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The Role of Trade Openness and Macroeconomic Factors in Shaping FDI Inflows to Vietnam

Quang Phung Duy*[1], *Huyen Nguyen*[2], *Linh Pham*[2], *Minh Nguyen

1 Faculty of Technology and Data Science, Foreign Trade University, Ha Noi

2 Foreign Trade University, Ha Noi

ABSTRACT

Purpose - This study explores the linkages between trade and investment flows in the Vietnamese economy, analyzing how these dynamics influence economic growth and stability. By examining the impact of trade and investment, the study aims to identify ways to optimize Vietnam's economic policies to promote sustainable development.

Design/ Methodology/ Approach - Using a Vector Autoregressive (VAR) model, this study explores the causal relationship between trade, foreign direct investment (FDI) and macroeconomic indicators. Secondary data on trade openness, FDI inflows, GDP and other macroeconomic indicators from official sources are used to estimate the short-run and long-run effects on Vietnam's economic linkages.

Findings - The study analyzed the impact of trade openness on foreign direct investment (FDI) flows during the period 1997-2022 using a VAR model, showing that trade openness has a negative impact on FDI in the short term but a positive impact in the long term. In addition, the study also provides important policy implications, supporting the government in planning and adjusting more effective economic management strategies.

*CORRESPONDING AUTHOR:

Quang Phung Duy, Faculty of Technology and Data Science, Foreign Trade University, Ha Noi; Email: quangpd@ftu.edu.vn

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Originality/Value - This study contributes to the limited literature on Vietnam's economic linkages, especially in the context of VAR model application. It provides an in-depth understanding of the relationship between trade and investment and offers valuable recommendations for policy makers in enhancing Vietnam's economic resilience and growth through adjusting trade and investment strategies.

Keywords: FDI, Trade openness, VAR, Vietnam

1. Concept

FDI (Foreign Direct Investment) is the long-term investment made by individuals, businesses, or organizations from one country (home country) into a foreign country (host country), typically through ownership or controlling ownership of the company in the host country (1). Over the last few decades, due to economic globalization, FDI has become one of the most attractive academic research topics. Much research pointed out that foreign direct investment is considered a factor influencing economic growth, particularly in developing countries. However, also according to (1), these impacts can be both positive and negative, depending on the domestic condition of each country.

Regarding the impacts on host nation's economic growth, FDI serves as a key factor when enhancing productivity of domestic companies through new capital investments, advanced technologies, and management expertise from abroad. Additionally, FDI also increases overall investment levels by attracting more domestic investment. Coordinating with the modern technology and human resources of the host country, FDI is probably the most effective one that helps achieve economic growth. In short, for the host nation, FDI not only plays a crucial role in providing capital and technology as well as promoting economic integration, but it also has a wide-ranging impact on other aspects of the economy, such as capital quality, productive capacity, and employment opportunities (2). On the other hand, FDI also brings to host nations some negative effects. Local firms and local authorities depend on technologies and training introduced by multinationals and developed countries, thereby reducing public spending on these areas. As a result, a highly qualified workforce may leave the host country; then no R&D activities occur; this is called brain drain. Other negative consequences resulting from FDI are the vulnerability of the host country to global economic issues when engaging in integration, a negative impact on the balance of payments, and the decline of local businesses that may be unable to compete with multinational corporations (3)

In terms of home nations' economies, according to (4), FDI both promotes export growth and reduces labor demand. While less labor is used, productivity is higher (comparing multinational corporations—MNCs—to non-multinational ones). There is a trend toward shifting labor demand favoring "white-collar" employees over "blue-collar" workers due to multinational companies outsourcing production tasks while keeping management, marketing, and research and development activities at their headquarters. (5) also noted that FDI raises concerns about potential knowledge leakage when home countries transfer technology to host countries, leading to competition between businesses in both nations. However, this also serves as a powerful incentive for home nations to stimulate innovation in knowledge and technology.

In general, despite certain adverse effects, it is undeniable that FDI plays a crucial role in stimulating economic growth in both home and host countries, thereby promoting global economic development (6). Moreover, FDI is regarded as an important force generating economic integration. However, this integration has not yet reached an extreme level

because of two main reasons: first, FDI flows were largely concentrated in specific areas; second, the benefits of FDI are in direct proportion to countries certain capital-related conditions, such as human resources and technology (7). Therefore, to optimize the role of FDI in promoting global economic integration and development while enhancing positive outcomes and minimizing negative consequences, each country must undertake substantial internal efforts.

