XUẤT KHẨU SẢN PHẨM DỆT MAY TỪ VIỆT NAM SANG CANADA TRONG KHUÔN KHỔ HIỆP ĐỊNH CPTPP

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Tóm tắt

Nghiên cứu này đánh giá tác động của CPTPP đối với xuất khẩu sản phẩm dệt may của Việt Nam sang Canada. Các nghiên cứu trước đây chủ yếu tập trung vào các cơ hội thương mại chung hoặc tác động của CPTPP đối với các quốc gia khác, nhưng ít nghiên cứu nào đi sâu vào mối quan hệ thương mại Việt Nam-Canada trong lĩnh vực dệt may. Nghiên cứu này góp phần vào sự hiểu biết sâu sắc hơn về động lực thương mại cụ thể giữa hai quốc gia, đặc biệt là trong bối cảnh CPTPP. Nghiên cứu sử dụng mô hình trọng lực để đánh giá tác động của CPTPP và một số tác nhân khác bao gồm GDP, tỷ giá hối đoái CAD/VND, độ mở cửa thương mại Việt Nam và Canada đối với giá trị nhập khẩu sản phẩm dệt may của Canada từ Việt Nam. Kết quả cho thấy CPTPP và GDP có tác động đáng kể đến xuất khẩu hàng dệt may của Việt Nam sang Canada, trong khi các yếu tố khác như tỷ giá hối đoái và độ mở cửa thương mại, chỉ số kết nối bằng vận tải container đường biển thì không có tác động đáng kể.

Từ khóa: Việt Nam, Canada, Hiệp định CPTPP, dệt may, tác động

THE EXPORTATION OF TEXTILES AND GARMENTS FROM VIETNAM TO CANADA UNDER CPTPP AGREEMENT

Abstract

This study assesses the impact of the CPTPP on Vietnam's textile and garment exports to Canada. Previous studies have primarily focused on general trade opportunities or the impact of the CPTPP on other countries, but few have delved into the specific Vietnam-Canada trade relationship in the textile and garment sector. This study contributes to a deeper understanding of the trade dynamics unique to these two countries, particularly within the CPTPP framework. The study uses a gravity model to evaluate the impact of the CPTPP and other factors including GDP, the CAD/VND exchange rate, liners shipping connectivity and trade openness of Vietnam and Canada on the import value of textile and garment products of Canada from Vietnam. The results show that CPTPP and GDP have a significant impact on Vietnam's textile and garment exports to Canada, while other factors such as the exchange rate and trade openness, country's integration into global liner shipping networks do not have a significant impact.

Keywords: Vietnam, Canada, CPTPP agreement, textile and garment, impact

1. Introduction

In a globalized economy, free trade agreements (FTAs) are key to shaping international trade and economic growth. As a leading textile and garment exporter, Vietnam has strategically used FTAs to enhance trade relations, expand market access, and boost industry competitiveness. Among the most impactful agreements is the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which offers preferential trade conditions for its members.

This research analyzes the CPTPP's impact on Vietnam's textile and garment exports, focusing on trade between Vietnam and Canada. Using a quantitative approach and an augmented gravity model, the study evaluates the CPTPP's effects on Vietnam's export performance, incorporating variables like GDP, trade openness, liner shipping connectivity and exchange rates. The research spans 2013–2023, examining Vietnam's exports to Canada within the CPTPP framework.

1.1. Overview of CPTPP

The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is a multilateral free trade agreement among 11 Asia-Pacific countries, including Vietnam. Signed on March 8, 2018, it took effect on December 30, 2018, for six ratifying members, with Vietnam joining on January 14, 2019. CPTPP aims to boost trade by reducing tariffs, eliminating barriers, and harmonizing regulations. With a market of nearly 499 million people, it enhances Vietnam's investment and export-driven growth (Mai, 2022).

The CPTPP has five key characteristics that define it as a next-generation FTA (Ha and Le, 2019).

Firstly, it ensures comprehensive market access by eliminating or significantly reducing tariffs and non-tariff barriers. Unlike traditional FTAs, CPTPP generally applies a 0% import tax across tariff lines, with limited exceptions. It also promotes investment and services liberalization, protecting investors while fostering economic stability and market transparency.

Secondly, CPTPP adopts a regional approach, strengthening supply chains, job creation, competitiveness, and cross-border trade integration. It enhances market openness, fostering a more dynamic regional economy (Petri and Plummer, 2016).

Thirdly, it addresses emerging trade challenges, supporting innovation, productivity, and digital economy growth. CPTPP also regulates state-owned enterprises (SOEs) and helps small enterprises leverage trade agreements, ensuring broad economic participation.

Fourthly, CPTPP covers intellectual property, SPS measures, competition policies, public procurement, labor rights, and environmental protection. It supports SMEs by helping them navigate trade terms and engage with policymakers, ensuring effective implementation (Hiep, 2015).

Lastly, CPTPP strengthens regional economic ties, uniting diverse economies. It includes provisions for underdeveloped members, allowing transition periods to meet commitments, ensuring inclusivity and long-term trade integration.

1.2. Overview of Vietnam's textile and garment export industry

Between 2016 and 2022, Vietnam's textile exports showed resilience despite challenges like COVID-19 and the US-China trade war. Exports fell to $35.29 billion in 2020 but rebounded to $44 billion by 2022. The industry expanded to 66 countries, with key products—jackets, t-shirts, and trousers—approaching pre-pandemic levels. The US remained the largest market (46.21% of total exports), followed by the EU, Japan, South Korea, and Canada. The CPTPP, implemented in 2019, significantly boosted Vietnam's garment exports, with Canada's imports rising 40.34% to $1.311 billion in 2022. Mexico and Australia also saw strong growth, reflecting the CPTPP's positive impact (Thanh et al., 2024).

Despite rapid growth, Vietnam's textile industry has low added value, relying heavily on the Cut-Make-Trim (CMT) method (65% of production), which offers minimal value addition. Higher-value methods—OEM/FOB (25%), ODM (9%), and OBM (1%)—remain limited. Dependence on imported raw materials from China and South Korea, along with an unstable domestic supply chain, further constrains value creation. Additional challenges include a low-skilled workforce, weak competitiveness, and poor management within domestic firms (Phuong, 2021).

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1.3. Demand and opportunities in Canadian textile and garments import market

Canada is one of the largest textile and apparel importers, alongside the US, Japan, and the UK (UN Comtrade, 2024). Import demand rises with economic growth, reaching 15.4 billion CAD in 2024, up from 15.3 billion in 2023 (Statista, 2025).

Domestic textile mills have struggled, with revenue declining at a 2.9% CAGR to $3.6 billion over five years, including a 3.0% drop in 2023 (Shahool Al Bari, 2025). This decline has increased reliance on imports, mainly from Asia and the US. In 2022, Vietnam ranked third among Canada's top textile suppliers, with imports totaling $1.88 billion (WITS, 2022).

Vietnamese exports to Canada have grown due to effective use of the CPTPP (Vu, 2025). In 2024, textiles and garments led export turnover to Canada, reaching $1.2 billion, a 10.4% increase, accounting for 19% of total exports. With CPTPP benefits, Vietnam has strong potential to expand its market share through competitive pricing and quality improvements.

1.4. