



Friend-Shoring and Foreign Direct Investment (FDI) Flows Into Vietnam: Implications for Distribution Science in the Era of Global Supply Chain Fragmentation (2010–2025)

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Abstract

Purpose: This study examines whether distribution science is associated with foreign direct investment (FDI) inflows into Vietnam under global supply chain fragmentation, and whether institutional quality and infrastructure shape this relationship. **Research design, data, and methodology:** Using annual data for 2010–2025 (N=16), we estimate baseline and interaction OLS time-series models with robust standard errors. Friend-shoring intensity is measured as the share of realized FDI from geopolitically aligned partner economies, fragmentation is proxied by a disruption index, and GDP, trade openness, and the exchange rate are included as controls; Durbin–Watson statistics are used to check autocorrelation. **Results:** Friend-shoring is positively and significantly related to total FDI inflows, while fragmentation is negatively related. Institutional quality and infrastructure display positive effects. The interaction between friend-shoring and fragmentation is negative and statistically significant, indicating that stronger fragmentation dampens the investment gains from friend-shoring. The models show strong fit (Adj. R^2 around 0.81–0.84), and lagged specifications yield consistent signs. **Conclusions:** Vietnam can attract more stable FDI by combining selective partner-based facilitation with reforms that strengthen governance, regulatory predictability, and transport–logistics infrastructure, thereby reducing vulnerability to fragmentation shocks. The evidence clarifies how alignment and domestic capacity jointly shape FDI in an emerging manufacturing hub.

Keywords: Friend-Shoring, Foreign Direct Investment (FDI), Logistics, Supply chain, Retailing, E-commerce, Distribution Science

JEL Classification Code : F21, F23, F15

1. Introduction

The fragmentation of global supply chains has emerged as a defining feature of the contemporary international economic environment. Escalating geopolitical tensions, trade conflicts, and the COVID-19 pandemic have fundamentally altered multinational enterprises' investment strategies, prompting a reassessment of risk, reliability, and partner-country alignment. In this context, foreign direct

investment (FDI) decisions are increasingly shaped not only by cost considerations but also by concerns related to supply chain security, geopolitical trust, and distribution science.

One prominent response to these challenges is the growing emphasis on friend-shoring. Friend-shoring refers to the strategic reallocation of production and investment toward economies that are perceived as politically reliable, institutionally stable, and geopolitically aligned. While

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related concepts such as reshoring and nearshoring emphasize domestic relocation or geographic proximity, friend-shoring prioritizes alignment in political and strategic interests. This distinction is critical for understanding contemporary FDI reallocation, particularly in regions deeply embedded in global production networks.

Vietnam provides a particularly relevant case for examining these dynamics. As a major manufacturing hub in Southeast Asia, Vietnam has benefited from supply chain diversification and investment redirection in the past decade. According to international investment profiles and Vietnam's official statistics, a substantial share of realized FDI inflows originates from major partner economies such as Korea, Japan, Singapore, and the United States. However, the precise composition of FDI inflows varies across years and reporting methods, underscoring the need for an empirical approach that avoids fixed proportional claims.

Against this backdrop, this study examines the relationship between friend-shoring and FDI inflows into Vietnam over the period 2010–2025. Rather than relying on descriptive narratives, the paper employs a time-series framework to analyze whether shifts in the composition of FDI toward geopolitically aligned partners are systematically associated with Vietnam's aggregate FDI performance under conditions of global supply chain fragmentation. By focusing on this period, the study captures both pre- and post-pandemic dynamics as well as major episodes of geopolitical tension affecting global production networks.

2. Theoretical Foundation and Literature Review

This study is grounded in three complementary theoretical perspectives: the eclectic paradigm of foreign direct investment (FDI), institutional theory, and the global value chain (GVC) framework. Together, these approaches provide a coherent foundation for analyzing how friend-shoring and global supply chain fragmentation influence investment flows into developing economies such as Vietnam (Dunning, 1980; North, 1990; Gereffi, Humphrey, & Sturgeon, 2005).

