

# Analyzing Vietnam's Export Activities to China

THI ANH TUYET LE

Faculty of International Economics,  
Ho Chi Minh University of Banking,  
56 Hoang Dieu 2 Str., Linh Chieu Ward, Thu Duc City, HCMC,  
VIETNAM

*Abstract:* - The article significantly contributes by elucidating the impact of economic integration and production capacity on Vietnam's export activities to China. The research utilizes the VAR model to provide concrete evidence of the causal relationship between trade openness, tariffs, and the value of foreign investment in Vietnam with the country's export turnover to China. One of the main contributions of the article is the clear identification that foreign investment plays a positive role in promoting exports. At the same time, tariffs and trade openness constrain this activity. Based on these findings, the research puts forward practical policies to enhance Vietnam's export efficiency to China, providing a theoretical foundation and specific guidance for policymakers.

*Key-Words:* - Openness, tariff, FDI, export, trade, Vietnam, China.

Received: March 26, 2024. Revised: August 22, 2024. Accepted: September 24, 2024. Published: October 24, 2024.

## 1 Introduction

For many years, China has been an important export market for Vietnam, alongside countries like the United States, Japan, and South Korea. This strong trade relationship is due to China's significant purchasing power and its geographical proximity to Vietnam, which facilitates smoother trade exchanges. Vietnam is also a key supplier to China, consistently ranking among the top countries from which China imports goods. The Vietnamese market holds great potential for further expanding its exports, with ample opportunities for growth in its trade with China.

During the COVID-19 pandemic, China's economy, like many others, was affected, causing a decrease in most consumers' income. As a result, there is a higher demand for affordable products from developing countries such as Vietnam, particularly for essential goods like food and clothing. Vietnam is well-positioned to produce these items at prices lower than developed countries and benefits from preferential tariffs due to general trade agreements with China.

Chinese consumers are known for their strong national pride and are increasingly confident in the quality of domestically produced goods. They believe domestic products are no longer inferior to imported ones and, in some cases, even better meet their consumption preferences.

Therefore, the level of integration and national production capacity are the primary factors

influencing Vietnam's export activities to China. In this article, the author will analyze Vietnam's export activities by considering the impact of tariffs and trade openness. These factors represent the level of integration of each country. The author will also look at the impact of tariffs and trade openness. Consider the impact of the value of foreign investment in each country as a factor representing that country's production capacity. On that basis, the article will also imply some policies to improve the efficiency of Vietnam's exports to the Chinese market.

## 2 Literature Review

According to the theory of tariff effects, tariffs bring tax income to the imposing country, they also reduce general welfare, create barriers to international trade, and hinder the economy's openness. They can reduce the overall efficiency of resource use in the global economy. Tariffs and trade openness can change the trade balance and regulate a country's export and import activities. High tariffs can have adverse effects, such as reduced competitiveness of goods and increased smuggling. However, import taxes also play a pivotal role in protecting the domestic market, especially nascent industries. While import tariffs may increase the prices of goods and encourage domestic manufacturers, they can also hinder the competitiveness of domestically produced goods.

Import taxes can help improve the imposing country's trade by influencing the prices of certain goods. However, to achieve this effect, the imposing country must have a significant influence on the world's demand for imported goods.

[1] raises a debated issue of whether countries can increase their exports due to tariff reductions in importing countries when non-tariff measures become trade barriers. Using a recent database of STCs from 1996 to 2010, the author finds empirical evidence that exporting countries raise concerns about SPS and TBT due to importer tariff reductions.

[2] examine how tariff liberalization has affected export performance at the destination product level in emerging countries. The study estimates that a 1% point reduction in bilaterally applied tariffs increases the entry margin by 0.1% and the intensive tariff by 2.09 % while it reduces the entry margin by 0.1% and accessibility expanded by 0.25%.

Similar to [2], [3] also evaluates the impact of reduced tariffs on imported inputs and goods on the productivity of Chinese trading companies. It also explores the special tariff incentives that companies receive for importing inputs. Input and output taxes at the enterprise level are determined. Both types of tax cuts boost productivity but are less effective when businesses rely heavily on imported processed goods. In general, the impact of reducing input taxes on productivity improvement is weaker than the impact of reducing output taxes, although the reverse is true only for non-processing firms. Both tariff cuts are expected to contribute at least 14.5% to economy-wide productivity growth.