By 2024, total registered FDI capital shot up to USD 36.6 billion, with USD 23.2 billion actually disbursed—a record level for Vietnam (8). In 2024, Vietnam ranked among the top three ASEAN economies in FDI inflows in 2023, trailing only Indonesia (USD 21.6 billion) and Singapore (USD 159.7 billion) (9). These milestones illustrate how Vietnam's early-market reforms, followed by legal frameworks, paved the way for sustained FDI growth. More recently, Vietnam's strategic policy focus has shifted toward attracting high-technology and innovation-driven investment, especially in semiconductors, artificial intelligence, and green energy, as part of its ambition to surpass USD 40 billion in registered FDI annually in the next five years (8).

Acknowledging the substantial contributions of foreign direct investment (FDI) to both national and global economic development, many researchers have investigated to evaluate the factors that influence FDI flows. Some of the main determinants are gross domestic product (GDP), exchange rates (EXR), trade openness (TOP), and inflation (INF). Among these economic factors, trade openness emerges as one of the controversial factors. Some research indicated that TOP has a positive effect on FDI (10), while other studies assumed that the effects are either inconclusive or insignificant (11). However, trade openness remains identified as one of the primary determiners of FDI patterns. The differences in the conclusions of these studies could arise from variations in the subjects, models, or methods. Therefore, this research tries to investigate the effects of trade openness on FDI within a specific nation with specific economic and social conditions: Vietnam.

Despite extensive global literature examining the determinants of foreign direct investment (FDI), existing studies often yield divergent findings regarding the role of trade openness—particularly across different national and developmental contexts. However, there remains a notable gap in research that focuses specifically on Vietnam, a transitional economy shifting from central planning to market orientation, where trade policy and FDI inflows are tightly interlinked.

This study aims to fill that gap by investigating the dynamic relationship between trade openness and FDI inflows in Vietnam over the long-term period from 1997 to 2022—a phase marked by deep economic reforms, WTO accession, and increasing global integration. The innovation of this research lies in its application of quarterly time-series data and the use of a Vector Autoregression (VAR) model, which allows for capturing both the short-run adjustments and long-run equilibrium effects between variables.

By offering Vietnam-specific empirical evidence, this study advances the literature on FDI determinants in developing and transitional economies. More importantly, it provides actionable insights for Vietnamese policymakers seeking to recalibrate trade strategies in ways that sustain and improve the country's attractiveness to foreign investors—particularly considering emerging challenges such as technological stagnation, supply chain vulnerability, and evolving global trade dynamics.

2. Literature Review

2.1. *International Studies on Trade Openness and FDI*

In the global context, numerous studies have demonstrated that trade openness—commonly measured as the ratio of total exports and imports to GDP—plays a pivotal role in attracting foreign direct investment (FDI). A recent study on 24 emerging Asian economies during 2002–2018, using a fixed-effects panel model, confirmed that besides factors such as market size and institutional quality, trade openness significantly contributes to FDI inflows (12). Similarly,

a 2024 study on G-20 countries employing panel data methods revealed that trade openness exerts a positive long-term impact on growth and FDI while highlighting the need for policy alignment with national contexts (13). Other research has emphasized the interplay between trade openness and macroeconomic or political stability. For instance, a cross-national study indicated that although trade openness boosts FDI, its effectiveness depends heavily on political stability and transparency (14). These findings suggest that liberalized trade regimes alone are insufficient and must be accompanied by stable macroeconomic conditions and effective governance to maximize their impact on FDI inflows.

2.2. *Vietnamese Studies on Trade Openness and FDI*

In Vietnam, FDI has been a key driver of economic growth since the Doi Moi reforms in 1986, with inflows accelerating after the country's accession to the World Trade Organization (WTO) in 2007. Recent studies have increasingly adopted higher-frequency data and advanced econometric techniques to better understand the determinants of FDI inflows. A study applying a Vector Autoregression (VAR) model to quarterly data from 2005 to 2019, found a positive causal relationship between trade openness and FDI, while also emphasizing the critical role of real effective exchange rate (REER) stability in attracting investment (15). Similarly, a study using a Vector Error Correction Model (VECM) for the period 1986–2020 confirmed long-term linkages between FDI, trade openness, GDP per capita, and exchange rate, highlighting the importance of sustainable growth and trade liberalization in strengthening investor confidence (16). Moreover, a study using quarterly data from 2006 to 2020, stressed the positive impact of recent free trade agreements (FTAs) such as the CPTPP and EVFTA, which have improved Vietnam's legal environment, increased transparency, and attracted high-quality FDI into manufacturing, high-tech, and service industries (17). However, some studies have also noted that inflationary pressures and exchange rate volatility may undermine Vietnam's FDI attractiveness, as observed during periods of high inflation in the early 2000s, although subsequent monetary and fiscal reforms helped restore investor confidence.