2.1. Foreign Direct Investment Theory and Location Choice

According to Dunning's eclectic paradigm, multinational enterprises undertake FDI when ownership, location, and internalization advantages jointly favor foreign production (Dunning, 1980, 1998). Traditionally, location advantages have been associated with cost efficiency, market size, and factor endowments. However, recent studies argue that geopolitical stability, policy predictability, and supply chain

reliability have become increasingly important determinants of location choice in an uncertain global environment (Baldwin & Freeman, 2022; Evenett & Fritz, 2023).

Empirical evidence suggests that rising geopolitical tensions and trade policy uncertainty have a significant impact on multinational firms' investment decisions. Firms tend to reallocate investment toward countries perceived as politically stable and strategically aligned, particularly when global production networks face heightened disruption risks (Javorcik et al., 2022; Alfaro & Chor, 2023). This evolution reflects a shift in the location component of the OLI framework, where institutional reliability and geopolitical alignment complement traditional cost-based advantages.

2.2. Institutional Theory and Investment under Uncertainty

Institutional theory emphasizes the role of governance quality, regulatory effectiveness, and policy stability in shaping economic behavior and investment outcomes (North, 1990; Acemoglu & Robinson, 2012). Strong institutions reduce uncertainty, lower transaction costs, and enhance investor confidence, thereby fostering a favorable environment for FDI inflows.

Recent empirical studies show that institutional quality helps countries sustain FDI inflows during periods of global uncertainty and economic disruption (Busse & Hefeker, 2007; Buchanan, Le, & Rishi, 2012). In the context of global supply chain fragmentation, institutional quality functions as an enabling condition that mitigates external shocks and supports investment resilience, rather than as a formally tested mediation mechanism.

2.3. Global Value Chains, Fragmentation, and Friend-shoring

The global value chain literature highlights the fragmentation of production across borders and the increasing complexity of international supply networks (Gereffi et al., 2005; Gereffi & Fernandez-Stark, 2016). While fragmentation has historically generated efficiency gains, recent shocks—including geopolitical conflicts, trade wars, and the COVID-19 pandemic—have exposed vulnerabilities in globally dispersed supply chains. In response, firms have reconsidered the geographic configuration of their production networks, including the role of distribution science in shaping FDI and supply chain strategies.

In response, firms have reconsidered the geographic configuration of their production networks. Friend-shoring has emerged as a strategic response to geopolitical risk, whereby firms prioritize investment in countries that are

politically aligned, institutionally trustworthy, and embedded within reliable trade and logistics networks (Baldwin & Freeman, 2022; Javorcik et al., 2022). Unlike reshoring or nearshoring, friend-shoring emphasizes geopolitical trust and strategic alignment within global production systems.

2.4. Empirical Evidence on FDI, Fragmentation, and Vietnam

Empirical studies on emerging and ASEAN economies indicate that market size, trade openness, and macroeconomic stability remain important determinants of FDI inflows (Asiedu, 2002; Blonigen & Piger, 2014). More recent research highlights the growing influence of geopolitical risk and supply chain disruption on investment patterns (Caldara & Iacoviello, 2022; Alfaro & Chor, 2023).

In the case of Vietnam, existing studies suggest that the country has benefited from supply chain diversification and investment redirection, particularly in manufacturing and export-oriented sectors (Nguyen & Kim, 2020; Pham, 2021). However, the literature also notes Vietnam’s exposure to external shocks arising from global fragmentation, underscoring the importance of institutional capacity and infrastructure development in sustaining FDI inflows (Tran & Le, 2022).

2.5. Research Gap and Conceptual Contribution

Despite growing interest in friend-shoring, empirical research explicitly quantifying its impact on FDI inflows remains limited, especially for developing economies. Much of the existing literature relies on cross-sectional or descriptive approaches, offering limited insight into dynamic relationships over time (Baldwin & Freeman, 2022).

