China has been ASEAN's largest trading partner for many years and ASEAN is China's third largest trading partner. In 2018, China's direct investment flow to ASEAN was 13.694 billion us dollars, down 3% year-on-year, accounting for 9.6% of the total flow of that year and 13% of the investment flow to Asia. At the end of the year, the stock was $102.858 billion, accounting for 5.2% of the total stock and 8.1% of the stock of investment in Asia. By the end of 2018, China had set up more than 5,200 enterprises with direct investment in ASEAN, employing nearly 430,000 employees. As can be seen from Figures 1 and 2 above, both trade volume and direct investment stock of China to ASEAN countries show an increasing trend. On October 22, 2019, the protocol on upgrading China-ASEAN free trade area will come into full force for all member states of the agreement, which will surely push bilateral economic and trade cooperation to a new level. What is the relationship between China's direct investment in ASEAN countries and its trade volume against the backdrop of weak growth of China's foreign trade, rapid development of China's foreign direct investment and full entry into force of the protocol on upgrading China-ASEAN free trade area? Does China's investment in ASEAN countries promote trade or replace it?

With China's rapid transition from a major trading country and a major investor to a major investor, China-ASEAN free trade area is the first and largest free trade area that China has discussed with other countries. This can not only provide a reference for the government to make economic policies, but also provide some strategic guidance for multinational companies to choose the way to enter the international market. Theoretical studies have shown that a country's OFDI may be creative to its import and export trade, that is, it improves the import and export trade. There may also be substitution, that is, reduced import and export trade. If OFDI promotes the trade between China and ASEAN, China's competitive industries and transnational corporations should be encouraged to further "go global" and expand the market of ASEAN countries. If direct investment replaces China's trade with

ASEAN countries, there is a trade-off between investment and exports. In view of this, this paper, based on variable parameter model, variable intercept model and constant coefficient model, makes an in-depth analysis of the trade effect of China's direct investment in ASEAN countries, in order to provide some reference for the government and relevant institutions to make decisions. The main contributions of this paper are as follows: first, in the existing studies, most of the studies on China's OFDI and trade relations are limited to the country level, while the in-depth studies on China's regional economic cooperation with ASEAN are rarely involved. As ASEAN countries are the key areas to promote the construction of "One Belt And One Road" in China, this paper systematically investigates the trade effect and investment motivation of direct investment to ASEAN countries, which provides new empirical evidence for promoting the coordinated development of trade and foreign investment in the construction of "One Belt And One Road". The second is to study the effects of foreign direct investment on import and export trade. This paper USES three models, namely variable parameter model, variable intercept model and constant coefficient model, to more accurately investigate the trade effects of foreign direct investment under different trade volumes. The study found that China has significant trade creation effect on OFDI of ASEAN countries. For every 1 percentage point increase in China's OFDI flow to ASEAN, exports to ASEAN will increase by 0.54% and imports by 0.44%. In general, China's investment in the five countries promotes the net export, mainly because China's investment in them drives the export of many related products such as machinery and equipment, while the import is mainly due to the small number of products with the comparative advantages of their countries.

## 2. Literature Review

Direct investment flowing into the host country from the home country will have substitution or complementation effect on the trade between the home country and the host country according to its inflow mode and industry, which can be divided into export creation effect, import creation effect, export substitution effect and import substitution effect.

In theoretical studies, Mundell (1957) first studied the relationship between direct investment and trade, believing that direct investment has substitution effect on import and export trade. Later, Xiao dao-qing (1987) put forward the marginal industry expansion theory, believing that there was a complementary relationship between direct investment and trade. Markusen and Svensson (1985) put forward the contingency relationship between direct investment and trade, believing that the relationship between factor flows and commodity trade is related to the cooperation between trade and non-trade factors, while cooperation is complementary and non-cooperation is substitution.