2.3. *Research Gap and Contribution*

Although the relationship between trade openness, macroeconomic stability, and FDI inflows has been widely studied both globally and in Vietnam, several gaps remain in the literature. Most Vietnamese studies rely on annual or relatively short time-series data, limiting their ability to capture short-term fluctuations and structural changes, particularly in the context of recent economic integration through major FTAs such as the CPTPP and EVFTA. Moreover, while some research has employed VAR or VECM models, the scope of variables has often been restricted, leaving the interactive and bidirectional effects among trade openness, GDP, exchange rate, inflation, and FDI underexplored. Furthermore, empirical evidence assessing the comprehensive impact of recent FTAs on FDI inflows using long-term, high-frequency data remains scarce. To address these gaps, this study utilizes quarterly data spanning 1997–2022 combined with a Vector Autoregression (VAR) framework, offering a more dynamic and comprehensive analysis of the factors driving FDI inflows in Vietnam. This approach not only provides robust empirical evidence on the short- and long-term interactions between trade openness and macroeconomic variables but also contributes valuable policy insights for Vietnam in balancing liberalization with macroeconomic stability to sustain and enhance FDI inflows in the coming decades.

3. Materials and Methods

3.1. Methodology

To examine the impact of trade openness on foreign direct investment (FDI) flows in Vietnam, this study employs the Vector Autoregressive (VAR) model—a widely used econometric approach for nalyzing multivariate time series data. The VAR

amodel was first introduced by Sims (18) as a tool to capture the dynamic linear interdependencies among multiple endogenous variables without requiring strong theoretical assumptions about exogeneity. Each variable in a VAR model is treated as endogenous and expressed as a linear function of its own past values and the past values of all other variables in the system. This methodology is appropriate for the present study for several key reasons: (i) Handling endogeneity: VAR models are suitable for systems where explanatory variables may be influenced by each other, allowing for simultaneous interactions among trade openness, GDP, exchange rate, inflation, and FDI; (ii) Simplicity and flexibility: VAR models are easy to implement and interpret, especially in small-sample macroeconomic analyses (19); (iii) Dynamic analysis: They allow for impulse response functions (IRFs) and variance decomposition to assess the dynamic impact of shocks in trade openness on FDI flows over time.

To demonstrate the relationship between trade openness and foreign direct investment flows, the study builds a basic model:

FDI=F(TO,X) (1)

In which: FDI is foreign direct investment flows into Vietnam, TO is trade openness, X includes other factors that this study believes may affect foreign direct investment flows. Based on the study of factors affecting foreign direct investment flows FDI, the basic model is written in the form of a VAR model.

The empirical methodology consists of the following steps:

Testing for stationarity using unit root tests (Augmented Dickey-Fuller or Phillips-Perron) to ensure that all variables are integrated of the same order (typically I(1)).

Determining the optimal lag length using information criteria such as AIC, BIC, or HQIC.

Estimating the VAR model using the selected lag length and examining its stability.

Conducting diagnostic tests including residual autocorrelation, Granger causality tests, and tests for model stability (e.g., roots of the characteristic polynomial).

Analyzing impulse response functions (IRFs) to evaluate the effect of a one-unit shock in trade openness on FDI over time.

Performing variance decomposition to determine the relative importance of each explanatory variable in explaining FDI fluctuations.

This methodology follows well-established practices in macroeconomic time-series research, as used in prior studies such as (20), and (21), who applied similar VAR models to analyze FDI flows in emerging markets.

3.2. Variables and data

The variables of the study include: (i) Dependent variable: Foreign Direct Investment (FDI); (ii) Independent variables: Trade openness (TO), Gross domestic product (GDP), Exchange rate (EXR), Inflation (INF).

