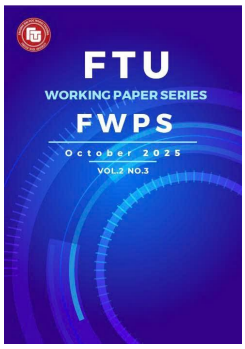

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TÁC ĐỘNG CỦA CPTPP ĐẾN XUẤT KHẨU HÀNG DỆT MAY CỦA VIỆT NAM: MỘT PHÂN TÍCH THỰC NGHIỆM

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Tóm tắt

Ngành dệt may là một lĩnh vực trọng tâm trong khuôn khổ Hiệp định Đối tác Toàn diện và Tiến bộ xuyên Thái Bình Dương (CPTPP). Với vai trò là một mắt xích then chốt trong chuỗi sản xuất may mặc toàn cầu, Việt Nam phụ thuộc đáng kể vào nguồn cung sợi và vải từ Trung Quốc cùng các quốc gia châu Á khác. Do đó, hiệp định này được kỳ vọng sẽ định hình lại một cách sâu sắc mô hình thương mại dệt may trên phạm vi toàn cầu. Nghiên cứu này đã áp dụng phương pháp

định lượng để phân tích dữ liệu thương mại một cách có hệ thống, nhằm đánh giá những tác động của CPTPP đối với xuất khẩu dệt may của Việt Nam. Kết quả nghiên cứu cho thấy, CPTPP thực sự mang lại tác động tích cực và đáng kể cho xuất khẩu dệt may của Việt Nam, thể hiện qua việc tăng cường khả năng tiếp cận thị trường, giảm thiểu rào cản thương mại, đồng thời nâng cao năng lực cạnh tranh của Việt Nam trong các thị trường thành viên. Ngoài ra, nghiên cứu còn chỉ ra mối quan hệ tương quan thuận giữa Tổng sản phẩm quốc nội (GDP), Chỉ số kết nối hàng hải quốc gia (LSCI) với hoạt động xuất khẩu dệt may. Ngược lại, quy mô dân số lại có tác động tiêu cực đến xuất khẩu trong ngành dệt may. Từ những phát hiện này, bài viết đề xuất một số khuyến nghị chiến lược nhằm giúp các bên liên quan tối đa hóa lợi ích mà CPTPP mang lại cho ngành dệt may Việt Nam.

Từ khóa: CPTPP, dệt may, Việt Nam, xuất khẩu

THE IMPACT OF CPTPP ON VIETNAM'S TEXTILE EXPORT: AN EMPIRICAL ANALYSIS

Abstract

The textile sector is a critical area of concern in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). Vietnam, a key player in apparel production that largely relies on yarns and fabrics sourced from China and other Asian countries, could see the agreement significantly reshape global trading patterns in textile. Utilizing a quantitative research methodology, the study systematically examines trade data to assess the relative effects of CPTPP on Vietnam's textile exports. The result revealed that the CPTPP has a significant and positive effect on Vietnamese Textile exports; it strengthens market access, lessens trade barriers, as well as betters Vietnam's competitiveness within these markets. Besides, the study found that GDP and LSCI is positively related to exports while population negatively affects export activities in the textile sector. From then, the paper provides some recommendations for several stakeholders to make the textile industry in Vietnam fully harness the benefits coming from the CPTPP.

Keywords: CPTPP, textile, Vietnam, export

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1. Introduction

In recent years, global trade has increasingly been shaped by regional trade agreements that aim to reduce barriers and deepen economic integration among member countries. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is one of the most significant of these agreements, involving 11 countries across the Asia-Pacific region (Rödl et al, 2023). For Vietnam, a rapidly growing economy with a strong export orientation, CPTPP represents a major opportunity to enhance its participation in global value chains, particularly in the textile and garment sector, which is one of the country's key export industries (Just style, 2019).

Vietnam's textile industry plays a crucial role in its economic development, contributing substantially to employment, export revenues, and industrial growth. However, the sector faces several challenges, including heavy reliance on imported raw materials such as yarns and fabrics, intense international competition, and evolving rules of origin under trade agreements (VnEconomy, 2024). Understanding how CPTPP influences Vietnam's textile exports is therefore essential for policymakers and businesses aiming to capitalize on the agreement's benefits.

Using Fixed Effects Model, the research investigates the relative impacts of CPTPP participation, logistics connectivity (measured by the Liner Shipping Connectivity Index), and economic variables such as GDP and population of partner countries. The findings will provide insights into how trade policy and logistics jointly influence export outcomes and offer evidence-based recommendations to enhance Vietnam's textile sector competitiveness in the CPTPP era.

2. Literature Review

2.1. Previous Studies on The Impacts of CPTPP on Vietnam's Export

Grumiller et al. (2018) conducted a comprehensive policy analysis focusing on the apparel sector as a whole. Their research highlighted that CPTPP-driven tariff reductions are particularly beneficial for Vietnam's garment and apparel exports, but they also emphasized the need for Vietnam to upgrade and expand its textile sector to fully capitalize on these benefits. The study provided a nuanced discussion of the "yarn-forward" rules of origin and their implications, but it did not empirically isolate the textile sector's performance. As a result, the specific impact of CPTPP on textiles, distinct from apparel manufacturing, remains underexplored in their analysis.