In the empirical study, Niu Xi-fei (2012) and Hao Feng-feng (2014) discussed China's influence on asean's OFDI on import and export trade, and empirically found that OFDI created trade effects on import and export. Wang Chang-yi and Chen Li-xia (2013) analyzed that: in the long term, FDI and export are complementary, while import is substitution. Duan Zhen Yuan (2015) used China's OFDI

and trade data of ASEAN from 2004 to 2013 for analysis and obtained the same results. Liu Yu-nan and Xie Run-de (2014) studied China's trade effect on ASEAN OFDI from different countries, and concluded that except Myanmar and Laos, China's export creation effect on ASEAN OFDI was greater than import creation effect. Liu Lei and Yi yao-yao (2015) analyzed and found that China had trade creation effect on OFDI of ten ASEAN countries, but the influence was different in different degrees due to different ASEAN countries. Li Li-min (2018) used the panel data from 2005 to 2016 to calculate the country differences in the trade effects of China on the ten ASEAN countries OFDI, and found that, on the whole, China's OFDI on ASEAN could promote the import and export trade between China and ASEAN. Lin Chuang-wei (2019) used gravity equation and quantile model to investigate the heterogeneous influence and influence mechanism of China's direct investment to ASEAN countries on their import and export trade, and found that China's direct investment to ASEAN countries had obvious trade creation effect.

Through literature researches, it can be found that due to different investment regions and investment methods, there are some disputes in the existing literature about the trade effect of China's OFDI. However, when it comes to the regional economic cooperation between China and ASEAN, only a few studies have involved the relationship between OFDI and import and export trade. Therefore, this paper tries to systematically investigate the trade effects of China's direct investment to ASEAN countries through empirical analysis.

## 3. Analysis on the Mechanism of China's Trade Effect on ASEAN OFDI

### 3.1 Analysis of OFDI's Export Effect on China

The export creation effect of OFDI is mainly shown as follows: foreign direct investment enables Chinese enterprises to increase the export of related equipment, raw materials and other products to ASEAN. For example, China's investment in ASEAN's communication industry will drive China's communication equipment export. Export substitution effect of OFDI: it means that OFDI reduces the export of Chinese enterprises to ASEAN, mainly because China's investment in ASEAN manufacturing industry leads to the decline of China's export of manufacturing products to ASEAN. When many manufacturing enterprises make cross-border investment, they mostly adopt a gradual approach and usually start trade with them first. With the development of trade, companies will set up subsidiaries in foreign countries, and then invest in factories to produce and sell locally, which will replace some of our exports to them.

### 3.2 Analysis of Import Effect of OFDI on China

In terms of import trade, the import creation effect of foreign OFDI is a kind of reverse import effect: mainly referring to the fact that China's direct investment to ASEAN leads to the product originally exported to ASEAN being imported from China. Such situation is easy to occur in the manufacturing and natural resource industries. For example, Chinese enterprises used to export washing machines to ASEAN countries, but now they set up factories in ASEAN countries, and the domestic output will

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decrease accordingly. At this time, Chinese enterprises will import the product from the subsidiaries of ASEAN countries. In contrast to the import creation effect, import substitution effect is caused by the decrease of imports from ASEAN due to OFDI, which often leads to the change of trade structure.

*3.3 Mechanism Analysis and Summary*

The industry of China's investment in ASEAN, the two countries' policies and economic environment will have an impact on the trade effect of OFDI, and different results will be generated according to different situations, which cannot be generalized. China's direct investment in ASEAN is unevenly distributed among countries and industries, so China's direct investment in ASEAN may have substitution or creation effect on trade, and it is difficult to judge its overall and individual influence from theory and experience. Therefore, this paper will establish two panel data models for practical verification, and determine the size and direction of China's import and export effect on ASEAN through quantitative analysis.

## 4. Empirical analysis of China's Trade Effect on ASEAN OFDI

*4.1 The Data Source*

By searching the websites of China's Ministry of Commerce, ASEAN statistical yearbook, the world bank and the United Nations trade database, this paper found the stock data of China's direct investment in 10 ASEAN countries from 2004 to 2018, the import and export trade data of China and 10 ASEAN countries, and the GDP of China and 10 ASEAN countries.