Table 1: Summary of Variables, Units, and Data Sources for FDI and Macroeconomic Indicators (Source: Authors)

No.	Sign	Role	Take logarithm	Variable description	Unit	Source
1	FDI	Dependent Variable		Foreign Direct Investment Per Capita	Current USD	World Bank
2	TO	Independent Variable		Trade Openness, (Exports + Imports)/ GDP		World Bank
3	GDP	Independent Variable	lnGDP	Gross Domestic Product	Current USD	World Bank
4	EXR	Independent Variable		Real Effective Exchange Rate Index		World Bank
5	INF	Independent Variable		Inflation		World Bank

The data is collected quarterly in the period 1997-2022 from the database published at the IMF and World Bank. There are a total of 26 observation samples.

3.3. Notation and Abbreviation

All notations and abbreviations used in this study are provided in the Appendix A.

4. Results

4.1. Stationarity Testing and Optimal Lag of the Model

4.1.1. Stationarity Testing

After selecting the variables and processing the data into the model, the study conducted a stationarity test for the time series data. The variables were not stationary at the original level, so the study took the first and second differences and obtained a data series with all variable's stationary in the Table 2.

4.1.2. Optimal Lag of the model

After testing the stationarity of the data series of the variables, the study proceeded to select the optimal lag based on the criteria AIC, SC, HQ, LR, FPE. In which, the selected value is the value with the smallest AIC. The results in the Table show that the 2-year lag is optimal for estimating the model.

Table 2: Augmented Dickey-Fuller Stationarity Test Results for FDI and Macroeconomic Variables (1997–2022) (Source: Authors)

Variable	P-Value	Order of Difference	Conclusion
FDI	0.0054	1	stationary
TO	0.0017	1	stationary
GDP	0.0000	2	stationary
EXR	0.**0**049	1	stationary
INF	0.0000	1	stationary

Table 3: Selection of Optimal Lag Length for VAR Model Using Multiple Information Criteria (Source: Authors)

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-107.11970	NA	**0**.018382	10.192700	**10.44066**	10.25111
1	-74.75310	**47.07867**	0.010096	9.523009	11.01079	9.873487
2	-37.80701	36.94609	**0.005199**	**8.437001**	11.16461	**9.079543**

4.2. VAR Model Estimation

4.2.1. VAR model Estimation

After confirming that the variables for building the model are appropriate, to see how the variables affect foreign direct investment flows, the study estimated using the VAR model through EViews 10 software with the variables selected and processed as above, with an appropriate lag of 2 selected. The estimation results are presented in Table 4.

The results from the regression model show that some variables have a significant effect on the dependent variable. Specifically, the variable DFDI(-1) has a positive coefficient of 0.772576 and a t-value of 2.57370, indicating a positive and statistically significant relationship. This suggests that a change in DFDI(-1) can predict a positive change in the dependent variable. Similarly, DTO(-2) with a large

negative coefficient of -13.63686 and a t-value of -2.82510 shows a significant negative effect, suggesting that an increase in DTO(-2) can lead to a decrease in the dependent variable.

The variables DEXR(-2) and KH are also noteworthy. DEXR(-2) has a positive coefficient of 0.313339 and a t-value of 2.58478, indicating a positive and statistically significant relationship. This suggests that the change in DEXR(-2) can predict a positive change in the dependent variable. For KH, the negative coefficient of -2.463984 and the t-value of -1.89370 indicate a negative relationship, although the level of statistical significance is unclear.

However, some other variables such as DINF, DEXR(-1), D2LNGDP(-1) and D2LNGDP(-2) do not show a significant effect, with t-values not strong enough to conclude a relationship. This suggests that these variables may not contribute much to the change in the dependent variable in the current model.

The model fit statistics such as R-squared 0.679959 and Adjusted R-squared 0.389012 indicate that the model can explain about 39% of the variation in the dependent variable when adjusted for the number of predictors. This suggests that there are still many other factors that have not been included in the model, or that the existing variables may need to be modified to improve predictive ability. The sum of squared errors of 12.28589 provides information about the prediction error of the model, with lower values usually indicating better fit.

In summary, analysis of the results from the regression model shows that some variables such as DFDI(-1), DTO(-2), DEXR(-2) have significant effects on the dependent variable, while other variables have weaker or unclear effects. The model fit statistics suggest that there is still much room for improvement of the model by adding other relevant variables or modifying the existing variables.

