

# THE RELATIONSHIP BETWEEN TRADE OPENNESS AND ECONOMIC GROWTH IN VIETNAM

**NGUYEN THI VAN ANH\***

PhD, Lecturer, University of Labour and Social Affairs.

\*Corresponding Author Email: [nguyenvananh83@ulsa.edu.vn](mailto:nguyenvananh83@ulsa.edu.vn),

ORCID ID: <https://orcid.org/0009-0008-4703-2014>

**NGUYEN THI HOA TAM**

University of Labour and Social Affairs – Campus II, 1018 To Ky, Tan Chanh Hiep St, 12 Dst, HoChiMinh City, Vietnam. Email: [tamnth@ldxh.edu.vn](mailto:tamnth@ldxh.edu.vn)

**HOANG THANH TUNG**

PhD, Associate Professor, University of Labour and Social Affairs, 43 Tran Duy Hung St, Cau Giay Dst, Hanoi, Vietnam. Email: [hoangthanhtung15@gmail.com](mailto:hoangthanhtung15@gmail.com), ORCID ID: <https://orcid.org/0000-0001-7265-1708>

**DONG KIEN QUOC**

Student, International School Ho Chi Minh City (ISHCMC). Email: [nguyenvananh83@ulsa.edu.vn](mailto:nguyenvananh83@ulsa.edu.vn)

**MAO KHANG LUAN**

Student, Vinschool the Harmony. Email: [nguyenvananh83@ulsa.edu.vn](mailto:nguyenvananh83@ulsa.edu.vn)

## Abstract

This article studies the relationship between trade openness (TO) and economic growth in Vietnam from 1991 to 2023. The authors examine the concept, role, and negative impacts of trade openness and the concept and cost-benefits of economic growth, providing an overview of the relationship between TO and economic growth. Data on the total import-export turnover and GDP (representing economic growth) from 1991-2023 were collected from GSO, International Financial Statistics, and WB to calculate the TO index. A regression model was constructed to illustrate the relationship between TO and GDP, showing that when the previous year's GDP fluctuated by 1%, the GDP in the considered year fluctuated by 0.327711%. Similarly, when the previous year's TO fluctuated by 1%, the GDP in the considered year fluctuated by 0.058527%. The results support the view that trade openness (TO) plays an important role in promoting economic growth (g) in Vietnam. Based on the findings, the authors offer several recommendations to boost exports, increase trade openness, and support economic growth.

**Keywords:** Trade Openness; Economic Growth; Vietnamese Economic; Export Value; Import Value.

## 1. INTRODUCTION

Many international trade theories, including mercantilism, absolute advantage theory, comparative advantage theory, factor proportion theory, international product lifecycle theory, new trade theory, and national competitive advantage theory, highlight the role of international trade in economic growth. Globalization and international economic integration have brought nations closer together and play a vital role in countries' growth and development processes. Through globalization and international economic integration, financial flows, information,

skills, and technologies between countries have increased rapidly. International trade has played a significant role in enhancing skills and human capital accumulation as export-import enterprises are driven to adopt advanced technologies and improve management levels to cope with increasing competition. To examine the reciprocal impacts between trade openness and economic growth in Vietnam from 1991 to 2023, the authors studied “The Relationship Between Trade Openness and Economic Growth in Vietnam”. The aim is to propose solutions to promote exports, open up trade, support economic growth, and ensure macroeconomic goals.

