

# Study on the Trade Effects of China's FDI in ASEAN Countries under the RCEP Framework

Yuetong Li<sup>1,\*</sup>, Lanqi Ge<sup>1</sup> and Yue Xu<sup>2</sup>

<sup>1</sup> Cooperative School of International Education, Tianjin University of Commerce, Tianjin, China

<sup>2</sup> School of Management, Tianjin University of Commerce, Tianjin, China

\* Corresponding author: Yuetong Li (Email: 3076130963@qq.com)

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**Abstract:** As a developing country with the world's highest foreign direct investment, China's FDI to ASEAN will have an impact on trade between the two countries, helping to clarify the mechanism for China-ASEAN economic and trade cooperation and exploring ways to strengthen China-ASEAN economic and trade cooperation. Thus, using panel data from 2012 to 2020, this paper investigates the impact of FDI between China and ASEAN on trade volume. The findings indicate that China's direct investment in ASEAN has a significant negative impact on trade scale, specifically the trade substitution effect. Under the RCEP framework, the importance of ASEAN's position in China's foreign economic and trade cooperation network has become increasingly prominent. On this basis, it puts forward policy suggestions such as training corresponding talents, deepening structural adjustment, strengthening government guidance, and expanding correct cognition.

**Keywords:** Trade effect, FDI, ASEAN, RCEP

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## 1. Introduction

International capital flows are now playing a more prominent role at the international level, serving as driving forces of global economic integration and globalization, contributing significantly to the promotion of economic development and the optimal allocation of resources. Since 2002, China's 'go global' strategy has yielded remarkable results, and the business of foreign economic cooperation has grown rapidly, with the trade volume of foreign direct investment (FDI) increasing dramatically. China has emerged as the largest developing country in terms of FDI flows. However, there are still problems such as an inflated total volume and an irrational investment structure. At the same time, excessive investment tends to aggravate market competition, which in turn triggers price wars and vicious competition, increased risk of structural imbalance, and hollowing out of domestic industries. In 2020, the proposal of the 'new development paradigm featuring dual circulation, in which domestic and overseas markets reinforce each other, with the domestic market as the mainstay' has raised the quality and level of opening up to the world, strengthened foreign trade initiatives, and promoted a shift in the focus of import and export regions towards developing countries.

In 2003, China and ASEAN formalized the Comprehensive Strategic Partnership. The two sides are close geographically, have similar humanities, economic integration between the countries continues to deepen, trade cooperation is accelerating. ASEAN surpassed the European Union in 2020, leaping to China's largest trading partner. In 2021, China's direct investment in the ten ASEAN countries was \$19.73 billion, representing an increase of 22.8 percent over the previous year. The stock of direct investment in the ten ASEAN countries was \$140.28 billion, of which the manufacturing sector accounted for nearly 30 percent. ASEAN's investment in China in 2021 showed fast growth, with actual investment in China amounting to \$10.58 billion, historically exceeding the \$10 billion mark.

To summarize, ASEAN is a major source of foreign investment for China and has a prominent place in China's foreign trade and economic cooperation. China is the world's most accommodating country for foreign investment. In light of the new development paradigm of domestic double-cycle pattern, international globalization, and economic recession, investigating the impact of China's foreign direct investment in ASEAN and trade between the two sides will aid in determining the mechanism of economic cooperation between them, strengthening economic and trade cooperation, and proposing recommendations for the promotion of the economic and trade community.

## 2. Literature Review

### 2.1. Research on the Trade Substitution Effect of FDI

Wang and Xu (2003) used the causality test to study the relationship between trade and investment between China and Japan from 1983 to 2000, concluding that the substitution effect of direct investment on trade would be large in the short term as Japanese enterprises shifted more from exporting to China to direct investment. Li (2009) conducted an empirical analysis of China's relevant trade data, and found that FDI has a certain substitution effect on China's export interests, autonomous scientific, technological innovation and stable exchange rate have a more significant role than FDI in promoting China's trade and exports and optimizing the trade structure. Bian Jing and Zhang (2020) believe that China's direct investment in Southeast Asia will produce an export substitution effect, and direct investment in South Asia will produce an import substitution effect. Cechella et al. (2009) analyze the relationship between trade and direct investment in the era of globalization through the model of trade gravity, which supports the view that horizontal FDI and national trade are mainly substitution effects.