Table 4: VAR model estimation (Source: Authors)

D(FDI)	**Coefficient**	**Standard Error**	**t-statistic**
D(FDI(-1))	0.772576	(0.30018)	[2.57370]
D(FDI(-2))	-0.015962	(0.27484)	[-0.05808]
D(TO(-1))	-4.102740	(4.68369)	[-0.87596]
D(TO(-2))	-13.636860	(4.82703)	[-2.82510]
D(LNGDP(-1),2)	1.974223	(4.72223)	[0.41807]
D(LNGDP(-2),2)	5.257280	(4.85792)	[1.08221]
D(INF(-1))	0.030057	(0.07273)	[0.41329]
D(INF(-2))	0.022275	(0.05957)	[0.37395]
D(EXR(-1))	0.119969	(0.12468)	[0.96219]
D(EXR(-2))	0.313339	(0.12123)	[2.58478]
KH	-2.463984	(1.30115)	[-1.89370]
R-Squared	0.679959		
Adj. R-Squared	0.389012		
Sum sq.resids	12.285890		

4.2.2. Residual Autocorrelation Test

To determine whether the selected model is suitable for the data series and selected variables, the study conducted a residual autocorrelation test. The results in the Table show that the model does not have residual autocorrelation, which proves that the built VAR model is completely suitable for the data series and selected variables.

4.2.3. Inverse Roots of AR Characteristic Polynomial

The following figure shows that the eigenvalues are all within the unit circle, so the estimated model has the necessary stability to ensure the reliability of the estimated results.

Table 5: Diagnostic Test for Autocorrelation in VAR Residuals (Source: Authors)

Prob.	Rao F-stat	df	Prob.
0.4173	0.906838	(25, 8.9)	0.6040
0.5608	0.759593	(25, 8.9)	0.7219
0.0017	3.943300	(25, 8.9)	0.0189

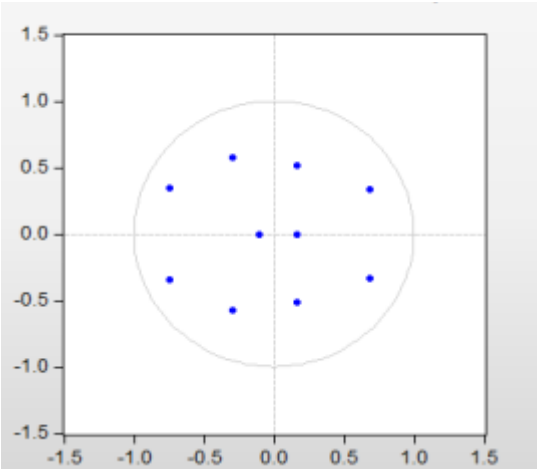

Figure 1: Inverse Roots of AR Characteristic Polynomial (Source: Authors)

4.2.4. Analysis of the Impulse Response Function

To examine the response of foreign direct investment to changes in trade openness, the study conducted an impulse reaction function analysis. The study only focused on the impact of trade openness on foreign direct investment. The following figure shows that the response of foreign direct investment to trade openness is very clear. In the short term, when trade openness increases, foreign investment decreases, as shown in the graph of the figure for 4 consecutive years. However, from the 4th year onwards, the response of foreign direct investment due to the impact of trade openness is kept stable and tends to increase.

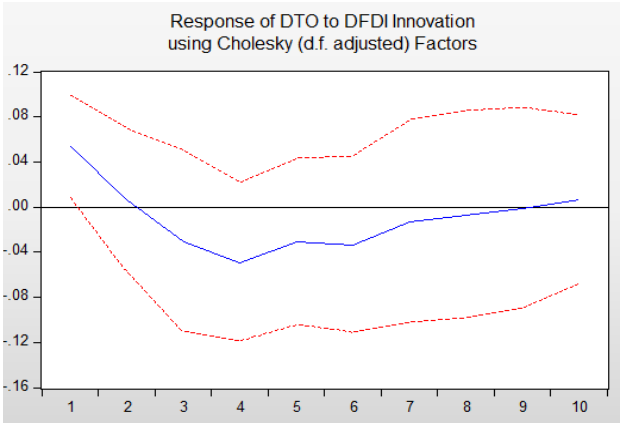

Figure 2: Impulse Response Function Result (Source: Authors)

4.2.5. Variance Decomposition

To more accurately assess the impact of past values of each variable on foreign direct investment, the study conducted variance decomposition using the Recursive Cholesky method (18). The results are shown in the Table 6.