Tuyet (2020) utilized the gravity model and Fixed Effects Model (FEM) to examine the overall impact of CPTPP on Vietnam's exports. The study found that tariff reductions and improved market access under CPTPP led to a significant increase in Vietnam's total export volume. This work is valuable in confirming the positive macroeconomic effects of CPTPP, but it aggregates all export sectors, making it difficult to discern the specific mechanisms through which the agreement benefits strategic sectors like textiles.

Thanh et al. (2024) combined the gravity model with the Poisson Pseudo Maximum Likelihood (PPML) estimation method to specifically examine the textile export sector. Their findings confirmed that improved market access and reduced tariffs as a result of free trade agreements positively influence Vietnam's textile exports. The study also identified new opportunities in high-value markets such as Canada, Japan, and Mexico. However, while the research offers a more focused analysis of the textile sector, it primarily considers trade policy variables and does not incorporate logistics factors, which are increasingly recognized as crucial determinants of export performance.

2.2. Research Gaps

First, most existing studies have not provided a sector-specific analysis of the textile industry under the CPTPP. While several researchers have examined the impact of the CPTPP on Vietnam's overall exports (Tuyet, 2020) or on the broader apparel sector (Grumiller et al., 2018), very few have focused exclusively on the textile sector. This is a significant limitation because the textile industry, although closely related to apparel, faces unique challenges such as compliance with rules of origin, high dependence on imported materials, and different value chain dynamics. By treating textiles and garments as a single sector or by analyzing only aggregate exports, prior research may overlook the specific effects of CPTPP provisions on textile exports. Therefore, there is a clear need for a focused empirical study that isolates and examines the textile sector, which is a strategic export industry for Vietnam.

Second, previous studies have largely ignored the role of logistics connectivity in shaping Vietnam's textile export performance under the CPTPP. Although logistics is widely recognized as a key factor in international trade, most empirical analyses of CPTPP's impact have not included logistics variables such as the Liner Shipping Connectivity Index (LSCI). This omission is critical because logistics connectivity directly affects transportation costs, delivery times, and the overall competitiveness of textile exports, especially in a sector that is highly sensitive to supply chain efficiency. By not integrating logistics factors into their models, earlier studies have provided an incomplete picture of the determinants of export growth. Addressing this gap, this study incorporates logistics connectivity as a core explanatory variable, offering a more comprehensive understanding of how CPTPP and logistics improvements jointly influence Vietnam's textile exports.

3. About The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and Vietnam's textile export performance in recent years

3.1. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

3.1.1. Overview

The TPP, which is the Trans-Pacific Partnership, was a Free Trade Agreement (FTA) that contained twelve different nations: the United States, Canada, Mexico, Peru, Chile, New Zealand, Australia, Japan, Singapore, Brunei, Malaysia, and Vietnam. This agreement was signed in February in 2016 and was aimed to be operated in two years later, specifically in 2018; however, it could not fulfill the necessary conditions for implementation as planned since there was a withdrawal of the U.S. in January 2017 (Center for WTO and International Trade – VCCI, 2019).

Later that year, in November, the remaining eleven countries besides the U.S. have all made an agreement to change the name TPP into CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership). The agreement was officially signed in 2018 by all eleven countries and was taken effect in December, 2018 for the first six countries: Australia, Canada, Japan, Mexico, Singapore, and New Zealand. Vietnam was the next country where the agreement

came into force on January 14, 2019. In the following months, Peru, Malaysia, Chile and Brunei also followed up Vietnam (Center for WTO and International Trade – VCCI, 2019).

3.1.2. Commitments on Import Duties from CPTPP Members for Vietnam

Under the CPTPP agreement, the members all agree to eliminate import duties of 98% to 100% tariff lines for the goods that are originated from Vietnam, which means almost all of the Vietnamese goods when being imported into CPTPP members will be subject to 0% of import duties as soon as the Agreement takes into action (Vietnam National Trade Repository, 2019).