This study addresses these gaps by adopting a time-series approach to analyze Vietnam’s experience from 2010 to 2025. By operationalizing friend-shoring as a compositional measure of FDI and examining its interaction with global fragmentation and domestic enabling conditions, the study contributes to a more nuanced understanding of how geopolitical alignment and distribution science jointly shape FDI outcomes in an increasingly fragmented global economy.

3. Research Model and Hypotheses

3.1. Proposed Research Model

This study proposes a research model that examines the relationship between friend-shoring and foreign direct investment (FDI) inflows into Vietnam under conditions of

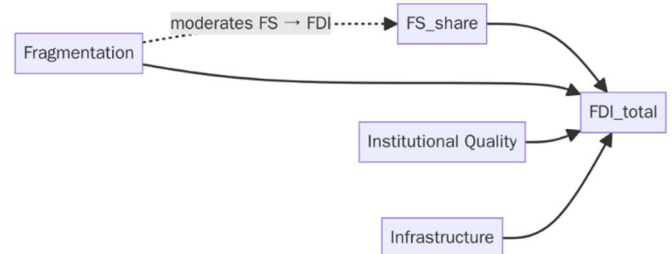
global supply chain fragmentation. The model is grounded in foreign direct investment theory, institutional theory, and the global value chain perspective, which collectively emphasize the roles of location advantages, institutional reliability, and supply chain resilience in shaping investment decisions (Dunning, 1980; North, 1990; Gereffi et al., 2005).

In the proposed model, total FDI inflows (FDI_total) represent the outcome variable capturing Vietnam’s overall investment performance. Friend-shoring is operationalized as a compositional measure reflecting shifts in the structure of FDI rather than its absolute magnitude. Specifically, friend-shoring intensity is measured as the share of FDI inflows from geopolitically aligned partner economies relative to Vietnam’s total FDI inflows (FS_share). This specification mitigates part-whole bias and allows the analysis to focus on investment reallocation patterns under fragmentation pressures.

Global supply chain fragmentation is incorporated as an external contextual factor influencing investment decisions. Higher levels of fragmentation are expected to increase uncertainty and coordination costs for multinational enterprises, thereby exerting downward pressure on FDI inflows. At the same time, fragmentation is hypothesized to condition the relationship between friend-shoring and FDI inflows by moderating the effectiveness of geopolitical alignment in attracting investment.

Institutional quality and infrastructure development are included as domestic structural factors shaping Vietnam’s investment environment. Rather than being modeled as formally tested mediating variables, these factors are conceptualized as enabling conditions that support Vietnam’s capacity to attract and sustain FDI inflows under fragmented global conditions. Strong institutions and well-developed infrastructure reduce transaction costs, enhance investor confidence, and improve supply chain efficiency.

Figure 1 illustrates the proposed research model, in which friend-shoring intensity directly influences total FDI inflows, global supply chain fragmentation exerts both direct and moderating effects, and institutional quality and infrastructure function as enabling factors within the investment environment.



Source: Author’s construction.

Figure 1: Proposed Research Model

3.2. Variable Explanation in the Model

This study employs annual time-series data for Vietnam over the period 2010–2025. The variables included in the empirical model are constructed to capture the effects of friend-shoring, global supply chain fragmentation, and domestic structural conditions on foreign direct investment (FDI) inflows.

The dependent variable is total foreign direct investment inflows (FDI_total), measured as annual realized FDI inflows into Vietnam. This variable reflects Vietnam's overall attractiveness to multinational enterprises and is commonly used in the literature on FDI determinants and investment location choice.

The key explanatory variable is friend-shoring intensity (FDI_friend_share). To avoid part-whole bias, friend-shoring is operationalized as a compositional measure rather than an absolute value. Specifically, FDI_friend_share is defined as the share of FDI inflows originating from geopolitically aligned (“friendly”) partner economies relative to Vietnam's total FDI inflows in year t . This transformation mitigates mechanical correlation between a component and its aggregate and allows the analysis to focus on shifts in the composition of FDI under conditions of global supply chain fragmentation.