Table 6: Variance Decomposition Results (Source: Authors)

Period	S.E.	DFDI	DTO	DINF	DEXR	D(GDP,2)
1	1.056834	100.0000	0.000000	0.000000	0.000000	0.000000
2	1.362161	92.35709	0.000689	1.583412	5.845767	0.213038
3	1.802542	55.45264	2.243452	4.684910	35.78728	1.831714
4	1.891226	50.86722	2.289708	4.770478	39.66742	2.405172
5	1.913533	49.81323	3.040781	5.280420	39.38621	2.479350
6	1.921954	49.67104	3.208923	5.428951	39.20657	2.484513
7	1.936351	49.69764	3.431756	5.353269	39.01756	2.499782
8	1.946068	49.64667	3.406024	5.476514	38.94871	2.522077
9	1.955747	49.46834	3.409762	5.502523	39.07266	2.546717
10	1.958638	49.41470	3.422928	5.508420	39.09812	2.555836

5. Discussion

The variance decomposition results show the changes in variables such as DFDI (Foreign Direct Investment), DTO (Trade Openness), DINF (Inflation), DEXR (Exchange Rate) and D(GDP,2) (GDP Growth) over 10 periods. In the first period, DFDI accounted for 100%, indicating complete dependence on this variable. However, from period 2 onwards, the contribution of DFDI decreased to 92.36%, while DTO and DINF began to make small contributions, indicating diversification in influencing factors. From period 5 onwards, the contribution of DEXR and D(GDP,2) increased significantly, indicating that in the long run, exchange rate and GDP growth are becoming more important factors in explaining the changes in the dependent variable. Standard deviation S.E. also tends to increase from 1.056834 in period 1 to 1.958638 in period 10, reflecting the increased volatility in economic factors. Overall, DFDI is still the main factor in the early stages, over time, the role of other factors becomes more important, reflecting the change in economic structure and the relationship between variables in the multivariate linear regression model. In the short and long run, it takes time for trade openness to have a certain impact on foreign direct investment. The results show that trade openness has not yet had time to affect foreign direct investment in year 2 (the level of influence is only about 0.0006%) and must wait until year 3, when it can really explain foreign direct investment with the level of influence increasing rapidly from 0.0006% to 2.24% and gradually increasing steadily to 3.43% in year 7.

6. Conclusions

The study examined the impact of trade openness on foreign direct investment in the period 1997-2022 using a VAR model, showing a negative impact in the short term and a positive impact in the long term. In the short term, trade openness has a negative impact on foreign direct investment. Specifically, in the short term, an increase in trade openness can create instability in the investment environment, leading to a decrease in FDI flows because investors may be concerned about increased competition and market risks. However, in the long term, trade openness creates favorable conditions for attracting FDI through improving the business environment, enhancing competitiveness and expanding the market for foreign investors. From the results of this study, some policy implications are proposed as follows: First, the government needs to develop and implement policies to stabilize the

business environment in the short term, minimizing risks for foreign investors. Second, it is necessary to promote economic reform programs to improve the competitiveness of the economy, thereby creating more attractiveness for FDI when trade openness increases. Finally, strengthening international cooperation and participating in free trade agreements will also help Vietnam maximize the benefits from trade openness, while attracting more FDI flows into strategic sectors of the economy.

This study, however, is not without limitations. First, the analysis relied on secondary data from 1997 to 2022, which, although comprehensive, may not fully capture the structural breaks and sudden policy shifts in Vietnam's economy during this period. Second, the use of a VAR model, while effective for identifying dynamic relationships, does not account for potential nonlinearities or asymmetries in the impact of trade openness on FDI. Third, the study was limited to macroeconomic factors, excluding institutional quality, political stability, and sectoral-level determinants that could further explain FDI inflows.

In comparison with similar studies in emerging economies such as China, India, and ASEAN countries, the findings confirm the general pattern that trade openness tends to deter FDI in the short run but enhances it in the long run. However, unlike Singapore or Malaysia, where trade liberalization had an almost immediate positive effect on FDI, Vietnam's transition economy requires a longer adjustment period due to its evolving legal frameworks and infrastructure gaps.

