

IMPACT OF THE UNITED STATES' “FRIEND-SHORING” STRATEGY ON VIETNAM'S EXPORTS IN THE CONTEXT OF GLOBAL SUPPLY CHAIN SHIFTS

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ABSTRACT:

This study examines the impact of the Friend-shoring Index (FSI) on Vietnam's exports to the United States, thereby elucidating the role of political and institutional convergence in shaping international trade growth and bilateral trade dynamics amid the restructuring of global supply chains. Employing a Vector Error Correction Model (VECM), the study investigates both the short-run and long-run effects of FSI on Vietnam's exports, while conducting causality and model stability tests to ensure the robustness and reliability of the empirical results. Based on the findings, the study offers policy implications for enabling Vietnam to capitalize on the friend-shoring trend as a new driver of sustainable export growth over the long term.

Keywords: friend-shoring, the United States, Vietnam, exports.

1. Introduction

Vietnam has emerged as a strategic destination in the global friend-shoring trend. UNCTAD (2023) report asserts that Vietnam is one of the countries that has benefited the most from the restructuring of regional supply chains, especially in the electronics, technology equipment, textiles and wood products industries.

However, to date, there have been few quantitative studies that systematically assess the impact of friend-shoring on Vietnam's exports, especially in the bilateral trade relationship with the

United States. Most existing works only stop at the level of describing trends (qualitative analysis) or generally assessing the impact of global supply chain restructuring without quantifying the specific impact of friend-shoring on export results (World Bank, 2023).

Current studies rarely construct quantitative measures of political and economic proximity, and there is limited empirical research examining the relationship between the FSI and bilateral exports between Vietnam and the United States. Therefore, this study directly fills the above gap by developing a

quantitative model based on time series data 2004-2024 and testing short-term and long-term impacts within the framework of the VECM model.

Therefore, conducting a quantitative study with a solid theoretical basis, to measure and analyze the impact of Friend-shoring Index (FSI) on Vietnam's exports to the United States, is not only of scientific significance but also of high practical value in trade, investment and sustainable development policy making in the context of global restructuring.

2. Theoretical framework and research model

2.1. Theoretical framework

2.1.1. Theory of Absolute Advantage (Adam Smith)

One of the first explanations for a country to start trading internationally is the theory of absolute advantage that was introduced by Adam Smith in *The Wealth of Nations* (1776). Smith put forward that a country has an absolute advantage in the production of a good if it can produce the same good by using fewer resources than another country. Hence, countries exchanging goods is a win-win situation which makes trade possible when they concentrate their production and exporting activities in goods in which they are more efficient and obtain those they need as imports. This kind of trade allows the whole world to produce more and increases the welfare of the trading partners. The new theory of Smith went against the belief of mercantilism that said that the wealth was measured by the stored up of the precious metals but rather free trade could enlarge markets and encourage productivity (Krugman & Obstfeld, 2018).

2.1.2. Theory of Comparative Advantage (David Ricardo)

On the basis of Smith's work, David Ricardo formalized the concept of comparative advantage in his book *On the Principles of Political Economy and Taxation* (1817). According to Ricardo, a country that is totally less efficient in all products than another one can still have the benefit of trade if it specializes in producing the product with the lowest opportunity cost. The model demonstrates that net benefits of exchange are not based on absolute efficiency but on relative efficiency

differences between countries. This idea is the cornerstone of international economics and remains an influential argument for the observed global trade flows. Its practical meaning is that countries are better off if they allocate resources to the industries where they have a comparative advantage, thus creating a win-win situation for all the parties involved (Salvatore, 2019).

2.2. Proposed research model

Based on theory and previous studies, the study proposes the hypotheses and research model.

Hypothesis H1: Friend-shoring Index (FSI) has a positive and statistically significant impact on Vietnam's exports to the United States.

Hypothesis H2: US-China trade tensions (US-China trade tensions) have a positive impact on Vietnam's exports to the United States.

Hypothesis H3: Exchange rate (EXR) has a negative impact on Vietnam's exports to the United States.

Hypothesis H4: Tariff (TAR) has a negative impact on Vietnam's exports to the United States.

Hypothesis H5: Vietnam's domestic economic size (GDP) has a positive impact on Vietnam's exports to the United States.

The research model is proposed in the form of an equation:

$$\ln(EXP_t) = \beta_0 + \beta_1 FSI_t + \beta_2 UCT_t + \beta_3 EXR_t + \beta_4 TAR_t + \beta_5 GDPV_t + \varepsilon_t$$

In which:

$\ln(EXP_t)$: Natural logarithm of Vietnam's export turnover to the United States

FSI_t : The degree of economic and political ties between Vietnam and the United States

UCT_t : US-China tension rate

EXR_t : Nominal exchange rate VND/USD, showing the price competitiveness of Vietnamese exports.

TAR_t : Tax barriers that the US imposes on Vietnamese goods (MNF)

$GDPV_t$: Vietnam's gross domestic product reflects the size and supply capacity of the economy.

ε_t : Random error.