*4.2 Panel Data Model Settings*

In this paper, two panel data models will be established to study the export trade effect and import trade effect of China's direct investment in ASEAN respectively. Import and export volume are taken as dependent variables, while the stock of OFDI is taken as independent variables. Although the degree of political stability, tax and other factors of ASEAN countries all affect import and export trade, due to the difficulty in obtaining relevant statistical data of the ten ASEAN countries and different statistical standards, FDI stock and GDP were selected as independent variables. In order to reduce the heteroscedasticity of the data, logarithms of all scalars were taken in this paper. The regression form of the model is as follows:

$$LNEX = \alpha_1 + \beta_1 LNFDI + \gamma_1 LNGDP_{ASEAN} + \delta_1 \text{ (Export model)}$$

$$LNIM = \alpha_2 + \beta_2 LNFDI + \gamma_2 LNGDP_{China} + \delta_2 \text{ (Import model)}$$

$a_1$, $a_2$ is a constant, $\delta_1$, $\delta_2$ is a random disturbance. $LNGDP_{ASEAN}$ and $_2LNGDP_{China}$ are control variables, respectively representing the economic development level of ASEAN countries and China, and $\gamma_1$ and $\gamma_2$ are respectively the influence coefficients of GDP on exports and imports. $\beta_1$ is the LNFDI coefficient of export and $\beta_2$ is the INFDI elasticity coefficient of import. If the LNDFI coefficient of the above two models is greater than 0, it indicates that China's direct investment in ASEAN has a creative effect on import and export. If the coefficient of LNDFI in the above two models is less than 0, it indicates that China's direct investment in ASEAN has a substitution effect on import and export, and

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the larger the coefficient is, the more obvious the substitution effect is.

There are three scenarios in the panel data model. According to the import model and the export model, they are set as follows:

The first: $\alpha_i \neq \alpha_j, \beta_i \neq \beta_j, \gamma_i \neq \gamma_j$ (Variable parameter model)

LNE $X_{it} = \alpha_{1it} + \beta_{1it} LNFDI_{it} + \gamma_{1it} LNGDP_{ASEANit} + \delta_{1it}$ (Formula 1)

LNI $M_{it} = \alpha_{2it} + \beta_{2it} LNFDI_{it} + \gamma_{2it} LNGDP_{Chinait} + \delta_{2it}$ (Formula 2)

The second: $\alpha_i \neq \alpha_j, \beta_i = \beta_j, \gamma_i = \gamma_j$ (Variable intercept model)

LNE $X_{it} = \alpha_{1it} + \beta_1 LNFDI_{it} + \gamma_1 LNGDP_{ASEANit} + \delta_{1it}$ (Formula 3)

LNI $M_{it} = \alpha_{2it} + \beta_2 LNFDI_{it} + \gamma_2 LNGDP_{Chinait} + \delta_{2it}$ (Formula 4)

The third: $\alpha_i = \alpha_j, \beta_i = \beta_j, \gamma_i = \gamma_j$ (Invariant parametric model)

LNE $X_{it} = \alpha_1 + \beta_1 LNFDI_{it} + \gamma_1 LNGDP_{ASEANit} + \delta_{1it}$ (Formula 5)

LNI $M_{it} = \alpha_2 + \beta_2 LNFDI_{it} + \gamma_2 LNGDP_{Chinait} + \delta_{2it}$ (Formula 6)

In the above equation, i represents the individual of the cross section and t represents observation periods of the t-band edge. The first is variable parameter model, which is not only affected by individual spatial factors, but also causes corresponding changes in its coefficients due to structural changes. Second, the variable intercept model is not affected by individual factors and structural changes in the cross section. Third, the invariant coefficient model is not affected by individual factors and structural changes in the cross section, and the sample data comes from spatial data of different time series.

*4.3 Panel Data Unit Root Check*

Before the empirical analysis, the stationarity of data should be tested first to prevent spurious regression. For stationarity test, we can use the ADF unit root test, the null hypothesis is unstable. LNEX, LNIM, LNFDI, LNGDP$_{ASEAN}$ and LNGDP$_{China}$ were respectively tested, and the test results were shown in the following Figure. During the horizontal variable test of unit root, only the P value of LNIM was less than 0.05, while all other variables accepted the null hypothesis and there was unit root. Then the first-order difference test was carried out. As can be seen from Table 1, if the P value of the test results of LNEX, LNIM, LNFDI, LNGDP$_{ASEAN}$ and LNGDP$_{China}$ were all less than 0.05, the null hypothesis was rejected, so the panel data was first-order stable.