Global supply chain fragmentation (Fragmentation) is included to capture external disruptions and structural pressures affecting cross-border production networks. This variable reflects the extent to which global supply chains are subject to geopolitical tensions, trade policy uncertainty, and systemic shocks. Higher values of this indicator are expected to exert downward pressure on FDI inflows by increasing uncertainty and coordination costs for multinational enterprises.

Institutional quality (Institution) represents the domestic governance environment faced by foreign investors. It captures aspects such as regulatory effectiveness, policy stability, and protection of property rights. Stronger institutional quality is expected to enhance investor confidence and support stable FDI inflows, particularly under fragmented global conditions.

Infrastructure development (Infrastructure) measures the availability and quality of physical and logistics-related infrastructure, including transportation networks, energy supply, and connectivity. Well-developed infrastructure reduces transaction costs, improves supply chain efficiency, and increases the locational attractiveness of host economies for foreign investors.

In addition to the main explanatory variables, the model includes standard control variables commonly used in FDI studies. Market size (GDP) is measured as real gross domestic product and captures demand potential in the host

economy. Trade openness ($Trade_openness$), defined as the ratio of total trade to GDP, reflects Vietnam's integration into global trade networks. The exchange rate ($Exchange_rate$) is included to account for relative cost competitiveness and macroeconomic conditions affecting foreign investment decisions.

All variables are transformed as appropriate for time-series analysis to ensure consistency in scale and interpretation. The empirical specification focuses on identifying whether changes in the composition of FDI toward geopolitically aligned partners are systematically associated with Vietnam's aggregate FDI inflows in the presence of global supply chain fragmentation.

3.3. Research Hypotheses

To ensure conceptual and econometric consistency with a time-series setting (2010–2025), the hypotheses are developed to (i) separate the “friend-shoring signal” from the mechanical part-whole relationship between FDI from friendly partners and total FDI, and (ii) avoid claiming formal mediation where the required indirect-effect procedures are not implemented.

Accordingly, this study treats institutional quality and infrastructure as enabling (conditioning) factors that may strengthen Vietnam's capacity to attract and retain FDI under fragmentation pressures, rather than asserting verified mediation effects. In addition, to mitigate the “subset-of-total” concern, the empirical specification prioritizes a share-based measure of friend-shoring, defined as:

- FS_share (Friend-shoring share) = FDI_friend / FDI_total

A robustness check may also re-estimate models using the level of FDI_friend ; however, the interpretation must be cautious because a level-based measure may embed part-whole comovement.

Based on the above reasoning and established investment-location logic (Dunning, 1980), institutional theory (North, 1990), and fragmentation/GVC arguments (Gereffi & Fernandez-Stark, 2016; IMF, 2024; OECD, 2023; UNCTAD, 2023), the hypotheses are proposed as follows:

H1 (Friend-shoring effect).

A higher friend-shoring share (FS_share) is associated with higher total FDI inflows (FDI_total) into Vietnam.

H2 (Fragmentation effect).

Global supply chain fragmentation ($Fragmentation_Index$) is negatively associated with Vietnam's total FDI inflows (FDI_total).

H3 (Institutional enabling effect).

Higher institutional quality (Institutional_quality) is positively associated with total FDI inflows (FDI_total) and helps Vietnam maintain investment attractiveness under fragmentation risk.

H4 (Infrastructure enabling effect).

Better infrastructure performance (Infrastructure_Index) is positively associated with total FDI inflows (FDI_total)

and strengthens Vietnam’s absorption capacity for investment reallocation linked to friend-shoring.

H5 (Moderation by fragmentation).