[4] used a gravity model to analyze the influence of foreign direct investment (FDI) on Vietnam's exports, imports, and net exports. The findings suggest that although the impact of FDI on net exports is not statistically significant over the entire sample period, there is a noticeable positive relationship between net exports and FDI in the post-Asian financial crisis period.

[5] shows that FDI has facilitated the transformation of production and export models from primary production to exportable production, with a bias towards major FDI-investing countries and major FDI-receiving industries in Malaysia since the late 1980s when inward FDI began to increase sharply. The country's bilateral trade (exports) with Japan, the most important source of FDI during this period, appears to have undergone a significant change. These are consistent with the positive effects of FDI on promoting exports in the host country. However, the impact of the Asian

crisis on FDI flows and subsequently on the development of trade patterns in the host country has not yet been analyzed.

[6] also examines the relationship between foreign direct investment (FDI) and exports. The results suggest a complementary relationship between the two variables, with short-term Granger causality from outward FDI to exports and long-term bilateral Granger causality.

[7] investigated the correlation between foreign direct investment (FDI) and the trade balance (imports and exports) of African nations from 1980 to 2007. The elasticities of both exports and imports were positive. Specifically, the elasticity of exports is greater than that of imports. This implies that Multinational Enterprises are not only focused on exporting but also reliant on imports. To conserve scarce foreign exchange reserves, investment policymakers in these countries should direct MNEs into areas related to further promoting exports, import substitution, and increasing localization.

Based on a review of theories and related studies, most researchers believe that there is a connection between a country's level of integration, its ability to attract foreign investment, and its import and export activities. However, few studies specifically analyze this relationship in the trade between Vietnam and China. Therefore, the author wrote this article to clarify the relationship of these factors in Vietnam's export activities to China.

### 3 Research Methods and Models

Export activities related to foreign investment flows, tariffs, and trade openness lag behind during the implementation period. After a certain period, foreign investment capital flows, tariffs, and trade openness show results. These activities all consider time series data. Therefore, when considering the dataset and building on previous studies, the author chose the VAR autoregression model to analyze Vietnam's export activities to China. Time data is often unstable. Estimating the relationship between these variables using the OLS method will lead to spurious regression. The coefficients in the regression model do not accurately reflect the relationship of the variables in the OLS model. To overcome the limitation of instability of time variables in economic research, [8] [9] and [10] introduced the VAR model. Time variables fluctuate not only due to being influenced by exogenous factors but also influenced by endogenous factors (lag). Therefore, after taking the difference, using the OLS method can still accurately show the relationship between time variables that are not

stable. The research process involves the following steps:

Step 1: Check the stationarity of the data series

If the strings are present in the original string, conduct OLS regression.

If the same series is used after taking the first difference, go to step 2

Step 2: Test the Granger causality relationship to consider the relationship between variables in the model. (The assumption made by Ho is that variable X1 does not have a causal relationship with X2)

Step 3: Build a regression model for the relationship between data series

Step 4: Test the VAR model by evaluating the usefulness of the residuals; autocorrelation, and heteroscedasticity between variables (applies to residuals).

In this study, the author will analyze changes in Vietnam's export activities to China using a VAR model with main variables including Vietnam's export turnover to China, investment capital foreign countries entering Vietnam, Vietnam's trade openness, and Vietnam's tariffs. Specifically, the model is as follows:

$$EX = f(FDI, OPEN, TRF) \quad (1)$$

In there:

EX: Vietnam's export turnover to China from 2004 to 2022

FDI: Value of foreign direct investment in Vietnam from 2004 to 2022

OPEN: Vietnam's trade openness from 2004 to 2022

TRF: Vietnam's average tariff from 2004 to 2022

Data on variables are taken by year from official sources such as Trademap and World.