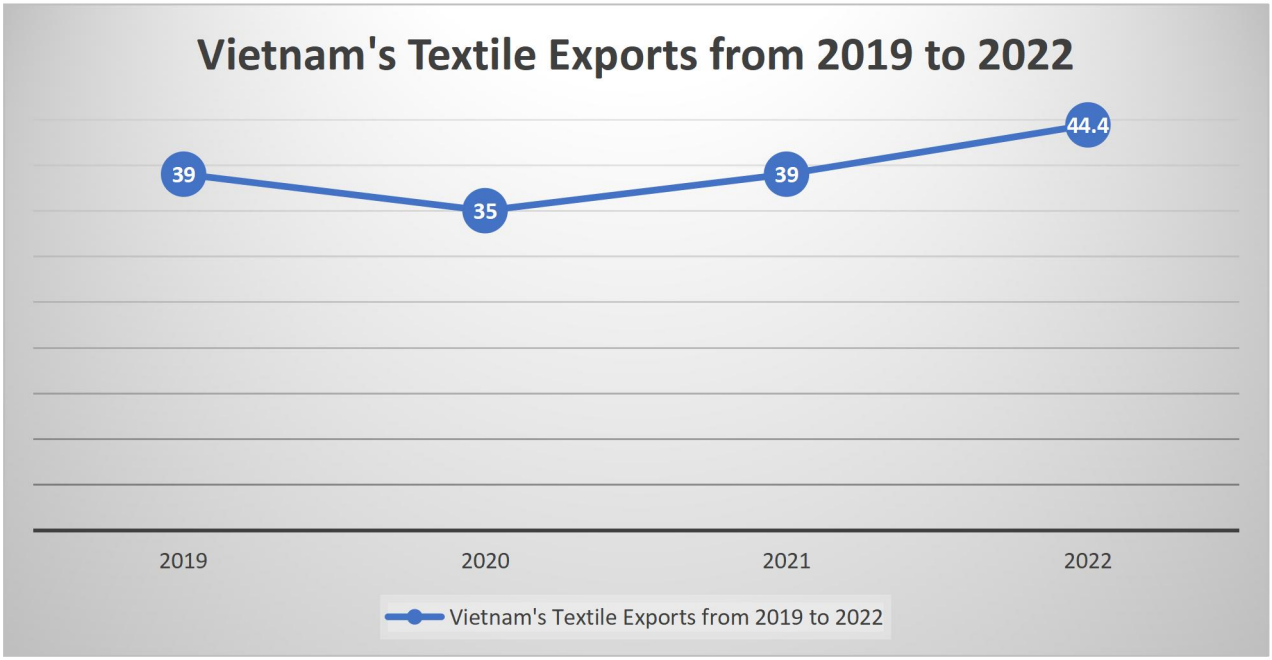
Table 1. Commitments on import duties from CPTPP members for Vietnam

Country	% of Tariff Lines Eliminated Immediately	% of Vietnam Exports Covered	Final Elimination (Years)	Final % of Tariff Lines at 0%
Canada	95%	78%	Immediate	100%
Japan	86%	93.6%	5 years	90%
Peru	80.7%	62.1%	17 years	99.4%
Mexico	77.2%	36.5%	10 years	98%
Chile	95.1%	60.2%	8 years	99.9%
Australia	93%	95.8%	4 years	100%
New Zealand	94.6%	69%	7 years	100%
Singapore	100%	N/A	Immediate	100%
Malaysia	84.7%	N/A	11 years	99.9%
Brunei	92%	N/A	11 years	100%

Source: Vietnam National Trade Repository - Ministry of Industry and Trade

3.2. Vietnam's Textile Export Performance in Recent Years (2019-2022)

Figure 1. Vietnam's textile exports from 2019 - 2022



Source: TradeImeX

Between 2019 and 2022, Vietnam had exhibited a significant fluctuation in the textile export performance. In 2019, the textile export value was $39 billion, showing a strong demand and positioning in the global market. However, in 2020, textile export had faced a slight decline of $4 billion to $35 billion (TradeImeX, 2024). The drop in 2020 can be attributed to the appearance of the COVID-19 pandemic (World Bank, 2020). Because of the pandemic, import as well as export production were affected badly, global supply chains were disrupted and the demand of consumers nationally and internationally reduced. Luckily, the number had risen again in 2021, with the same number which had been recorded in 2019 as the market had begun to work again after the pandemic.

In 2022, textile performance still had an upward sloping in the numbers, with the textile value of $44 billion (TradeImeX, 2024). The numbers here have indicated that Vietnam is transitioning from a low-cost production hub to a more value-added export economy within this sector. This transformation can be resulted from three values. First is Vietnam has updated the supply chains, with more domestic raw materials or just mainly materials taken from regional trade partners. This has made Vietnam to be less reliant on other countries' imports. Second is that with the money being saved up by being less reliant on imports, production efficiency will be improved by having a more skilled workforce, advancing the technologies and infrastructure. Last but not least, the participation of Vietnam in some of the key FTAs like CPTPP and EVFTA has further enhanced the sector's competitiveness by lowering tariffs and increasing access to key export markets, allowing the T&G industry to capture more value and improve trade balances.

4. Hypothesis Framework

4.1. Gross Domestic Product (GDP)

Regarding GDP, according to the gravity model of trade, the GDP of the importing country reflects the market size and purchasing power. An increase in GDP in partner countries will lead to expanded demand for imported goods, especially consumer products like textile. When per capita income rises, demand for high-quality, competitively priced textile products from Vietnam will also increase. Many empirical studies have demonstrated the positive relationship between the GDP of importing countries and the export value of Vietnam's textile and garments.

Phan and Pham (2024) demonstrated that the average GDP of Vietnam's trading partners has a significant positive impact on Vietnam's textile exports, with a 1% increase in partner average GDP leading to a 1.693% increase in Vietnam's textile exports, consistent with gravity model expectations. Based on the gravity model results, the GDP of partner countries (including CPTPP members) shows a significant positive impact on Vietnam's textile exports (Tran et al., 2024). Ngo and Nguyen (2025) found that the GDP per capita of CPTPP member countries has a positive and statistically significant impact on Vietnam's export turnover, suggesting that higher economic development levels in importing countries enhance Vietnam's export performance. The Business & IT Journal (2018) recorded the fact that Vietnam's key textile export markets are all countries with large GDPs such as the United States, Japan, and the EU, showing the close relationship between the scale of the importing economy and the export value of Vietnam's textile. Therefore, the authors propose the hypothesis:

Hypothesis 1: The GDP of importing countries positively impacts the export value of Vietnam's textile.