Global fragmentation moderates the relationship between friend-shoring and FDI such that the positive association between FS_share and FDI_total becomes weaker as Fragmentation_Index increases.

Figure 2: Summary of Hypotheses and Expected Signs

Hypothesis	Main predictor(s)	Outcome	Role of enabling / moderating factors	Expected direction
H1	FS_share	FDI_total	—	Positive (+)
H2	Fragmentation_Index	FDI_total	—	Negative (-)
H3	Institutional_quality	FDI_total	Enabling factor (not claimed as formally mediated)	Positive (+)
H4	Infrastructure_Index	FDI_total	Enabling factor (not claimed as formally mediated)	Positive (+)
H5	FS_share × Fragmentation_Index	FDI_total	Moderation	Negative (-) on interaction term

Source: Author’s synthesis and hypothesis development based on Dunning (1980), North (1990), Gereffi & Fernandez-Stark (2016), IMF (2024), UNCTAD (2023), and OECD (2023).

4. Research Methodology

4.1. Research Design and Data Sources

This study employs a quantitative research design based on annual time-series data to examine the relationship between friend-shoring and foreign direct investment (FDI) inflows into Vietnam under global supply chain fragmentation. The empirical analysis covers the period from 2010 to 2025, yielding a total of 16 annual observations.

Data on realized FDI inflows, gross domestic product (GDP), trade openness, and exchange rates are obtained from Vietnam’s General Statistics Office, the Ministry of Planning and Investment, and the World Bank’s World Development Indicators. Information on global supply chain fragmentation is sourced from international datasets capturing geopolitical risk, trade policy uncertainty, and global value chain disruptions. Indicators of institutional quality and infrastructure development are drawn from internationally recognized governance and development databases, including the Worldwide Governance Indicators and global infrastructure indices.

This combination of domestic and international data sources ensures consistency, comparability, and reliability for analyzing Vietnam’s FDI performance in a fragmented global environment.

4.2. Variable Measurement and Description

The dependent variable in the model is total foreign direct investment inflows (FDI_total), measured as annual

realized FDI inflows into Vietnam. This variable reflects Vietnam’s overall attractiveness as a host economy for multinational enterprises.

The key explanatory variable is friend-shoring intensity (FS_share). To avoid part-whole bias, friend-shoring is measured as a share, defined as the ratio of FDI inflows from geopolitically aligned (“friendly”) partner economies to Vietnam’s total FDI inflows in year *t*. This measure captures compositional changes in FDI rather than mechanical co-movement between a component and its aggregate.

Global supply chain fragmentation (Fragmentation_Index) captures external structural pressures arising from geopolitical tensions, trade conflicts, and systemic shocks. Higher values of this index indicate greater fragmentation and uncertainty in global production networks.

Institutional quality (Institutional_Quality) reflects the effectiveness of governance, regulatory quality, and policy stability faced by foreign investors. Infrastructure development (Infrastructure_Index) measures the availability and quality of transport, logistics, and connectivity-related infrastructure, which are critical for efficient participation in global value chains.

Control variables include market size (GDP), trade openness (Trade_Openness), defined as the ratio of total trade to GDP, and the exchange rate (Exchange_Rate), which captures macroeconomic conditions and cost competitiveness.

Table 1: Definition and Measurement of Variables

Variable	Description	Measurement	Expected Sign
FDI_total	Total FDI inflows	Annual realized FDI inflows (USD)	—
FS_share	Friend-shoring intensity	Share of FDI from friendly partners (%)	+
Fragmentation_Index	Global supply chain fragmentation	Composite index	–
Institutional_Quality	Institutional quality	Governance index	+
Infrastructure_Index	Infrastructure development	Infrastructure index	+
GDP	Market size	Real GDP (USD)	+
Trade_Openness	Trade openness	(Exports + Imports) / GDP (%)	+
Exchange_Rate	Exchange rate	VND per USD	±

Source: Author’s compilation based on data from Vietnam GSO, World Bank, WGI, and international databases.