## 2. THEORETICAL FRAMEWORK AND RESEARCH OVERVIEW

### 2.1. Trade Openness (TO)

#### 2.1.1. Concept of Trade Openness (TO)

Trade openness (TO) refers to the relative scale of the foreign trade sector in an economy, measured by the total import-export turnover/GDP. (Tùng, L.T, 2014)

$$TO = \frac{X + IM}{GDP}$$

Where:

- TO: Trade Openness
- X: Export value
- IM: Import value
- GDP: Gross Domestic Product

#### 2.1.2. Role and Negative Impacts of Trade Openness:

##### 2.1.2.1. Role of Trade Openness:

Trade openness reflects the level of a country's participation in global economic activities. It is a continuous and interdependent process among nations through increasing cross-border transactions of goods, services, international capital flows, and technology and information dissemination (Fischer, 2003). According to comparative advantage theory, more efficient use of domestic resources is achieved by importing necessary goods to produce export goods in developing countries (Yanikkaya, 2003). Trade openness is measured by the total export and import turnover over a period divided by the GDP value of that period. Lloyd & MacLaren (2000), Worldbank (2002) have emphasized the crucial role of trade openness in economic growth and development, especially for developing economies.

- *The first*, it contributes to the vigorous development of productive forces. According to Lucas (1998), Romer (1986), Romer (1990), endogenous theoretical models have identified that trade openness stimulates economic development through technological progress and technology transfer from developed to developing countries, fostering innovation effects in developing countries.
- *The second*, trade openness enhances resource allocation efficiency, promoting competition in the domestic market (Hye, 2012).

- *The third*, deeper international integration demands improving the legal system according to international practices, ensuring transparency in management institutions, and improving the domestic business environment, providing significant opportunities to attract foreign investment and ensuring sustainable growth.

### 2.1.2.2. Negative Impacts of Trade Openness:

Countries with high trade openness are more affected by global market fluctuations and more vulnerable to global economic shocks. Trade openness, while easy to calculate with available data, is not comprehensive in reflecting the severity of external shocks to the economy, as it doesn't consider factors like the nature of trade relationships, competition, the nature of export-import goods, or the diversification of trade partners (Dai, P.V, 2018). Without good policy solutions, high trade openness economies risk being vulnerable to external fluctuations, exporting mainly labour-intensive goods with low added value and achieving high growth but remaining low in the global value chain (Thanh, K, 2024). Hence, trade openness also has negative impacts on economic development.

- Firstly, as developing countries engage in international integration, their competitive advantages, such as cheap labour and resources, diminish. Developed countries, with advantages in technology and capital, benefit more. Although trade liberalization is advocated, developed countries still employ protectionist measures like quotas or disguised measures such as labour and environmental standards.
- Secondly, in international integration, developing countries increasingly exploit natural resources and export naturally advantageous goods like minerals, seafood, and agricultural and forestry products for rapid economic growth, leading to resource depletion, environmental pollution, and unsustainable development. (Le, N.D.A, 2020)

## 2.2. Economic Growth

Nominal GDP growth does not accurately reflect the increase in produced goods and services because it includes price increases. Real GDP, which excludes price increases, reflects the actual growth in produced goods and services. Therefore, when calculating economic growth, economists use real GDP. Economic growth is the percentage change in real GDP from one period/year compared to the previous period/year. (Tung, H.T & Duong, L.X, 2019)

$$g^t = \frac{GDP_r^t - GDP_r^{t-1}}{GDP_r^{t-1}} \times 100\%$$

Where:

g: Economic growth rate of year t

GDP<sub>r</sub>(t): Real GDP of year t

GDP<sub>r</sub>(t-1): Real GDP of the year (t-1)

Economic growth is crucial as it can create jobs, improve income, enhance living standards, and provide various positive effects.

Economic growth brings many benefits, serving as the foundation for improving and enhancing people's living standards and developing other aspects of socio-economic life such as science, education, health, sports, and more. Economic growth is essential for all nations, particularly for poor and underdeveloped countries with low living standards and many socioeconomic aspects that are still backward. (Tung, H.T & Duong, L.X, 2019).

However, economic growth also comes with costs. In the 1970s, the objective of economic growth was criticized for increasing resource exploitation, leading to depletion, environmental damage, and social issues like wealth disparity, crime, and social vices. Rapid economic growth incurs significant costs, and some believe countries should not solely focus on economic growth but also address social issues and environmental protection. Technological advances can help mitigate the limitations caused by economic growth by using resources more efficiently (Tung, H.T & Duong, L.X, 2019).