2.3. Research methodology

The study uses annual time-series data for the

period 2004-2024, collected from the World Bank, IMF, and international trade databases. The data are processed and tested for stationarity using the Augmented Dickey-Fuller (ADF) test.

Based on the data characteristics, the Vector Error Correction Model (VECM) is employed to analyze both short-run dynamics and long-run equilibrium relationships among variables. This model is chosen due to its suitability for non-stationary data and its ability to capture both short-term effects and long-term relationships in Vietnam's exports to the United States.

3. Results

3.1. Cointegration analysis

3.1.1 Stationarity test (ADF test)

The Augmented Dickey-Fuller (ADF) test was performed for all variables in the model: lnEXP, FSI, UCT, GDPV, EXR and TAR. The results presented in Table 1 show that all variables are non-stationary at the origin, but become stationary after the first difference. This means that the series has

integration order $I(1)$, which satisfies the prerequisite for performing the Johansen cointegration test.

This finding aligns with theory because trade, political, and macroeconomic variables usually show long-term trends, as they reflect the features of developing economies. The implication of all variables being of integration order $I(1)$ is that the study can use the Johansen test to figure out if there is a cointegration relationship between them.

3.1.2. Johansen cointegration results

The result in Table 2 confirms the existence of a long-run equilibrium relationship between the variables. That means that although exports, friend-shoring index, US-China tensions or other macro variables may fluctuate in the short run, they are still linked together in a stable equilibrium ratio in the long run. This is a finding of academic value, because it shows that political factors (FSI, UCT) not only create immediate fluctuations, but also shape the long-term trade structure of Vietnam. The results

Table 1. Augmented Dickey - Fuller test results

Variable	At level	p-value	After first differencing	p-value	Conclusion
lnEXP	Non-stationary	0.36	Stationary	0.01	Integrated of order $I(1)$
FSI	Non-stationary	0.44	Stationary	0.03	Integrated of order $I(1)$
UCT	Non-stationary	0.52	Stationary	0.00	Integrated of order $I(1)$
TAR	Non-stationary	0.40	Stationary	0.02	Integrated of order $I(1)$
GDPV	Non-stationary	0.48	Stationary	0.01	Integrated of order $I(1)$
EXR	Non-stationary	0.41	Stationary	0.00	Integrated of order $I(1)$

Source: Authors' compilation, 2025

Table 2. Johansen cointegration test results

Hypothesized number of cointegrating vectors (r)	Trace statistic	Critical value (5%)	p-value	Conclusion
$r = 0$	100.8075	94.15	0.03	Reject H_0 - At least one cointegrating vector exists
$r \leq 1$	54.2307	68.52	0.19	Do not reject H_0
$r \leq 2$	31.0875	47.21	0.35	Do not reject H_0

Source: Authors' compilation, 2025

show that the variables have signs and magnitudes consistent with the theoretical expectations.

3.2. VECM results

3.2.1. Short-term impact

The short-run results presented in Table 3 show that both ΔFSI and ΔUCT have statistically significant positive effects on Vietnam's exports to the United States, with coefficients of 0.2815 ($p = 0.018$) and 0.1094 ($p = 0.049$), respectively. This indicates that improvements in political-institutional proximity and rising US-China tensions can temporarily boost Vietnam's exports.

In contrast, $\Delta GDPV$, ΔEXR , and ΔTAR are statistically insignificant in the short run, reflecting delayed transmission mechanisms in macroeconomic factors such as production capacity, exchange rates, and tariffs. These results suggest that short-run export dynamics are mainly driven by geopolitical "shock" variables rather than macroeconomic fundamentals.

3.2.2. Long-term impact

The long-run results in Table 4 indicate that all

variables are statistically significant, with FSI having the strongest positive effect (0.5167; $p = 0.001$), confirming that friend-shoring and political-institutional convergence play a key role in shaping Vietnam's export performance.

UCT has a significant negative effect (-0.0875 ; $p = 0.029$), suggesting that prolonged US-China tensions reduce long-run trade efficiency. GDPV positively influences exports (0.0982; $p = 0.046$), indicating that domestic production capacity enhances export performance.

EXR shows a significant negative impact (-0.2031 ; $p = 0.007$), reflecting Vietnam's reliance on imported inputs, where currency depreciation increases production costs rather than improving competitiveness. TAR is weakly significant at the 10% level (-0.0432 ; $p = 0.051$), consistent with the gravity model, where higher trade barriers reduce export flows (Head & Mayer, 2014).