4.2. Population

Regarding population (POP), according to supply and demand theory and the gravity model, the population size of the importing country reflects the potential of the consumer market, especially for essential and fashion products like textile. The larger the population, the broader the market, leading to increased demand for imported textile products from Vietnam.

Many studies have empirically demonstrated the positive relationship between the population of importing countries and the export value of Vietnam's textile and garments. In their gravity model analysis, Phan and Pham (2024) confirmed that market size plays a crucial role in export performance. While population is not modeled independently, the authors clarify that average GDP serves as an indicator of market size, which inherently reflects both income and population, implying that larger and more populous importing countries contribute positively to Vietnam's textile exports. Utilizing a gravity model with panel data from 2016 to 2022, Tran et al. (2024) found that the population of partner countries has a statistically significant and positive impact on Vietnam's textile export value. Specifically, the coefficient of the population variable (LN_POPjt) was positive and highly significant, indicating that larger consumer markets lead to increased demand for Vietnamese textile products, thereby validating the role of importing-country

population in shaping trade performance. Applying a gravity model to Vietnam's handicraft exports, Luong et al. (2019) found that the population of importing countries has a statistically significant and positive effect on export performance. Specifically, a 1% increase in the population of a trading partner led to a 0.225% rise in Vietnam's handicraft export value. While the study focuses on handicrafts, the finding can be reasonably extended to the textile and garment sector, which shares similar demand-side dynamics in consumer markets. Therefore, the authors propose the hypothesis:

Hypothesis 2: The population of importing countries positively impacts the export value of Vietnam's textile.

4.3. Liner Shipping Connectivity Index (LSCI)

Regarding the Liner Shipping Connectivity Index (LSCI), this indicator measures a country's maritime connectivity within the global trade network. For large-volume and logistics-sensitive exports like textile, the logistics connectivity of the importing country plays a crucial role in reducing transportation costs, increasing reliability, and shortening market access times (World Bank, 2019).

Many empirical studies have shown that the LSCI of importing countries correlates positively with the export value of Vietnam's textile. According to Fugazza and Hoffmann (2017), improvements in bilateral liner shipping connectivity significantly increase the export value of containerized goods. Although their analysis focuses on bilateral indices [LSBCI - an extension of UNCTAD's already existing country-level Liner Shipping Connectivity Index (LSCI)], their findings suggest that higher connectivity, which is partly captured by the LSCI of importing countries, reduces trade costs and promotes exports. Therefore, it is plausible to expect that the LSCI of Vietnam's importing partners would positively impact Vietnam's textile and garment exports, including textile. Zakia et al. (2024) conducted a dynamic panel data study and confirmed that a 1% improvement in LSCI could increase export capacity by up to 2.82%, highlighting the critical role of maritime logistics infrastructure in international trade. Del Rosal (2024) demonstrates from Table 1(p.8) that improvements in liner shipping bilateral connectivity (LSBCI) significantly increase trade in eight categories of manufactured goods, including wearing apparel. These results are especially strong for containerised products, where maritime connectivity plays a critical role in export performance. This finding suggests that the LSCI of importing countries contributes directly to facilitating apparel exports from countries like Vietnam. Therefore, the authors propose the hypothesis:

Hypothesis 3: The LSCI of importing countries positively impacts the export value of Vietnam's textile.

4.4. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

Regarding Vietnam's participation in CPTPP, this is a new-generation free trade agreement with extensive commitments to tariff elimination and trade facilitation among 11 member countries. For Vietnam, CPTPP opens up new export market opportunities with substantial

preferences, especially in countries where Vietnam had no prior bilateral FTAs, such as Canada, Mexico, and Peru (Center for WTO and International Trade – VCCI, 2024).

Many empirical studies have demonstrated the positive impact of CPTPP on Vietnam's textile exports. Thanh et al. (2024) found that Vietnam's participation in the CPTPP has had a greater positive impact on the export value of its textile and garments than the EVFTA, largely due to broader market access and more favorable tariff reduction schedules. This participation has resulted in notable increases in export turnover to key CPTPP markets such as Canada, Japan, and Mexico. Additionally, the CPTPP's more flexible rules of origin and the economic diversity of its member countries have further supported Vietnam's textile export growth, while the EVFTA's effect remains more limited due to the EU's stricter technical and regulatory standards. According to the Vietnam Ministry of Industry and Trade (2024), textile and garment exports to CPTPP member markets reached USD 3.66 billion in the first seven months of 2024, accounting for 18.05% of Vietnam's total textile exports and representing a 6.94% increase compared to the same period in 2023. Notably, Mexico experienced the highest growth rate at 31.84%. Compared to the pre-CPTPP period, Vietnam's textile exports to Mexico surged by 119.58% from 2018 to 2024. This data provides strong evidence that the CPTPP agreement has facilitated Vietnam's textile and garment industry in accessing new, high-potential markets through tariff reductions and improved market access, thereby significantly enhancing export performance. Therefore, the authors propose the hypothesis:

Hypothesis 4: Vietnam's participation in CPTPP positively impacts the export value of its textile.