### **2.3. Overview of Research on Trade Openness and Economic Growth:**

Many economists have analyzed the role of trade openness in promoting economic growth. Most agree that export expansion drives economic development (Helpman & Krugman, 1985). According to Robert J. Barro and Xavier Sala-i-Martin (1995), Rivera-Batiz và Romer (1991), trade openness can enhance long-term economic growth by improving resource allocation efficiency and productivity through technological and technical capacity development. Besides, expanding exports can increase the supply of foreign exchange, increase capital, and stimulate output growth (Balassa, 1978; Esfahani, 1991).

According to the World Bank (1987), the impact of trade openness on economic growth for any country is also determined based on the economic policy framework (cited by Anh, N.V.H, 2023). Furthermore, trade openness is not entirely a matter of economic policy but also depends on each region's geographical scale (Frankel and Romer, 1999). Therefore, the growth in trade openness does not always have the driving force to promote economic growth. It also depends on economic policies, geographical characteristics, and development orientation of the country or region. (Anh, N.V.H, 2023).

However, not all economists agree on the significance of trade openness, Rodriguez và Rodrik (1999) have shown that the relationship with growth may not be robust due to measurement methods and the lack of appropriate control variables. Trade liberalization, while promoting economic growth, also imposes constraints, especially for emerging economies, by increasing dependency on international demand and exposing them to global market fluctuations.

In addition, Rodrik (1992) mentioned that trade openness can cause macroeconomic instability by increasing inflation, devaluing the domestic currency, and leading to a balance of payments crisis. while Levine and Renelt (1992) argue that a higher level of trade openness will negatively affect domestic investments. Finally, Batra and Slottje (1993) and Leamer (1995) demonstrate that trade liberalization can be a major source of economic recession. Trade

liberalization implies accepting lower tariffs, making imported goods more attractive than domestic goods. In this case, the domestic economy may be disadvantaged. Therefore, while trade openness can drive growth, it also presents challenges that need to be managed effectively.

### 3. RESEARCH METHODOLOGY

#### *Theoretical Research Methods:*

Analytical and synthetic methods were used to clarify the theoretical basis of trade openness and economic growth and their relationship. The study reviewed academic databases and various information sources to establish a model examining the relationship between TO and economic growth.

#### *Practical Research Methods:*

Data collection and processing involved secondary data from websites such as GSO, International Financial Statistics, WB, and other sources related to FDI and economic growth. This data was analyzed using Excel and Eviews 12 to identify the qualitative and quantitative relationship between TO and economic growth in Vietnam from 1991-2023.

The study constructed a general equation to represent the relationship between foreign direct investment (FDI) and economic growth and trade openness with economic growth. The article collects secondary data, which is analyzed using Excel and Eviews 12 software.

Regarding the relationship between trade openness and economic growth in Vietnam, the research team constructed the general equation:

$$D(LGDPR)=C(1)*D(LGDPR(-1))+C(2)*D(LTO(-1))+C(3)+\varepsilon$$

Where:

- $D(LGDPR)$  is the first difference in the logarithm of the real GDP for the year of study.
- $D(LGDPR(-1))$  is the first difference in the logarithm of the real GDP for the previous year.
- $D(LTO(-1))$  is the first difference in the logarithm of trade openness for the previous year.
- $\varepsilon$  is the random error term.

To construct two equations showing the relationship between total foreign direct investment (FDI) and economic growth and trade openness with economic growth (with real GDP - GDPR as the representative variable), the following steps were taken:

Step 1: Use Eviews12 software to run the model with the collected secondary data.

Step 2: Check the statistical significance of the regression coefficients for the explanatory variables and the statistical significance of the model.

A coefficient is considered statistically significant if:

- $\text{Prob} < 0.0\alpha$  (significance level  $\alpha\%$ ) with  $0\% < \alpha < 10\%$
- $\text{Prob}(\text{F-statistic}) < 0.0\alpha$  (significance level  $\alpha\%$ ) with  $0\% < \alpha < 10\%$

Step 3: Check the model's explanatory power through the R-squared and Adjusted R-squared coefficients. These two coefficients indicate the degree to which the independent variable explains the dependent variable in the model.