3.2.3. Overall impact and regulatory mechanism

Table 5 shows that the Error Correction Term (ECT) is negative and statistically significant at the

Table 3: Short-term impact estimation results in the VECM model

Variable	Coefficient	t-statistic	p-value	Significance
ΔFSI	0.2815	2.57	0.018	Significant at 5% level
ΔUCT	0.1094	2.05	0.049	Significant at 5% level
$\Delta GDPV$	0.0412	1.29	0.203	Insignificant
ΔEXR	-0.0728	-1.47	0.158	Insignificant
ΔTAR	-0.0203	-1.19	0.236	Insignificant
Constant (C)	0.0137	1.21	0.229	Insignificant

Source: Authors' compilation, 2025

Table 4. Long-term impact estimation results in the VECM model

Variable	Coefficient	t-statistic	p-value	Significance
FSI	0.5167	3.41	0.001	Significant at 5% level
UCT	-0.0875	-2.28	0.029	Significant at 5% level
GDPV	0.0982	2.02	0.046	Significant at 5% level
EXR	-0.2031	-2.93	0.007	Significant at 5% level
TAR	-0.0432	-1.98	0.051	Weakly significant at the 10% level

Source: Authors' compilation, 2025

Table 5. Error Correction Term (ECT) results

Dependent equation	Error correction coefficient (ECT)	t-statistic	p-value	Statistical significance	Adjustment speed (%)
$\Delta \ln \text{EXP}$	-0.4098	-4.13	0.000	Significant at the 1% level	40.98%

Source: Authors' compilation, 2025

1% level (-0.4098), indicating a stable long-run relationship and a relatively fast adjustment speed, with about 40.98% of deviations from equilibrium corrected each period. This confirms cointegration among the variables (Johansen, 1991) and suggests that Vietnam-US trade adjusts quickly to external shocks such as geopolitical tensions and exchange rate fluctuations.

4. Conclusion and recommendations

4.1. Conclusions

The VECM results for 2004-2024 show that friend-shoring (FSI) is a key driver of Vietnam's exports to the United States, highlighting the growing importance of political-institutional convergence in shaping trade flows. US-China tensions support exports in the short run through trade diversion effects, but this benefit may be temporary under prolonged geopolitical instability.

GDP positively affects exports in the long run, while the exchange rate has a negative effect due to Vietnam's reliance on imported inputs. Tariffs show a weak negative impact. Johansen and ECT results confirm a stable long-run equilibrium and adjustment mechanism.

Overall, Vietnam's export performance is increasingly influenced not only by economic fundamentals but also by geopolitical and institutional factors.

4.2. Policy recommendations

4.2.1. For the Government of Vietnam

The research results show that the level of institutional convergence and stability of Vietnam-US relations play a decisive role in export growth. Therefore, the Government needs to pursue is to continue to strengthen political trust through maintaining macroeconomic stability, increasing legal transparency and improving the investment environment.

Vietnam needs to prioritize the development of supporting industries to reduce dependence on imported inputs. Policies such as tax incentives for component manufacturing enterprises, R&D support, and linkages between domestic enterprises and US-Japan-Korea FDI corporations will help Vietnam reduce risks from exchange rate fluctuations and increase its self-reliance in the long term.

US-China tensions show that Vietnam can benefit from trade shifts in the short term. However, the Government needs to turn this short-term opportunity into a long-term advantage by building a selective FDI attraction strategy, targeting high-value industries, instead of focusing only on processing exports. It is necessary to promote customs reform, improve logistics quality and supply chain connectivity capacity to reduce trade costs.

4.2.2. For firms and bilateral cooperation

The study suggests that businesses need to invest heavily in supply chain management, data transparency and apply international certifications such as ISO, IATF or ESG environmental standards. US corporations, especially in the electronics industry, increasingly prioritize suppliers that can provide clear evidence of traceability and compliance with technical regulations.

Enterprises proactively participating in "supplier development" programs with US corporations such as Intel, Apple, Google or businesses in the field of semiconductors and technology equipment is also a necessary direction.

Finally, enterprises need to consider digital transformation as a strategic priority. The application of ERP, SCM, and blockchain traceability not only helps reduce costs but also meets the strict requirements of US corporations in the context of digital trade gradually becoming the new norm of international trade relations ■

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TÁC ĐỘNG CỦA CHIẾN LƯỢC “FRIEND-SHORING” CỦA HOA KỲ ĐẾN HOẠT ĐỘNG XUẤT KHẨU CỦA VIỆT NAM TRONG BỐI CẢNH DỊCH CHUYỂN CHUỖI CUNG ỨNG TOÀN CẦU

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TÓM TẮT:

Nghiên cứu này phân tích tác động của Chỉ số Friend-shoring (FSI) đối với xuất khẩu của Việt Nam sang Hoa Kỳ, qua đó làm rõ vai trò của sự hội tụ về chính trị và thể chế trong tăng trưởng thương mại quốc tế cũng như những thay đổi trong quan hệ thương mại song phương trong bối cảnh tái cấu trúc chuỗi cung ứng toàn cầu. Sử dụng mô hình hiệu chỉnh sai số vector (VECM), nghiên cứu đánh giá tác động ngắn hạn và dài hạn của FSI đến xuất khẩu, đồng thời kiểm định mối quan hệ nhân quả và tính ổn định của mô hình nhằm bảo đảm độ vững và độ tin cậy của kết quả. Từ đó, nghiên cứu đề xuất một số hàm ý chính sách nhằm giúp Việt Nam tận dụng xu hướng “friend-shoring” như một động lực mới cho tăng trưởng xuất khẩu bền vững trong dài hạn.

Từ khoá: friend-shoring, Hoa Kỳ, Việt Nam, xuất khẩu.