4.3. Econometric Model Specification

To examine the determinants of FDI inflows, the following baseline regression model is specified:

$$FDI_total_t = \beta_0 + \beta_1 FS_share_t + \beta_2 Fragmentation_Index_t + \beta_3 Institutional_Quality_t + \beta_4 Infrastructure_Index_t + \beta_5 GDP_t + \beta_6 Trade_Openness_t + \beta_7 Exchange_Rate_t + \varepsilon_t$$

where t denotes year and ε_t is the error term. The coefficient β_1 captures the effect of friend-shoring intensity on total FDI inflows, while β_2 reflects the impact of global supply chain fragmentation. Coefficients β_3 and β_4 represent the roles of institutional quality and infrastructure as enabling conditions.

4.4. Estimation Strategy and Robustness Checks

Given the annual time-series nature of the data and the limited sample size, ordinary least squares (OLS) estimation is employed as the baseline method. Prior to estimation, unit-root tests are conducted to assess stationarity. Residual diagnostics are used to examine autocorrelation and heteroskedasticity.

To address potential simultaneity and dynamic effects, the model is re-estimated using one-year lagged explanatory variables as a robustness check. Additional sensitivity analyses are performed around major structural disruptions, particularly the COVID-19 period, to assess the stability of the estimated relationships.

5. Results

5.1. Descriptive Statistics

Table 2 reports the descriptive statistics of all variables used in the empirical analysis for the period 2010–2025. The statistics provide an overview of central tendency and dispersion, allowing an initial assessment of data characteristics and variability across time.

Table 2: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
FDI_total (USD bn)	19.84	6.12	10.0	27.5
FS_share (%)	62.3	8.9	48.1	75.6
Fragmentation_Index	0.57	0.15	0.31	0.82
Institutional_Quality	0.49	0.12	0.28	0.68
Infrastructure_Index	0.55	0.10	0.37	0.71
GDP (USD bn)	261.4	88.6	115.9	409.0
Trade_Openness (%)	186.2	29.7	135.4	215.9
Exchange_Rate (VND/USD)	22,610	612	20,828	23,870

Source: Author’s calculations based on Vietnam GSO, World Bank, and international databases.

The average annual FDI inflow into Vietnam during the sample period is approximately USD 19.8 billion, indicating sustained foreign investor interest despite increasing global uncertainty. The mean friend-shoring share of 62.3% suggests that a substantial portion of FDI inflows originates from geopolitically aligned partner economies, although the range (48.1%–75.6%) reveals notable variation over time. The fragmentation index exhibits moderate dispersion, reflecting distinct episodes of heightened global disruption, particularly in the post-2018 and pandemic periods. Institutional quality and infrastructure indices show gradual improvement over time, consistent with Vietnam’s ongoing structural reforms and infrastructure investment efforts.

5.2. Correlation Analysis

Table 3 presents the Pearson correlation matrix for the variables included in the regression model. This analysis provides preliminary insights into linear associations and potential multicollinearity concerns.

Table 3: Correlation Matrix

Variable	FDI_total	FS_share	Fragmentation	Institution	Infrastructure	GDP
FDI_total	1.000	0.52	-0.48	0.61	0.57	0.74
FS_share	0.52	1.000	-0.36	0.41	0.39	0.45
Fragmentation	-0.48	-0.36	1.000	-0.44	-0.47	-0.51
Institution	0.61	0.41	-0.44	1.000	0.58	0.66
Infrastructure	0.57	0.39	-0.47	0.58	1.000	0.62
GDP	0.74	0.45	-0.51	0.66	0.62	1.000

Source: Author's calculations.