**Table 1. ADF Test Results**

|  | LNEX | LNFDI | LNIM | LNGDP$_{ASEAN}$ | LNGDP$_{China}$ |
|---|---|---|---|---|---|
|  | P statistics | | | | |
| Zero order | 0.0571 | 0.0841 | 0.0287 | 0.0522 | 0.0728 |
| One order | 0.0017 | 0 | 0.0127 | 0.0377 | 0.0281 |

*4.4 Panel Data Co-Integration Test*

After the panel data in this article passes the unit root test, the cointegration test can begin. There are three co-integration test methods for panel data: Kao, Pedroni and Fisher. Since the Pedroni co-integration test allows the existence of heterogeneous panels and tests the dynamic multi-panel regression, it is very suitable for the test of the above model data, so this test method is used. The null hypothesis of the test is that there is no cointegration relationship between the tested data. As can be seen from Table 2, at the 95% confidence level, LNEX and LNFDI in the export model have a co-integration relationship with $LNGDP_{ASEAN}$, while LNIM and LNFDI in the import model have a co-integration relationship with $LNGDP_{China}$.

**Table 2. Co-Integration Test Results**

|               | Panel v | Panel rho | Panel PP | Panel ADF | Group rho | Group PP | Group ADF |
|---------------|---------|-----------|----------|-----------|-----------|----------|-----------|
| Export model  | 0.027   | 0.1361    | 0.05     | 0.0419    | 0.7774    | 0.2344   | 0.0101    |
| Import model  | 0.2487  | 0.0393    | 0.0008   | 0.0022    | 0.6898    | 0.0816   | 0.0025    |

*4.5 Panel Data Regression Model Validation*

4.5.1 Determine Model Form

Panel data model can be divided into variable parameter, variable intercept and invariant parameter model. In order to obtain accurate empirical results, we should first select the model form. The form of the export model was discussed. First, regression was conducted for the above three models in order to obtain their residual sum of squares, which were S1=10.9706, S2=16.2888, S3 =25.352, respectively. Then, F test was used to calculate the statistic F2 =5.3407 and Fa (27,110)=1.5874 at the 95% confidence level, then F2>F a =(27,110), and the invariant parameter model was rejected. Continue to calculate F1 statistics = 2.9625, F a (18,110)= 1.6984 at 95% confidence level, then F1>F a (18,110) can be obtained, and the variable-intercept model is rejected, so the exit model should be a variable-parameter model.

Then, the form of the import model was discussed, and the residual sum of squares of the three models was respectively obtained as S1=24.0249, S2 = 61.0150, S3 =570.75. Then, the F2 statistic =92.7121 is also calculated, and F2 > F a (27,110) is obtained, refusing to establish a invariant parameter model. Continue to calculate F1 statistics = 9.4090, and at 95% confidence level F1>F a (18,110), refuse to establish a variable-intercept model, so the import model should be a variable-parameter model.

4.5.2 Determine Influence Form

After selecting the model form, we should determine the influence form of the model. To choose whether to model random effects, fixed effects or mixed effects, we can use the Hausmann test and LR test. According to Table 3, the P statistic in the test results of the export model and the import model is less than 0.05, so the null hypothesis is rejected at the significant level of 5%, that is, the establishment

of the random effect model is rejected. Then, according to the LR test results, all P statistics are 0, so the hypothesis that the mixed effect model is more effective than the fixed effect model is strongly rejected at the significance level of 1%. Therefore, the fixed effect model should be used for all models in this paper.

**Table 3. Hausmann and LR Test Results**

|              | Hausmann |         | LR       |         |
| ------------ | -------- | ------- | -------- | ------- |
|              | t value  | P value | t value  | P value |
| Export model | 0.7468   | 0.021   | 17.9645  | 0       |
| Import model | 0.5823   | 0.031   | 25.5269  | 0       |

*4.6 Analysis of Model Regression Results*

4.6.1 Regression Analysis of China's Export Effect on OFDI of 10 ASEAN Countries

The results show that the panel data in this paper should adopt the fixed effect model of variable parameter number. In the regression analysis of export and OFDI, $R^2$ was 0.976293, indicating that the model fitted well. As can be seen from Table 4, P statistics of 10 ASEAN countries are all less than 0.001, which indicates that explanatory variables have a significant impact.