## 4 Research Results

### 4.1 Check the Stationarity of the Data Series

Table 1. Checking stationarity for data series

Variable name	ADF value	p-value
EX	1.712271	0.9991
FDI	-2.002606	-2.002606
OPEN	-0.469298	0.8905
TRF	-2.341114	0.1714
D(EX)	-2.590197	0.0997
D(FDI)	-3.566600	0.0091
D(OPEN)	-8.631214	0.0000
D(TRF)	-2.027648	0.0675

The results of the stationarity tests for data series in Vietnam from 2004 to 2022, as shown in Table 1, reveal that the original data series are non-stationary, implying that their mean and variance change over time. However, upon taking the first difference, all data series exhibit stationarity. In other words, these series are categorized as I(1), indicating the necessity of first differencing to achieve stationarity. This finding suggests that in econometric models, it is advisable to use the differenced series to ensure stability and avoid obtaining spurious results when analyzing time series data.

### 4.2 Determine the Optimal Delay

To determine the optimal lag in the VAR model, the author chooses based on the majority criteria: LR, AIC, FPE, SC, and HQ in Table 2. This process results in choosing a lag of 2 for the data.

Table 2. Determination of model lag based on the VAR model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-377.1685	NA	5.79e+15	47.64606	47.83920	47.65595
1	-355.2075	30.19636	3.00e+15	46.90093	47.86667	46.95039
2	-319.9282	30.86939*	4.46e+14*	44.49102*	46.22935*	44.58004*

Source: Output from Eview 8 software

Note: (\*) represents the stopping level of the data series

### 4.3 Univariate Relationship Analysis (Pearson correlation)

Table 3. Pearson correlation – univariate relationship analysis

	EX	FDI	OPEN	TRF
EX	1.000000	-0.237866	0.833964	-0.517975
FDI	-0.237866	1.000000	0.122387	0.000292
OPEN	0.833964	0.122387	1.000000	-0.186964
TRF	-0.517975	0.000292	-0.186964	1.000000

Source: Output from Eview 8 software

The results of the univariate analysis in Table 3 indicate that the value of foreign investment in Vietnam, Vietnam's trade openness, and Vietnam's average tariff influence Vietnam's exports to China. However, to further understand the impact of these factors on Vietnam's export turnover to China, the author conducts regression analysis using the following steps.

The model and results are presented in the summary of Table 4.

$$D(EX) = C(1)*D(EX(-1)) + C(2)*D(EX(-2)) + C(3)*D(FDIVN(-1)) + C(4)*D(FDIVN(-2)) + C(5)*D(OPENVN(-1)) + C(6)*D(OPENVN(-2)) + C(7)*D(TRFVN(-1)) + C(8)*D(TRFVN(-2)) + C(9)$$

Table 4. Summary of regression coefficients with statistical significance

	Coefficient	Std. Error	t-Statistic	Prob.	Result
C(1)	0.379365	0.263397	1.440278	0.1930	
C(2)	-0.131276	0.314544	-0.417354	0.6889	
C(3)	97944.22	840742.9	0.116497	0.9105	
C(4)	3810286.	1630321.	2.337139	0.0521	***
C(5)	-272236.2	123313.0	-2.207685	0.0630	***
C(6)	-214036.2	173584.6	-1.233037	0.2574	
C(7)	3638166.	1293792.	2.812017	0.0261	***
C(8)	1841110.	831138.9	2.215165	0.0623	***
C(9)	6063849.	1621727.	3.739131	0.0073	***

The symbols \*\*\*, \*\*, \* correspond to statistical significance levels of 1%, 5%, and 10%, respectively.

Source: Output from Eview 8 software

Thus, according to the results shown in Table 4, only the regression coefficients C(4), C(5), C(7), C(8), and C(9) are statistically significant at level 5% and 10%, the remaining regression coefficients are not statistically significant. The results indicate that the EX variable was negatively affected by OPEN in the previous quarter and positively influenced by FDI after 2 quarters, as well as by TRF after 1 and 2 quarters.

#### 4.4 Model Verification

Table 5. Checking stationarity of residuals

Group unit root test: Summary

Method	Statistic	Prob.	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.61	0.00	4	59
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.89	0.00	4	59
ADF - Fisher Chi-square	63.25	0.00	4	59
PP - Fisher Chi-square	76.94	0.00	4	60

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Output from Eview 8 software

All the tests (Levin, Lin & Chu, Im, Pesaran and Shin, ADF Fisher, and PP Fisher) strongly reject the null hypothesis of a unit root, indicating that the

data series in the panel are stationary both at the group level and individual cross-sections.