The research hypotheses in the model are summarized in Table 2 as follows:

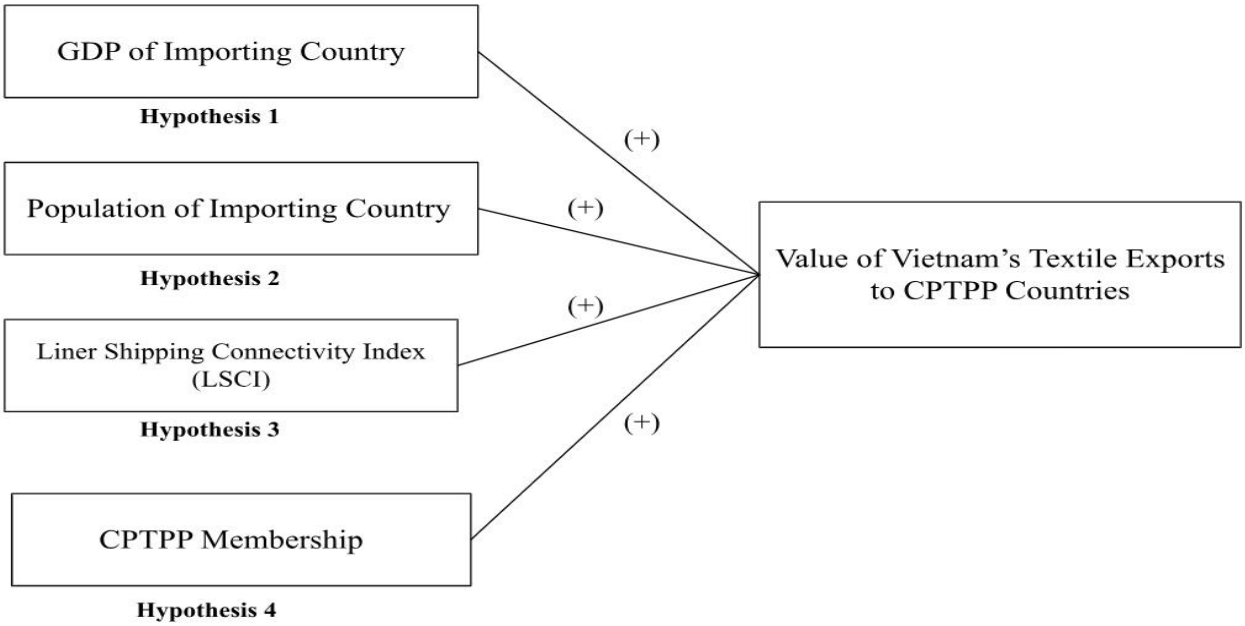
Table 2. Research hypotheses

Hypothesis	Statement	Source
H1	The GDP of importing countries positively impacts the export value of Vietnam's textile.	Phan & Pham (2024); Tran et al. (2024); Ngo & Nguyen (2025); Business & IT Journal (2018)
H2	The population of importing countries positively impacts the export value of Vietnam's textile.	Phan & Pham (2024); Tran et al. (2024); Luong et al. (2019)
H3	The Liner Shipping Connectivity Index (LSCI) of importing countries positively impacts the export value of Vietnam's textile.	Fugazza & Hoffmann (2017); Zakia et al. (2024); Del Rosal (2024)
H4	Vietnam's participation in CPTPP positively impacts the export value of its textile.	Tran Thi Mai Thanh et al. (2024); Vietnam Ministry of Industry and Trade (2024)

Source: The authors

From the above-mentioned hypotheses and studies, the authors suggest the following research framework:

Figure 2. Research framework



Source: The authors

5. Research Method

5.1. Data Collection

The study employed data from 12 countries in the CPTPP including Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United Kingdom, and Vietnam from 2006 to 2022.

5.2. Regression Model

In general, the regression model can be written as:

$$\ln EXP = \beta_0 + \beta_1.\ln GDP + \beta_2.\ln POP + \beta_3.\ln LSCI + \beta_4.CPTPP + u_i$$

Where:

EXP: Dependent variable

GDP, POP, LSCI: Independent variables

CPTPP: Dummy variable

β_0: The intercept coefficient of the regression model

β_1, β_2, β_3: The slope coefficients of independent variables

β_4: The slope coefficient of dummy variable

u_i: The disturbance term of the regression model

Table 3. Source and description of the variables

No.	Variable	Description	Source	Expected sign
1	EXP	Vietnam Textile Exports to CPTPP country	WITS	
2	GDP	Gross Domestic Product (current US$)	WB	+
3	POP	Total population of importing countries	WB	+
4	LSCI	Liner Shipping Connectivity Index	WB	+
5	CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership between Vietnam and other countries	WTO	+

Source: The authors

5.3. Regression Method

The study employs a quantitative research methodology, conducting regression analysis on panel data using STATA software. The authors utilize three regression models: Pooled Ordinary Least Squares (POLS), Fixed Effects Model (FEM), and Random Effects Model (REM).