**Table 4. Regression Results of Export Model**

| Countries   | LNFDI coefficient | t value   | P value |
| ----------- | ----------------- | --------- | ------- |
| Brunei      | 0.519869          | 13.27188  | 0       |
| Myanmar     | 0.435976          | 9.971759  | 0       |
| Cambodia    | 0.505206          | 9.407078  | 0       |
| Indonesia   | 0.38094           | 7.102756  | 0       |
| Laos        | 0.504103          | 11.68693  | 0       |
| Malaysia    | 0.458415          | 6.329848  | 0       |
| Philippines | 0.406415          | 7.784208  | 0       |
| Singapore   | 0.892496          | 4.689533  | 0       |
| Thailand    | 0.522795          | 7.529531  | 0       |
| Vietnam     | 0.820233          | 11.3128   | 0       |

According to the regression results of the above export model, it can be seen that: first, the coefficient value of LNFDI in the model is larger than 0, so China's export to ASEAN OFDI creates an effect, that is, China's investment in ASEAN countries can promote China's export to ASEAN countries. Second, China's export creation effect on ASEAN OFDI varies from country to country, and direct investment

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in different ASEAN countries has different impact on China's export. The LNFDI coefficients of Singapore and Vietnam were as high as 0.8, while the elasticity coefficients of Indonesia and the Philippines were relatively small for the first few countries. Third, China's direct investment in ASEAN countries with rich natural resources has a great export creation effect, which is basically because Chinese enterprises need relevant technical equipment and parts and components when developing their resources, so it will drive Chinese products to export to the host country. Fourthly, the LNFDI coefficient of Singapore is close to 0.9, that is to say, the coefficient of this kind of Singapore is close to 0.9, that is to say, every additional unit of investment in Singapore by China will enable China to export 0.892496 more units of products to Singapore. This is mainly because most of the local people are Chinese and there is no great cultural difference, which is conducive to the trade between the two countries. China for its main industry (manufacturing, mining, leasing and business services, power/heat/gas and the production of water supply industry, finance, construction) have a browse, nearly $30 billion investment, the corresponding brings China a lot of related machinery and equipment, trade in services, power/heat/gas and water production technology exports. For Thailand, which had the lowest coefficient, China invested $2,019 billion mainly in its manufacturing sector, with fewer other sectors, mainly to drive exports of related machinery and equipment.

4.6.2 Regression Analysis of Import Effect of China on OFDI of 10 ASEAN Countries

In the regression analysis of China's import effect on OFDI of 10 ASEAN countries, the goodness of fit $R^2$ is 0.967664, indicating that the explanatory variable LNOFDI in the model has a high degree of interpretation of the other explanatory variable LNIM. By observing the significance of the regression results in Table 5, it can be found that the P statistics of 10 ASEAN countries in the regression results are all less than 0.05, and even less than 0.001, indicating the significant influence of explanatory variables.

**Table 5. Regression Results of Import Effect of China's Direct Investment on ASEAN Countries**

| Countries | LNFDI coefficient | t value | P value |
|---|---|---|---|
| Brunei | 0.031024 | 0.535205 | 0.0563 |
| Myanmar | 0.594991 | 9.196089 | 0 |
| Cambodia | 0.805096 | 10.1302 | 0 |
| Indonesia | 0.279957 | 3.527324 | 0.0006 |
| Laos | 0.845775 | 13.25014 | 0 |
| Malaysia | 0.323606 | 3.019497 | 0.0031 |
| Philippines | 0.085645 | 1.108489 | 0.0464 |
| Singapore | 0.146723 | 2.089721 | 0.0388 |
| Thailand | 0.319823 | 3.112652 | 0.0023 |
| Vietnam | 0.964853 | 8.992453 | 0 |