The stationarity of the residuals in the VAR model in Table 5, with a P-value of 0.0000, further confirms the robustness of the model. The absence of unit roots in the residuals ensures that the model's results are valid and not spurious, allowing for more reliable inferences from the VAR analysis.

Table 6. Causal relationships between variables

Dependent variable: D(EX)			
Excluded	Chi-sq	df	Prob.
D(FDI)	5.571899	2	0.0617
D(OPEN)	4.880151	2	0.0872
D(TRF)	8.499920	2	0.0143
All	10.23515	6	0.1151

Source: Output from Eview 8 software

The findings of the causality test in Table 6 reveal that FDI and OPEN exert a significant impact on EX at the 10% significance level. In contrast, TRF exhibits a notable impact at the 5% level. Notably, tariffs emerge as the most influential and significant factor affecting Vietnam's export turnover, overshadowing the comparatively weaker but still noteworthy effects of foreign direct investment and trade openness. Additionally, the causality test highlights the paramount importance of tariff policy, which exerts the most robust impact on Vietnam's exports. Although foreign direct investment and trade openness also contribute to the impact, their magnitude is comparatively weaker and only significant at the 10% threshold. These results underscore the critical importance of trade policies, particularly tariff policies, and emphasize the necessity for targeted measures to bolster exports.

The findings emphasize the crucial role of tariff policy in Vietnam's export strategy, suggesting that to foster a more competitive export environment, policymakers must prioritize tariff reforms while not neglecting the complementary, albeit slower-acting, roles of FDI and trade openness. This balanced approach could lead to more sustainable growth in export performance. Additionally, the study implicitly encourages further exploration into how Vietnam can better leverage FDI and trade openness in conjunction with tariff policies, possibly through enhanced bilateral and multilateral trade agreements, improved domestic infrastructure, and

fostering industries that are most likely to benefit from FDI and global market access.

In conclusion, while FDI and trade openness are important factors for long-term growth, tariffs remain the most immediate and potent factor influencing Vietnam's exports. This finding highlights the need for carefully crafted tariff policies that can dynamically respond to global economic conditions and help Vietnam remain competitive in international markets.

## 5 Conclusion and Policy Implication

### 5.1 Conclusion

The research model's causal analysis indicates that three factors - foreign investment value in Vietnam, trade openness, and Vietnam's average tariff - all contribute to changes in export turnover. Specifically, Vietnam's trade openness negatively affects its import and export activities with China. As Vietnam gradually reduces non-tariff barriers and import/export tariffs, it is expected to diversify its export markets, allowing Vietnamese businesses to expand into developed countries in the region and globally, rather than being overly reliant on the Chinese market. This is a positive sign for Vietnam's increasing integration, as exporting to China often yields low profits due to similarities in comparative advantages between Vietnam and China, resulting in minimal added value for products. On the other hand, the influx of foreign direct investment capital into Vietnam positively impacts its export turnover to China. Increased FDI supports Vietnam in advancing its technology, expanding production scale, improving product quality, and enhancing competitiveness in the global market. FDI facilitates the transfer of advanced technologies from investing countries, enabling Vietnam to modernize its industrial base and improve production efficiency. With additional capital from foreign investors, Vietnam can broaden its production capacity, meeting the rising domestic and international demand. Additionally, the adoption of modern technologies and international standards aids in enhancing product quality, making Vietnamese goods more competitive in foreign markets. Consequently, Vietnamese businesses gain access to larger global markets and enhance their ability to compete with international firms, owing to enhanced technology, superior products, and improved management practices. Ultimately, FDI plays a pivotal role in integrating Vietnam into the global economy and bolstering its economic position. Consequently, Vietnam's export products

have seen improvements in both quality and quantity, making it easier to increase exports to the Chinese market and other global markets.