Subsequently, we use the Ramsey test and the Hausman test to select the most appropriate model. Following this, tests for heteroscedasticity and multicollinearity are performed on the chosen model to identify any model defects. If the model exhibits defects, appropriate corrective estimation methods suitable for the selected model must be applied.

6. Result and Discussion

6.1. Result

6.1.1. Descriptive Statistics

Descriptive statistics for the variables used in the model are presented in Table 4. From the results obtained from 187 observations, during the analyzed period, the export value (EXP) reached an average value of 413,000,000 US$, with the minimum value and the maximum recorded value being 39,080 and 4,780,000,000 respectively. The independent variables GDP, POP, LSCI, and CPTPP were also analyzed and considered, with their corresponding descriptive statistics presented in Table 4.

Table 4. Descriptive statistics

Variable	Observations	Mean	Standard Deviation	Min	Max
EXP	187	4.13e+08	8.86e+08	39080	4.78e+09
GDP	187	1.21e+12	1.50e+12	1.14e+10	6.27e+12
POP	187	4.17e+07	4.22e+07	364663	1.29e+08
LSCI	187	49.43178	29.98989	3.464858	113.775
CPTPP	187	0.2941176	0.4568683	0	1

Source: STATA

6.1.2. Variable Correlation

From the correlation coefficient matrix, we can observe the relationships among the variables within the model. The lowest correlation among independent variables is between lnPOP and CPTPP, with a value of 0.0166. Meanwhile, the highest correlation among independent variables is between lnGDPO and lnPOP, with a value of 0.8687. Additionally, the correlation levels among the remaining independent variables vary; correlations among lnGDPO, lnPOP, and lnLSCI are generally high (above 0.6), while correlations involving CPTPP are relatively low.

Table 5. Variable Correlation

	lnEXP	lnGDPO	lnPOP	lnLSCI	CPTPP
lnEXP	1.0000				
lnGDP	0.9291	1.0000			
lnPOP	0.8266	0.8687	1.0000		
lnLSCI	0.8335	0.6997	0.6724	1.0000	
CPTPP	0.1788	0.0412	0.0166	0.1086	1.0000

Source: STATA

6.1.3. Regression Result

With the collected data, the authors use STATA to conduct regression analysis with 3 models: Pooled Ordinary Least Squares (POLS), Fixed Effects Model (FEM), and Random Effects Model (REM).

To choose between the Pooled OLS and REM models, the author performs the Breusch-Pagan Lagrangian Multiplier test. With a p-value = $0 < 0.05$, the results indicate that the REM model is more appropriate than the Pooled OLS model.

To choose between the FEM and REM models, the author uses the Hausman test. The result yields a p-value = 0.0001 < 0.05. Therefore, at the 5% significance level, there is sufficient evidence to reject the null hypothesis, indicating that the Fixed Effects Model (FEM) is more appropriate for the study.

After selecting the FEM model, the author performs several tests to identify potential model issues.

Table 6. Regression result using FEM model

lnEXP	**Coefficient**	**Std. err.**	**t**	**P>|t|**	**[95% conf. interval]**	
lnGDP	0.479859	0.2076367	2.31	0.022	0.069797	0.889921
lnPOP	3.724912	0.9678493	3.85	0.000	1.813505	5.636319
lnLSCI	1.719929	0.2825005	6.09	0.000	1.162019	2.27784
CPTPP	0.2919315	0.0890343	3.28	0.001	0.1160975	0.4677655
cons	-63.88257	13.9819	-4.57	0.000	-91.49545	-36.2697

Source: STATA

6.1.4. Model Testing

Multicollinearity

The authors employ the Variance Inflation Factor (VIF) method to detect whether the model has multicollinearity or not.

Table 7. VIF testing

Variable	**VIF**
lnGDP	4.53
lnPOP	4.23
lnLSCI	2.06
CPTPP	1.02
Mean VIF	2.96

Source: STATA

It can be seen that VIF of all independent variables and the mean VIF is between 1 and 10, indicating that multicollinearity does not in the model.

Heteroscedasticity

The Lagrange Multiplier test method is used to test for heteroskedasticity in the FEM model. The test result shows a p-value = 0 < 5%, therefore, at the 5% significance level, we reject the hypothesis that there is no heteroskedasticity. Thus, the model has heteroskedasticity.

Autocorrelation

Next, the author uses the Wooldridge method to test for serial correlation when using FEM. The test result shows a p-value = 0 < 5%, therefore, at the 5% significance level, we reject the hypothesis that there is no serial correlation. Thus, the model has serial correlation.

After the model testing, it can be seen that REM estimates are still not the most efficient due to the presence of serial correlation and heteroskedasticity. The result of the remedied FEM estimation is as follows:

Table 8. Regression result using FEM model after remedy

lnEXP	Coefficient	Std. err.	t	P>|t|	[95% conf. interval]	
lnGDP	1.167056	0.0438239	26.63	0.000	1.081163	1.252949
lnPOP	-0.1676433	0.0331426	-5.06	0.000	-0.2326016	-0.102685
lnLSCI	0.982528	0.0615295	15.97	0.000	0.8619325	1.103124
CPTPP	0.4370716	0.0503096	8.69	0.000	0.3384666	0.5356766
cons	-14.64772	0.6821284	-21.47	0.000	-15.98467	-13.31078

Source: STATA

6.2. Discussion

The research has revealed the relationship of 4 factors: Gross Domestic Product, population, Liner Shipping Connectivity and the CPTPP on the export of Vietnam's textile to CPTPP countries.