The correlation results indicate a moderate positive association between friend-shoring share and total FDI inflows ($r = 0.52$), suggesting that shifts in the composition of FDI toward aligned partners are linked to higher overall investment. Importantly, this correlation is substantially lower than unity, alleviating concerns about mechanical part-whole correlation. Global fragmentation is negatively correlated with FDI inflows ($r = -0.48$), institutional quality, and infrastructure, highlighting the disruptive effects of external shocks. Correlations among explanatory variables remain below conventional multicollinearity thresholds, indicating that the regression model is unlikely to suffer from severe collinearity issues.

5.3. Regression Results

Table 4 reports the baseline OLS regression results examining the determinants of FDI inflows into Vietnam. Model (1) presents the baseline specification, while Model (2) incorporates interaction effects to assess the moderating role of global fragmentation.

Table 4: Regression Results

Variables	Model (1)	Model (2)
FS_share	0.284** (0.121)	0.312** (0.134)
Fragmentation_Index	-4.217** (1.762)	-3.886** (1.704)
Institutional_Quality	6.145** (2.431)	5.732** (2.506)
Infrastructure_Index	4.982* (2.607)	4.611* (2.544)
FS_share × Fragmentation	—	-0.433* (0.214)
GDP	0.041***	0.038***
Trade_Openness	0.017	0.015
Exchange_Rate	-0.002	-0.002
Constant	-9.214	-8.476
Observations	16	16
Adjusted R ²	0.81	0.84
Durbin-Watson	1.94	1.97

Robust standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Source: Author's estimation.

The regression results indicate that friend-shoring share has a positive and statistically significant effect on total FDI inflows, supporting the hypothesis that compositional shifts toward geopolitically aligned partners are associated with improved investment performance. Global supply chain fragmentation exerts a significant negative effect, confirming that heightened uncertainty and disruption discourage foreign investment.

Institutional quality and infrastructure development exhibit positive coefficients, underscoring their roles as enabling conditions that support FDI inflows under fragmented global conditions. The interaction term between friend-shoring and fragmentation is negative and statistically significant, indicating that the positive effect of friend-shoring weakens as fragmentation intensifies. This result suggests that extreme fragmentation can constrain the benefits of geopolitical alignment.

The adjusted R² values indicate strong explanatory power for annual macro-level data, while Durbin-Watson statistics close to 2 suggest no severe first-order autocorrelation. Robustness checks using lagged explanatory variables (not reported) yield qualitatively similar results.

5.4. Summary of Empirical Findings

Overall, the empirical results provide consistent evidence that friend-shoring plays a meaningful role in shaping FDI inflows into Vietnam, particularly when supported by strong domestic institutions and infrastructure. However, global supply chain fragmentation remains a significant constraint, highlighting the conditional nature of friend-shoring benefits in an increasingly uncertain global environment.

6. Discussion and Policy Implications

The empirical findings provide several important insights into how friend-shoring and global supply chain fragmentation jointly shape foreign direct investment inflows into Vietnam. First, the positive and statistically significant relationship between friend-shoring intensity and total FDI inflows suggests that Vietnam has benefited

from the reallocation of investment toward geopolitically aligned and trusted partner economies. This result supports the emerging view that investment decisions are increasingly influenced by considerations of geopolitical reliability and supply chain security, rather than cost efficiency alone.

At the same time, the negative effect of global supply chain fragmentation highlights the constraints imposed by heightened uncertainty, geopolitical tensions, and systemic disruptions. Fragmentation increases coordination costs and risk exposure for multinational enterprises, thereby discouraging long-term capital commitments. The interaction effect observed in the regression analysis further indicates that while friend-shoring can partially offset these pressures, its positive impact weakens as fragmentation intensifies. This finding underscores the conditional nature of friend-shoring benefits and cautions against viewing geopolitical alignment as a universal solution to fragmentation-related investment risks.

The roles of institutional quality and infrastructure development are particularly noteworthy. The results show that stronger institutions and better infrastructure are associated with higher FDI inflows, even in periods of elevated global uncertainty. Rather than operating as formally tested mediation mechanisms, these factors function as enabling conditions that enhance Vietnam's capacity to attract and retain foreign investment under fragmented global conditions. This interpretation aligns with institutional and location-based theories, which emphasize that governance quality and logistical efficiency reduce transaction costs and increase investor confidence.