Step 4: Check for model defects. A good model (usable for analysis) must have statistically significant coefficients, R-squared, and Adjusted R-squared and be free from autocorrelation and heteroscedasticity. Additionally, the model's residuals must follow a normal distribution.

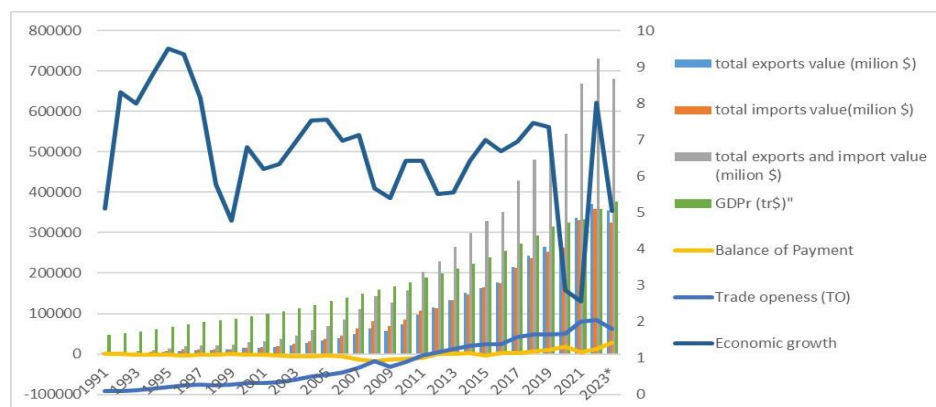
In the research, the authors used tools in Eviews12 to check these defects:

- The Breusch-Godfrey test was used to check for autocorrelation. The model is free from autocorrelation at a certain order  $p$  if  $\text{Prob}(\text{F-statistic})$  and  $\text{Prob}(\text{Obs} * \text{R-squared}) > 0.0\alpha$  (significance level  $\alpha\%$ ) with  $0\% < \alpha < 10\%$ .
- The White test was used to check for heteroscedasticity. The model is free from heteroscedasticity if  $\text{Prob}(\text{F-statistic})$  and  $\text{Prob}(\text{Obs} * \text{Chi-squared}) > 0.0\alpha$  (significance level  $\alpha\%$ ) with  $0\% < \alpha < 10\%$ .
- The Jarque-Bera test was used to check if the model's residuals follow a normal distribution. The residuals follow a normal distribution if  $\text{Prob}(\text{Jarque-Bera}) > 0.0\alpha$  (significance level  $\alpha\%$ ) with  $0\% < \alpha < 10\%$ .

Once these conditions are satisfied, the model estimation and result analysis are conducted.

#### 4. TRADE OPENNESS AND ECONOMIC GROWTH IN VIETNAM 1991-2023

The analysis of trade openness and economic growth in Vietnam from 1991 to 2023 is divided into five periods: 1991-1997, 1998-2004, 2005-2012, 2013-2019, and 2020-2023.



**Figure 1: Total export and import turnover, net exports, trade openness, real GDP, and economic growth in Vietnam from 1991-2023.**

(Source: GSO, IFS, and the research team's calculations)

*1991-1997:* During this period, export and import turnover gradually increased each year. The average import and export turnover growth rate was 32.04% and 28.21% per year, respectively. Although both export and import turnover tended to increase, the trade balance was in deficit due to higher import turnover compared to export turnover, leading to a trade deficit. Trade openness was low but gradually increased from 0.092 in 1991 to 0.26 in 1997. The real GDP (GDP<sub>r</sub>) also showed an increasing trend, with an average economic growth rate of 8.17% per year. This impressive growth rate was achieved as Vietnam implemented economic renovation and opened up its economy in 1986.