Future research should expand the scope by integrating institutional and sectoral variables, applying nonlinear or panel data models, and incorporating the moderating effects of global shocks such as financial crises, pandemics, or geopolitical tensions. Additionally, exploring the role of new-generation free trade agreements (e.g., CPTPP, EVFTA) and sector-specific policies, especially in high-tech and green industries, could provide more nuanced insights into how Vietnam can sustain and diversify its FDI inflows in the coming decades.

Author Contributions

Conceptualization, Quang Phung and Huyen Nguyen.; methodology, Quang Phung and Huyen Nguyen; software, Quang Phung; validation, Quang Phung, Huyen Nguyen, Linh Pham, Minh Nguyen; formal analysis, Huyen Nguyen; investigation, Linh Pham; resources, Minh Nguyen; data curation, Huyen Nguyen; writing—original draft preparation, Huyen Nguyen and Linh Pham; writing—review and editing, Linh Pham, Minh Nguyen; visualization, Minh Nguyen; supervision, Quang Phung; project administration, Quang Phung; funding acquisition, Quang Phung. All authors have read and agreed to the published version of the manuscript

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Institutional Review Board Statement

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Data Availability Statement

The data is collected quarterly in the period 1997-2022 from the database published at the IMF and World Bank. There is a total of 26 observation samples.

Conflicts of Interest

The authors declare no conflict of interest.

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Appendix A

Abbreviation / Symbol	Description	Unit / Notes
FDI	Foreign Direct Investment	Current USD (per capita)
TO / TOP	Trade Openness = (Exports + Imports) / GDP	Ratio
GDP / lnGDP	Gross Domestic Product / Logarithm of GDP	Current USD
EXR	Real Effective Exchange Rate Index	Index (base year = 100)
INF	Inflation	% change (Consumer Price Index)
VAR	Vector Autoregressive Model	Econometric methodology
VECM	Vector Error Correction Model	Econometric methodology
IRF	Impulse Response Function	Dynamic response analysis
VDC	Variance Decomposition	Forecast error variance share (%)
ADF	Augmented Dickey–Fuller Test	Unit root test for stationarity
PP	Phillips–Perron Test	Unit root test for stationarity
Lag	Time lag in the VAR model	Number of periods
LogL	Log Likelihood	Model fit statistic
LR	Likelihood Ratio Test	Test statistic for lag selection
FPE	Final Prediction Error	Lag order selection criterion
AIC	Akaike Information Criterion	Model selection criterion
SC	Schwarz Criterion (BIC)	Model selection criterion
HQ	Hannan–Quinn Criterion	Model selection criterion
D(FDI)	First difference of Foreign Direct Investment	Dependent variable in VAR
D(FDI(-1)), D(FDI(-2))	First and second lagged differences of FDI	Model regressors
D(TO(-1)), D(TO(-2))	First and second lagged differences of Trade Openness	Model regressors
D(LNGDP(-1),2)	First lagged second difference of log of GDP	Model regressor
D(LNGDP(-2),2)	Second lagged second difference of log of GDP	Model regressor
D(INF(-1)), D(INF(-2))	First and second lagged differences of Inflation	Model regressors
D(EXR(-1)), D(EXR(-2))	First and second lagged differences of Exchange Rate	Model regressors
KH	Constant or exogenous control variable	Model parameter
Coefficient	Estimated effect of an explanatory variable	Regression output

Standard Error (S.E.)	Standard Error of coefficient estimates	Regression output
t-statistic	Student's t-test statistic	For testing significance
p-value (Prob.)	Probability value of test statistic	Significance test
R-squared (R^2)	Coefficient of Determination	Proportion of variance explained
Adj. R-squared	Adjusted R^2	Adjusted for number of predictors
Rao F-stat	Rao's F-statistic	Residual autocorrelation test
df	Degrees of Freedom	Test statistics
AR Characteristic Polynomial	Inverse roots of AR polynomial (stability test for VAR)	VAR stability condition
Period	Forecast horizon in variance decomposition	Time periods
DFDI	Forecast error variance share attributable to FDI	% contribution
DTO	Forecast error variance share attributable to Trade Openness	% contribution
DINF	Forecast error variance share attributable to Inflation	% contribution
DEXR	Forecast error variance share attributable to Exchange Rate	% contribution
D(GDP,2)	Forecast error variance share attributable to second difference of GDP	% contribution
WTO	World Trade Organization	International trade body
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership	Free Trade Agreement
EVFTA	EU–Vietnam Free Trade Agreement	Free Trade Agreement