## 2.2. Research on the Trade Creation Effect of FDI

Some scholars study FDI to derive the results of the trade creation effect. Lin et al. (2019) used the gravitational equation and quantile regression model to study the heterogeneous impact and mechanism of China's direct investment in ASEAN countries on their import and export trade from 2003 to 2015, suggested that China's direct investment in ASEAN has a remarkable import and export trade creation effect. Yan et al. (2019) based on the perspective of enterprise heterogeneity explored the export effect of Chinese enterprises' FDI and demonstrated that Chinese enterprises' FDI promoted exports by constructing a benchmark regression model. Guo (2016) used panel data and cluster analysis of key factors affecting investment changes to analyze the trade effect under different investment motives, and found that in the countries and regions along the Silk Road, China has a remarkable foreign direct investment, which is mostly of the trade creation effect.

## 2.3. Research on the Overall Effects of International Direct Investment on Trade

Chen (2009) found that the impact of FDI on China's trade in all sectors is significant, but the specific influence of the effect varies from period to period. Zhang and Hock (1996) examined the connection between international trade and FDI by comparing the significant indicators of ASEAN and developed country's direct investment in China, and found that China-ASEAN countries' trade dependence has a dynamic relation of competitiveness and complementarity, but the similarity between economic and trade structures and the lack of complementarities limit the absorptive capacity of each other's products. In addition, the scholar Chen (2010) analyzed the impact of China's OFDI on trade and summarized that the relationship between China's OFDI and foreign trade has both a trade creation effect and a trade crowding-out effect through a literature review.

$$\ln(Y) = \beta_0 + \beta_1 \ln(X_{i,t}) + \beta_2 \ln(Z1_{i,t}) + \beta_3 \ln(Z2_{i,t}) + \alpha_i + \lambda_t + \varepsilon_{i,t} \quad (1)$$

Where,  $\beta_0$  is the constant term of the model,  $\beta_i$  ( $i=1, 2, 3$ ) is the coefficient of the impact of FDI on each variable, represents the relationship between the core explanatory variables, control variables and explained variables.  $\alpha$  and  $\lambda$  denote individual and time effects, respectively, and  $\varepsilon_{i,t}$  is the random error term. In order to exclude the influence of serial heteroskedasticity and enhance the accuracy of the empirical results, this paper takes the natural logarithm for all the selected data.

## 3.3. Data Sources

This paper selects the trade data between China and ten ASEAN countries during the period of 2012-2020 as the research sample. The ten ASEAN countries include Brunei, Indonesia, Cambodia, Laos, Myanmar, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. The scale of trade between China and ASEAN countries is characterised by the import and export trade volume, and the data are obtained from the UnComtrade database; the data on China's direct investment stock in ASEAN countries are obtained from the Outward Foreign Direct Investment Bulletin in each year; the data on the per capita GDP of ASEAN countries are obtained from the World Bank database; and the bilateral nominal exchange rate is measured by the indirect quotation

## 3. Research Design

### 3.1. Variable Selection and Description

(1) Dependent Variable: In this paper, China's total import and export trade with ASEAN countries are selected as a proxy variable for the scale of trade between China and ASEAN countries.

(2) Independent Variable: In this paper, China's direct investment stock (FDI) in ASEAN countries is selected as the core explanatory variable.

(3) Control Variable. In order to improve the reliability of the model, so that the core explanatory variables can more accurately reveal the influencing factors of China's investment in ASEAN countries. Combined with the economic and political background of ASEAN countries and other related backgrounds, this paper selects the host country's GDP per capita and the nominal exchange rate of both parties to study the trade effects of influencing China's direct investment in ASEAN countries. Among them, the host country's GDP per capita serves as a proxy variable for the trade market size of both sides. A country's import and export trade volume and the country's GDP are positively correlated, the larger the market size, the greater the positive effect on trade. As for the nominal exchange rate of both sides, this paper adopts the indirect markup method to measure China's exchange rate with ASEAN. If the RMB exchange rate is high, the RMB will appreciate, the price of export commodities will rise, the competitiveness of China's exports will be weakened, and the trade size of China's foreign exports will be reduced accordingly.

### 3.2. Data Processing and Modelling

Based on the above research assumptions and findings in the literature, this paper adopts two-way fixed effects model to study the trade effects of China's direct investment in ASEAN countries:

of China's exchange rate with ASEAN, and the data are obtained from the Data on bilateral nominal exchange rates are from the BIS.