*1998-2004:* This period continued to see a gradual increase in export and import turnover. Export turnover increased steadily each year, with an average growth rate of 16.8% per year; import turnover had an average growth rate of 16.34%. Trade openness also gradually increased each year, from 0.24 in 1994 to 0.48 in 2004. Although the trade balance was still in deficit due to higher import turnover, the growth rate of export turnover was faster than that of import turnover, which was a positive sign for Vietnam's trade.

*2005-2012:* This period saw the global economy fall into crisis, negatively affecting Vietnam. Generally, export and import turnover increased each year during this period, except for 2009, when both export and import turnover decreased by 8.9% and 13.3%, respectively. Trade openness also decreased from 0.9 in 2008 to 0.76 in 2009 but then increased again in 2010. In 2012, for the first time in the study period, Vietnam achieved a trade surplus of USD 748.8 million, a significant milestone.

*2013-2019:* Export and import turnover continued to grow during this period, with an average export growth rate of 12.77% per year and an average import growth rate of 12.23% per year. Although there was a trade deficit in 2015, the trade surplus grew significantly in subsequent years, reaching USD 10,833.6 million in 2019.

*2020-2023:* Despite the negative impact of the Covid-19 pandemic in 2020, Vietnam's export and import turnover continued to grow. In 2020, the total export and import turnover was USD 281,375.76 million and USD 262,268.6 million, respectively, with a trade surplus. Although net export turnover showed a declining trend due to the rapid increase in imports to meet domestic demand during the pandemic, it increased again in 2022-2023. Trade openness increased, ranging from 1.67 to 2. Despite the pandemic, Vietnam maintained positive economic growth with 2.9% in 2020 and 2.6% in 2021, and a remarkable 8.0% in 2022-2023 as the economy recovered.

## **5. RELATIONSHIP BETWEEN TRADE OPENNESS AND ECONOMIC GROWTH IN VIETNAM: QUANTITATIVE ANALYSIS PERSPECTIVE**

The analysis of data on stationarity shows that the TO and LTO data series are not stationary at the 1%, 5%, and 10% significance levels. The first difference of the log of TO (DLTO) is stationary at the 1%, 5%, and 10% significance levels. The GDP<sub>r</sub> and LGDP<sub>r</sub> series are not stationary at the 1%, 5%, and 10% significance levels. The first difference of the log of GDP<sub>r</sub>

(DLGDPr) is not stationary at the 1% level but is stationary at the 5% and 10% significance levels.

**Table 1: Results of Stationarity Tests for TO Data Series**

Variable	ADF	Limit check		
		Significant level 1%	Significant level 5%	Significant level 10%
GDP <sub>r</sub>	0.785392	-4.273277	-3.557759	-3.212361
LGDP <sub>r</sub>	-2.100624	-4.273277	-3.557759	-3.212361
DLGDPr	-3.30765	<b>-3.661661</b>	-2.960411	-2.61916
TO	-2.50149	-4.273277	-3.557759	-3.212361
LTO	-1.247577	-4.273277	-3.557759	-3.212361
DLTO	<b>-4.198535</b>	-3.661661	-2.960411	-2.61916

Source: Data analysis from Eview

Based on the stationarity tests, the research team proceeded to estimate the model. The estimation results are shown in Table 2.

**Table 2: Results of estimating the relationship between TO and GDP<sub>r</sub>**

Dependent Variable: D(LGDPR)				
Method: Least Squares				
Date: 05/28/24 Time: 14:20				
Sample (adjusted): 1993 2023				
Included observations: 31 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDPR(-1))	0.327711	0.160925	2.036422	0.0513
D(LTO(-1))	0.058527	0.023771	2.462104	0.0202
C	0.036825	0.010200	3.610276	0.0012
R-squared	0.346376	Mean dependent var		0.063941
Adjusted R-squared	0.299688	S.D. dependent var		0.014672
S.E. of regression	0.012278	Akaike info criterion		-5.870239
Sum squared resid	0.004221	Schwarz criterion		-5.731466
Log likelihood	93.98871	Hannan-Quinn criter.		-5.825003
F-statistic	7.419029	Durbin-Watson stat		1.921725
Prob(F-statistic)	0.002598			

Source: Model Fit Check

The results in Table 2 show that all regression coefficients are statistically significant because the coefficients' probabilities are as follows: Prob(D(LGDPR(-1))) = 0.0513 < 0.1; Prob(D(LTO(-1))) = 0.0202 < 0.1; Prob(C) = 0.0012 < 0.1. The regression model is appropriate since the Prob(F-statistic) = 0.002598 < 0.1.