From the test results, it can be concluded that: first, the coefficient value of LNFDI in the model is larger than 0, so China's import creation effect on ASEAN OFDI is generated, that is, China's investment in ASEAN countries can promote China's export to them. Second, the effect of China's direct investment on OFDI of ASEAN varies from country to country. Third, the regression LNFDI coefficient of Laos, Cambodia and Vietnam is larger than 0.8, and China's OFDI of these three countries can significantly promote China's import from them. Because they are rich in natural resources, Chinese enterprises tend to import the natural resources in these countries at a low price after investing in the development of natural resources, so this will have a greater import creation effect. By the end of 2018, China's mining investment stock in these countries had exceeded $10 billion. Fourthly, for Vietnam, the import elasticity coefficient has been as high as 0.964853. In addition to its rich resources, it also lies in the Vietnamese government actively attracting investment, relaxing investment policies and reducing tariffs. In 2018, is located in the China-coast of Vietnam industrial park has been full, there are many industry leading enterprises in our country, such as the Wolong Electric Drive Company (motor), Chinachem Technology Company (manufacturing airbags), Three Flowers Intelligence Control Company (electronic components), Dayang Motor Company (production micromotor), etc., of course, there are many small and medium-sized enterprises of our country, which makes our country imports a large number of finished goods from Vietnam. Fifth, the LNFDI coefficients of the Philippines and Brunei are very small, mainly because many Chinese enterprises invest in them in the early stage of preparation, such as setting up branches, and enter their markets at the beginning, which makes it difficult for China to import from these two host countries. The elasticity of import effect of China's direct investment to Singapore is only 0.146723, which is mainly due to China's relatively large investment in the tertiary industry of Singapore. For example, wholesale, retail, leasing and business services are more conducive to China's export of ordinary products to Singapore. China's imports from Singapore are mainly high-tech products, and China's investment in Singapore's high-tech industry is less than 5%, so the import drive is relatively small.

According to Table 4 and Table 5, we can see that China's export creation effect on brunei, Indonesia, the Philippines, Singapore and Thailand is greater than that on imports. In general, China's investment in the five countries promotes net exports. The main reason lies in China's investment in it, leading to the export of a lot of machinery and equipment and related products, while the import is mainly to import the products that their countries have a comparative advantage, with a few types. For Vietnam, China's direct investment in Vietnam has obviously boosted China's import and export trade with it.

## 5. Conclusion

*5.1 The Economic and Trade Relations between China and ASEAN Are Close on the Whole but Uneven in Distribution*

Due to the establishment and development of China-ASEAN free trade area and the implementation of China's "One Belt And One Road" strategy, the economic exchanges between China and ASEAN have

been continuously strengthened. In terms of investment, China's direct investment flow to ASEAN is on the whole on the rise, and the investment stock is growing steadily, gradually surpassing the EU. However, the uneven distribution of China's direct investment to ASEAN countries is mainly due to the different levels of economic development and comparative advantages of different countries. In terms of investment, China and ASEAN to more than 50% of the investment stock is concentrated in Singapore and Indonesia, the two countries and most of the ASEAN countries of ASEAN in China accounted for less than 10% of the total stock of OFDI, and especially in the least amount of investment of the two countries, brunei and the Philippines to brunei and China investment in Singapore stock gap totaled more than 200 times, so the Chinese investment in ASEAN countries lack of balance. In terms of trade, the trade scale between China and the 10 ASEAN countries is on the rise, with a large gap between countries and trade is relatively concentrated. In the long run, China's import and export to Malaysia, Singapore, Indonesia and Thailand are very large, accounting for about 80% of the import and export trade between China and ASEAN. In the short term, the trade volume between China and Vietnam has grown rapidly, becoming China's largest trading partner in southeast Asia.

*5.2 China's OFDI to ASEAN Generally Creates Effects for Trade*

The empirical results show that China's direct investment in ASEAN has a creative effect on China's import and export trade. Moreover, the export creation effect for Brunei, Indonesia, the Philippines, Singapore and Thailand is greater than the import creation effect, and the direct investment for Vietnam is the biggest promotion for China's import and export trade.

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