## 4. Results

Table 1. Baseline regression results

	Y
<b>X</b>	-0.119* (0.0634)
<b>Z1</b>	0.229*** (0.0847)
<b>Z2</b>	-0.0137 (0.0108)
<b>Constant</b>	23.19*** (1.142)
<b>Observations</b>	90
<b>Number of citycode</b>	10
<b>R-squared</b>	0.600
Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1	

The coefficient of FDI on trade between China and ASEAN during the study period is -0.119 (as shown in Table 1), which

passes the 10% significance test, indicating that there is a significant negative impact of FDI on trade size, i.e. substitution effect. The coefficient of GDP per capita of the host country is 0.229, which passes the significance test of 1%, indicating that there is a significant positive impact of GDP per capita of the host country on the scale of trade, which indicates that the higher the cost of human resources in the host country, the greater the investment of China in the host country, i.e., China has a significant market-seeking motivation for ASEAN countries. The coefficient of bilateral nominal exchange rate is negative but not significant, which indicates that the nominal exchange rate between ASEAN countries and China is not the main factor affecting trade size.

## 5. Robustness Test

(1) Change the sample size and winsorize. China's FDI in different ASEAN countries has a large gap in size, and the extreme observations make the data produce a fat-tailed distribution, so the outliers and singular values are tailed according to the levels of 1%, 5% and 10 % respectively. The test results are still significantly suppressed, and the previous conclusion remains robust.

(2) Replacement test model. The benchmark regression uses double fixed-effects regression, setting year and individual fixed effects, and is now regressed again with the random-effects model. The regression results show that FDI flows still have a negative substitution effect on trade size (as shown in Table 2), proving that the results of the benchmark regression are stable.

**Table 2.** Robustness test results

	(1)
	Y
<b>X</b>	4,060* (2,320)
<b>Z1</b>	206,611 (529,447)
<b>Z2</b>	151,257 (127,165)
<b>Constant</b>	4.352e+10*** (1.669e+10)
<b>Id/Year FE</b>	N
<b>Observations</b>	90
<b>Number of citycode</b>	10
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1	

## 6. Conclusion

### 6.1. Results

Based on the current state of China's foreign direct investment (FDI) in ASEAN countries, the significance of ASEAN's position in China's foreign economic and trade cooperation network, and international capital flows, this paper uses the formal signing of the RCEP agreement as background. It then analyzes the mechanism of FDI's impact on ASEAN's trade scale by combining the bilateral nominal exchange rate, the per-capita GDP of the ASEAN countries, and national-level OFDI from 2012-2020. The Extended trade gravity model is theoretically analyzed and used to empirically test whether and how China's FDI in ASEAN affects its trade size.

The empirical study concludes that China's direct investment in ASEAN has a significant negative impact on

trade size. The empirical results show that the coefficient of OFDI stock of -0.119 passes the 10% significance test. China's direct investment in ASEAN will substitute the original export to the country because local production meets local demand. This conclusion still holds after the robustness test treatment by changing the sample size and replacing the test model.

### 6.2. Recommendations

(1) Cultivate appropriate human resources and deepen structural adjustment. After in-depth analysis of the current economic pattern, we can see that the current FDI structure has formed certain constraints on the economic and trade cooperation between China and ASEAN. With the sustained economic growth of both sides, trade barriers and obstacles may gradually increase. In order to further deepen bilateral economic and trade relations and achieve closer cooperation, we urgently need structural adjustment and optimization. The key to this adjustment is to cultivate and attract more talents with professional skills and international vision. Therefore, we should speed up the training of sophisticated talents in relevant fields and strengthen school enterprise cooperation. We can train talents with international vision and professional skills by adding courses and majors related to ASEAN economy and trade; Carry out practical training projects to improve students' practical ability; Establish a talent exchange platform, hold the China ASEAN economic and trade talent exchange forum, and promote exchanges and cooperation among talents.

(2) Strengthen government guidance and improve the governance system. The government plays a key role in promoting China-ASEAN economic and trade cooperation. In order to promote the healthy development of the cooperation between China and ASEAN, the government should play a guiding role, formulate more attractive preferential policies, improve the legal and regulatory system, and optimize the investment environment. The government should actively guide and supervise the behavior of enterprises with an open and tolerant attitude, and at the same time formulate practical development strategies in the light of the national conditions, so as to promote the in-depth development of economic and trade relations.

(3) Extend accurate views and encourage international trade. Furthermore, it is imperative to underscore the significance of China-ASEAN economic and trade cooperation to enterprises. Beliefs like "only in but not out," "investment is useless," and "only out but not in" ought to be disregarded. Trade and economic interactions can take place concurrently: China-ASEAN trade and economic expositions and fairs are frequently arranged to foster collaboration and exchanges between businesses on both sides. It also encourages enterprises to participate in international exhibitions and forums to display Chinese products and technologies and expand the international market. Under the impetus of the "Maritime Silk Road" initiative, we should more actively promote trade between China and ASEAN, and jointly create a better future of mutual benefit and win-win situation.

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