The model's coefficient of determination is R-squared = 0.346376; Adjusted R-squared = 0.299688.



**Autocorrelation Test**

**Table 3: Breusch- Godfrey Serial Correlation LM Test (lags = 2)**

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.937885	Prob. F(2,26)	0.1642
Obs*R-squared	4.021616	Prob. Chi-Square(2)	0.1339

Source: Model Fit Check

According to the results in Table 3, the Prob. F(2,26) = 0.1642 > 0.01; Prob. Chi-Square(2) = 0.1339 > 0.1. The model does not suffer from autocorrelation.

**Heteroskedasticity Test**

**Table 4: Heteroskedasticity Test (White)**

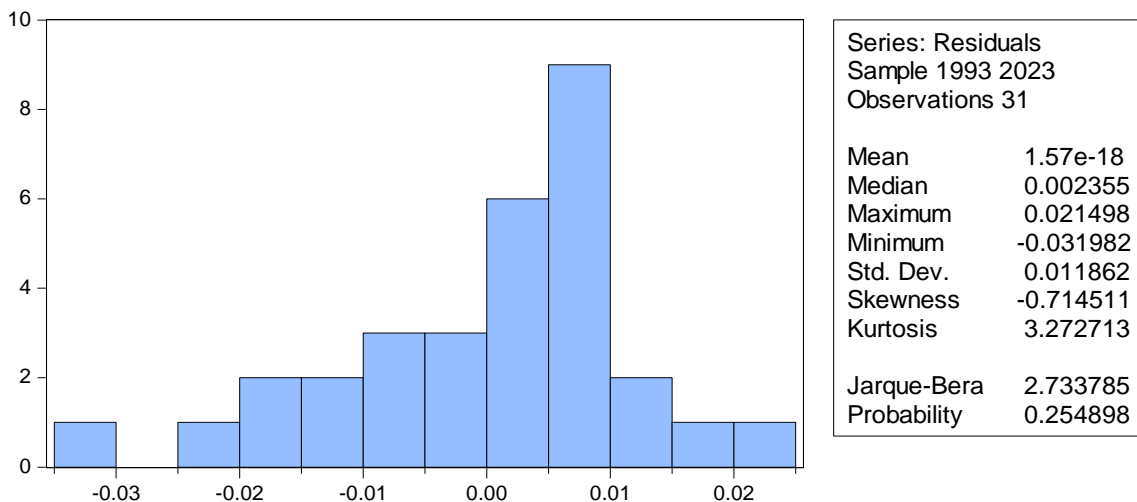
Heteroskedasticity Test: White			
F-statistic	1.965937	Prob. F(5,25)	0.1189
Obs*R-squared	8.748866	Prob. Chi-Square(5)	0.1195
Scaled explained SS	8.110713	Prob. Chi-Square(5)	0.1502

Source: Model testing results

The results in Table 4 show that Prob. F(2,25) = 0.1189 > 0.1; Prob. Chi-Square(5) = 0.1195 > 0.1; Prob. Chi-Square(5) = 0.1502 > 0.1. The model does not suffer from heteroskedasticity.

Testing for normally distributed residuals

The residuals of the model follow a normal distribution, with Prob (Jarque–Bera) = 0.254898 > 0.01 (as shown in Chart 2).