6.2.1. Gross Domestic Product (GDP)

The variable GDP, representing the importing country's GDP, has a positive impact on Vietnam's textile export value. At the 5% statistical significance level, holding other factors constant, a 1% increase in the importing country's GDP will lead to a 1.167056% increase in Vietnam's export value to these countries. This is entirely consistent with the expectations described above. It can be seen that an increase in the importing country's GDP will lead to a larger market size, attracting Vietnamese businesses to increase exports to meet market demand.

6.2.2. Population

The variable POP, representing the total population of the importing country, has a negative impact on Vietnam's textile export value. At the 5% statistical significance level, holding other factors constant, a 1% increase in the importing country's population will lead to a 0.1676433%

decrease in Vietnam's export value to these countries. This is contrary to the expectations described above. Typically, a larger population is expected to correlate with a greater import demand. However, this negative relationship is actually consistent with findings in trade literature for specific sectors, particularly textile and clothing. Raymund (2015) explained the negative coefficient on population through what trade economists call the “absorptive effect”. This absorptive effect occurs when countries with larger populations develop more extensive domestic manufacturing capabilities that can satisfy a greater proportion of internal demand. The negative coefficient might also reflect structural differences in how textile markets operate in countries of different population sizes, as Moustafa (2023) concluded. Larger population countries in Vietnam's export portfolio may have lower per capita incomes, reducing demand for imported textile.

6.2.3. Liner Shipping Connectivity Index (LSCI)

The variable LSCI, representing the degree of shipping connection of the importing country with the world market, has a positive impact on Vietnam's textile export value. At the 5% statistical significance level, holding other factors constant, a 1% increase in the importing country's GDP will lead to a 0.982528% increase in Vietnam's export value to these countries. This is entirely consistent with the expectations described above. It can be seen that the degree of integration of a country into the global shipping network will greatly impact the cost of export and import, influencing the decision to trade between Vietnamese businesses and foreign markets.

6.2.4. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

The dummy variable representing countries within the Comprehensive and Progressive Agreement for Trans-Pacific Partnership with Vietnam (CPTPP) shows a positive impact on Vietnam's textile export value. The results show that with countries having a CPTPP agreement with Vietnam, the value of textile exported will be 0.4370716% higher compared to countries without a CPTPP agreement with Vietnam. It can be seen that this is entirely consistent from a practical perspective. Countries that are parties to such an agreement often provide tariff preferences as well as removing non-tariff barriers that impede free trade between the parties.

7. Conclusion and Recommendations

7.1. Conclusion

This study empirically assesses the effect of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) upon Vietnam’s textile exports from 2006 to 2022 using a panel data regression model. This model informs scrutiny of Vietnam's textile industry's export efficacy to 11 CPTPP participant nations via four important determinants: GDP of the importing country, population of the importing country, Liner Shipping Connectivity Index (LSCI), and the CPTPP agreement.

The results demonstrate that CPTPP has a statistically significant and positive impact on Vietnam’s textile exports. In particular, nations that happen to be CPTPP members observe an

increase averaging 0.437% in Vietnam's textile export value compared with non-member nations, which goes to indicate that this trade agreement effectively strengthens market access, lessens trade barriers, as well as betters Vietnam's competitiveness within these markets. This aligns with the broader objectives of CPTPP: to deepen economic integration and facilitate trade liberalization among member countries.

Apart from CPTPP, the study ascertains that GDP and LSCI are positively associated with Vietnam's textile exports. An increase in the importing country's GDP correlates with a 1.17% rise in textile exports, implying that expanded, wealthy economies necessitate increased imported textile—furnishing an unambiguous indication for exporters to stress high-GDP markets. Likewise, a 1% increase in the LSCI leads to a 0.98% rise in exports, reinforcing the idea that improved logistics and connectivity are key enablers of trade, especially in the textile industry, where lead time, cost efficiency, and delivery reliability are paramount.

In contrast, population shows a negative effect on textile exports. This finding diverges from conventional expectations but is consistent with existing trade literature, particularly in labor-intensive sectors like textile. The negative coefficient may reflect a phenomenon known as the "absorptive effect," whereby larger populations support greater domestic production and reduce reliance on imports. In addition, countries with large populations may have lower per capita incomes and thus lower purchasing power for imported textile goods.

Together, these findings confirm that while macroeconomic indicators such as GDP and logistics capacity directly drive export growth, participation in free trade agreements like CPTPP plays a catalytic role in expanding market opportunities and improving export performance for Vietnam's textile industry. The empirical evidence supports the argument that CPTPP is a vital lever in Vietnam's trade policy, providing a platform for long-term, sustainable export growth, especially amid rising global competition.

7.2. Recommendations

7.2.1. For Exporters

Capitalize on CPTPP incentives: Exporters are strongly encouraged to exploit the advantages offered by the CPTPP. This includes a thorough understanding and proactive utilization of preferential tariffs and simplified market access, with a main focus towards high-GDP nations like Japan, Canada, and Australia, where consumer purchasing power and demand for diverse, quality goods present substantial growth opportunities.