### 5.2 Policy Implication

Research results indicate that to enhance Vietnam's export activities to China in terms of both quality and quantity, Vietnam should concentrate on attracting foreign investment capital and fully leveraging its commitments. An international agreement has been established between Vietnam and China. To effectively achieve this, Vietnamese businesses and the government should focus on the following policy implications:

Vietnam needs to actively build a national standard system for attracting FDI; Promote institutional and policy reform, actively improving the legal system towards synchronization, transparency, limiting changes and amendments to laws and by international law; Continue to promote and attract multinational corporations and companies with famous brands to invest in Vietnam, especially from regions with strengths in technology, capital, and management skills, such as America, European Union (EU), Japan; Improve the quality of human resources to receive new generation FDI. Improve the quality of human resources to receive new generation FDI.

To improve integration efficiency and expand export market development, Vietnam needs to strengthen coordination between ministries and branches; Promote the effectiveness of consultation mechanisms between state management agencies and businesses during the proposal process; select partners, and develop plans for negotiating new FTAs as well as removing difficulties in accessing export markets; Signing mutual recognition agreements on conformity assessment results in areas where Vietnam has strengths and export potential; Continue to fully and seriously implement commitments on international economic integration and commitments in FTAs; Research and propose plans for negotiating new FTAs as well as upgrading some already signed FTAs; Research and focus on effectively implementing FTAs that Vietnam has participated in, especially plans to implement new generation FTAs such as CPTPP, EVFTA, UKVFTA and RCEP...

### Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work the authors used the AI technologies in order to improve the readability and language of my manuscript. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

#### References:

- [1] Orefice, G. (2017). Non- tariff measures, specific trade concerns and tariff reduction. *The World Economy*, 40(9), 1807-1835. <https://doi.org/10.1111/twec.12447>.
- [2] Disdier, A. C., Fontagné, L., & Mimouni, M. (2015). Tariff liberalization and trade integration of emerging countries. *Review of International Economics*, 23(5), 946-971. <https://doi.org/10.1111/roie.12198>.
- [3] Yu, M. (2015). Processing trade, tariff reductions and firm productivity: Evidence from Chinese firms. *The Economic Journal*, 125(585), 943-988. <https://doi.org/10.1111/eoj.12127>.
- [4] Anwar, S., & Nguyen, L. P. (2011). Foreign direct investment and trade: The case of Vietnam. *Research in International Business and Finance*, 25(1), 39-52. <https://doi.org/10.1016/j.ribaf.2010.05.004>.
- [5] Min, B. (2003). FDI and Trade. *Journal of the Asia Pacific Economy*, 8(2), 229-250. <https://doi.org/10.1080/1354786032000074749>.
- [6] Bajo-Rubio, O., & Montero-Muñoz, M. (2001). Foreign direct investment and trade: a causality analysis. *Open economies review*, 12, 305-323. <https://doi.org/10.1023/A:1011185507169>.
- [7] Hailu, Z. A. (2010). Impact of foreign direct investment on trade of African countries. *International Journal of economics and Finance*, 2(3), 122-133.
- [8] Sims, C. A. (1980). Macroeconomics and reality. *Econometrica: journal of the Econometric Society*, 1-48. <https://doi.org/10.2307/1912017>.
- [9] Greene, W. H. (2000). *Econometric analysis* 4th edition. *International edition*, New Jersey: Prentice Hall, 201-215.
- [10] Tetteh-Bator, E., Adjieteh, M. A., Jin, L. C., & Asenso, T. Q. (2018). Vector Autoregressive Models for Multivariate Time Series Analysis; Macroeconomic Indicators in Ghana. *Mathematical Theory and*

*Modeling*, 8(1), 34-48.  
<https://www.iiste.org/Journals/index.php/MTM/article/view/40510> (Accessed Date: September 9, 2024).

### Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

Dr. Le Thi Anh Tuyet carried out this study completely independently, from Data curation, Formal analysis, design of methodology, Writing - original draft, Writing - review & editing.

### Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received for conducting this study.

### Conflict of Interest

The authors have no conflict of interest to declare.

### Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0 [https://creativecommons.org/licenses/by/4.0/deed.en\\_US](https://creativecommons.org/licenses/by/4.0/deed.en_US)