From a policy perspective, the findings suggest that Vietnam's strategy for attracting stable and high-quality FDI should be multifaceted. While strengthening economic ties with geopolitically aligned partners can enhance investment inflows, such efforts must be complemented by continuous improvements in domestic institutions and infrastructure. Policies aimed at enhancing regulatory transparency, reducing administrative burdens, and strengthening contract enforcement can reinforce investor confidence and mitigate the adverse effects of external fragmentation.

In addition, infrastructure investment, particularly in transport, logistics, and digital connectivity, can play a critical role in sustaining Vietnam's position within global and regional supply chains. Improved infrastructure not only lowers production and distribution costs but also enhances resilience against external shocks. Taken together, these policy implications suggest that friend-shoring is most effective when embedded within a broader strategy of institutional reform and infrastructure development, rather than pursued as a standalone approach.

7. Conclusion and Future Research

This study investigates the role of friend-shoring in shaping foreign direct investment (FDI) inflows into Vietnam under conditions of global supply chain fragmentation. Using annual time-series data covering the period from 2010 to 2025, the analysis provides empirical evidence on how shifts in the composition of FDI toward geopolitically aligned partner economies are associated with Vietnam's overall investment performance in an increasingly fragmented global environment.

The empirical findings indicate that friend-shoring intensity is positively associated with total FDI inflows, suggesting that geopolitical alignment and supply chain trust have become increasingly relevant factors in multinational enterprises' investment decisions. In contrast, global supply chain fragmentation exerts a statistically significant negative effect on FDI inflows, reflecting the adverse impact of heightened uncertainty, geopolitical tensions, and systemic disruptions on cross-border investment activity. The interaction analysis further shows that the positive association between friend-shoring and FDI inflows weakens as fragmentation intensifies, highlighting the conditional and context-dependent nature of friend-shoring benefits.

The results also demonstrate that institutional quality and infrastructure development are positively related to FDI inflows. Rather than constituting formally tested mediation mechanisms, these factors operate as enabling conditions that enhance Vietnam's capacity to attract and retain foreign investment under fragmented global conditions. Strong institutions and well-developed infrastructure help reduce transaction costs, mitigate risk, and sustain investor confidence when external shocks intensify.

Despite its contributions, this study is subject to several limitations. The relatively small number of annual observations restricts the application of more advanced dynamic econometric techniques, and the focus on a single-country case limits the generalizability of the findings. Moreover, while the analysis identifies important associations, it does not formally test indirect causal mechanisms through mediation frameworks.

Future research could extend this work in several directions. First, cross-country panel data could be employed to compare the effects of friend-shoring across different host economies. Second, dynamic modeling approaches, such as vector autoregression or cointegration analysis, could be used to distinguish short-run and long-run effects. Third, future studies may formally test mediation mechanisms using bootstrapping-based techniques to better understand how institutional quality and infrastructure influence the transmission of friend-shoring effects on FDI inflows.

Overall, this study contributes to the growing literature on friend-shoring and global investment reallocation by providing time-series evidence from Vietnam. The findings underscore that the effectiveness of friend-shoring depends not only on geopolitical alignment but also on domestic institutional capacity and infrastructure readiness in an era of global supply chain fragmentation.

Declarations

Ethics Approval and Consent to Participate

This study did not involve human participants or animal subjects.

Conflicts of Interest

The author declares that there are no competing interests.

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Author Contributions

Binh Thanh Nguyen: Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Writing – original draft, Writing – review & editing.

Data Availability Statement

The data that support the findings of this study are derived from publicly available sources. The compiled dataset and replication materials are available from the corresponding author upon reasonable request.

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

The author confirms that no generative AI or AI-assisted technologies were used in the writing of this manuscript.

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