Upgrade logistics integration: A critical focus must be placed on improving the overall efficiency and responsiveness of the supply chain, with the main focus on warehousing operations (e.g., automated inventory systems) and transport management systems (e.g., real-time tracking and route optimization). The goal is to enhance performance to meet the demanding standards of high-LSCI benchmarked locations, thereby reducing delivery lead times and associated costs.

Adapt market-specific strategies: Exporters should recognize and adapt to the distinct structural, economic, and consumer divergences across various CPTPP markets. For instance, when targeting high-income, relatively low-population markets, strategies should emphasize superior product quality, distinctive branding, premium positioning, and potentially catering to niche segments. Conversely, in lower-income, high-population markets, the strategic imperative shifts towards achieving cost-effective production through economies of scale and optimized processes, aiming for higher sales volumes and broader market penetration with competitively priced goods.

Increase value-added production: A strategic move from the traditional reliance on simple garment manufacturing towards higher-value segments is vital for long-term profitability and market resilience. Such a shift will not only significantly increase export earnings but also reduce the sector's dependency on often volatile, low-margin basic goods.

7.2.1. For Policymakers and Government Agencies

Strengthen logistics infrastructure and digital trade facilitation: The government must prioritize and channel strategic investments into the comprehensive modernization of national logistics. This includes developing deep-water port capacities, enhancing cargo handling efficiency with modern equipment, expanding and upgrading inland multi-modal transport networks, and establishing modern warehousing and cold storage facilities at key economic hubs. Simultaneously, customs modernization efforts should be accelerated with advanced risk management systems, simplified procedures, and the full implementation of a national single window.

Support firms with CPTPP compliance and market access: Government agencies must establish and widely promote accessible support mechanisms. This involves organizing regular, practical training workshops and online modules covering aspects of the agreement, such as rules of origin determination, tariff reduction schedules, and permissible safeguard measures. Furthermore, dedicated legal advisory services should be available to guide firms through complex legal texts and dispute settlement provisions.

Promote diversification of export destinations: The government should design and implement incentives to assist Vietnamese firms in penetrating non-traditional or currently under-explored CPTPP markets, such as Peru, Mexico, and Chile. This proactive diversification is both a risk mitigation tactic and a long-term strategy to build a more balanced, resilient, and geographically widespread export portfolio for Vietnam's textile industry.

7.2.1. For VITAS (Vietnam Textile and Apparel Association)

Act as a CPTPP knowledge hub: VITAS should significantly enhance its role as the foremost authority and dynamic dissemination center for all CPTPP-related intelligence. This extends beyond simply providing static information; it means creating an accessible, continuously updated knowledge base covering intricate details of tariff schedules, specific rules

of origin for various textile products, evolving market access requirements, and identifying high-potential niche opportunities within CPTPP member states. This information must be meticulously tailored and practically delivered to address the distinct needs and capacities of different product categories and diverse enterprise sizes, ensuring that all members can effectively navigate and leverage the agreement.

Build a national textile brand: This aims to elevate Vietnam's global perception beyond that of a cost-effective manufacturing hub, repositioning it as a globally recognized source of demonstrably high-quality, ethically produced, and environmentally sustainable textile and apparel products. Furthermore, VITAS should actively make collaborations with Vietnamese and international design institutions to foster innovation and local talent, and participate in international trade fairs and fashion events to significantly enhance the global visibility and desirability of Vietnamese textile offerings.

Coordinate public-private dialogues: VITAS must act as a dynamic, effective, and trusted channel between the government and the diverse spectrum of textile enterprises. This involves establishing and maintaining robust channels for ongoing communication, such as regular forums, specialized working groups, and confidential feedback mechanisms, not only to systematically identify existing and emerging regulatory hurdles, administrative bottlenecks, and infrastructure gaps but also to collaboratively develop and propose incentives, policy reforms, and support mechanisms.

7.3. Limitations

While the study offers valuable empirical insights, several limitations should be acknowledged. Firstly, the analysis is significantly constrained by a relatively short post-CPTPP timeframe. Since the agreement only came into effect in late 2018, the use of data primarily spanning 2019 to 2022 means that only a short period of implementation is covered. The full, long-term impacts of comprehensive trade agreements like the CPTPP, may not yet have materialized or been fully captured within this limited period, potentially leading to an underestimation of the agreement's ultimate effects. Secondly, the omission of other potentially significant explanatory variables represents a notable limitation. Factors such as fluctuating exchange rates, domestic and global inflation rates, foreign direct investment, and product-specific tariff schedules can profoundly influence trade volumes and patterns. Lastly, the period of analysis, particularly encompassing 2020 to 2022, was affected by the unprecedented global disruption caused by the COVID-19 pandemic. This period saw dramatic shocks to both supply and demand, widespread supply chain disruptions, shifts in consumer behavior, and varied government policy responses, all of which significantly distorted normal trade flows. Disentangling the specific impact of the CPTPP agreement from the massive, concurrent influence of the pandemic and its economic fallout is undeniably complex and poses a significant challenge to accurately estimating the agreement's true contribution.

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