**Figure 2: Normally distributed residuals**

Source: structure test result

### Model and Analysis of Model Results:

The results of regression data analysis using Eviews8 software in Table 2 show the relationship between Vietnam's real Gross Domestic Product (GDPR) and Trade Openness (TO) from 1991 to 2023 as represented by the following equation:

$$D(LGDPR)=0.327711 \times LGDPR(-1)+0.058527 \times D(LTO(-1))+0.036825$$

From the regression model results, it has shown that:

- The explanatory variables in the model are statistically significant at the 1% significance level.
- The regression results indicate a positive relationship between the GDPR of the previous year and the GDPR of the year under review; a 1% change in the previous year's GDPR results in a 0.327711% change in the current year's GDPR.
- TO and GDPR also have a positive relationship; a 1% change in the previous year's TO results in a 0.058527% change in the current year's GDPR.
- The R-squared value of 0.346376 indicates that the model explains 34.6376% of the variation in GDPR from 1991 to 2023.

Thus, the model shows a positive relationship between the previous year's TO and the current year's GDPR and indicates that the previous year's GDPR affects the following year's GDPR. However, the influence is not large, and the model only explains 34.6376% of the variation in GDPR, suggesting that other factors beyond TO need to be considered for Vietnam's economic growth.

## 6. CONCLUSION AND RECOMMENDATIONS

With the state of trade openness (TO) and economic growth in Vietnam during the 1991-2023 period, over more than 30 years of economic reforms, the research results show a positive relationship between the GDPR of the previous year and the GDPR of the year under review. Therefore, maintaining economic growth year after year is a driving force for subsequent economic growth, and the research supports the view that trade openness (TO) plays an important role in promoting economic growth in Vietnam.

To promote exports, increase trade openness, and support economic growth, the research group also proposes several recommendations:

*Improve Trade and Legal Policies:* Simplify customs procedures, reduce administrative processes, and enhance the application of information technology in customs management to shorten the time for goods clearance; Harmonize standards in line with international product quality and food safety standards to facilitate global market access.

*Diversify Export Markets:* Expand into new markets, especially potential markets in Africa, Latin America, and the Middle East; Strengthen trade relations by signing free trade agreements (FTAs) with major economic regions to minimize tariff and non-tariff barriers.

*Enhance Product Quality and Value-Added:* Invest in R&D and encourage businesses to invest in research and development to improve product quality and innovate technology; Develop national brands, build and promote national brands to create a mark and increase product competitiveness in international markets.

*Financial and Export Insurance Support:* Provide preferential credit policies: Offer loans at preferential interest rates for export businesses, especially small and medium-sized enterprises; Enhance export insurance programs to mitigate risks for businesses when trading in international markets.

*Improve Enterprise Competitiveness:* Train and develop human resources by organizing in-depth training programs on export skills, international marketing, and supply chain management; Provide technical support, offer technical consulting services to help businesses improve production efficiency and quality management.

*Build Infrastructure to Support Exports:* Develop the logistics system and invest in warehousing, seaports, airports, and transportation networks to support the efficient export of goods; Strengthen IT infrastructure and enhance the application of information technology in managing and operating international trade activities.

*Increase Trade Promotion:* Promote and market internationally, participate in and organize international trade fairs and promotional programs to introduce Vietnamese products to the world; Foster international cooperation and promote cooperation with international organizations and multinational corporations to expand trade and investment networks.

*Develop Supporting Industries:* Encourage domestic production, support supporting industries to create high value-added products and reduce dependence on imported raw materials; Link industries, create strong links between businesses in the value chain, from raw material production to processing and export.

*Develop Scenarios and Forecast Trade Impacts on the Economy:* Develop scenarios and forecast the impact of trade, especially international trade, on the development and growth of Vietnam's economy to make policies and operational mechanisms in a timely manner; Timely provide information to businesses and sectors to proactively plan the balanced use of resources for sustainable development.

Trade openness has a positive relationship with economic growth. With an open economy and high trade openness, Vietnam is well-positioned to attract substantial foreign investment, as foreign investors can easily access international markets and trading partners. Vietnam should continue to develop rational policies to maximize the benefits of trade openness and ensure balanced and sustainable development.

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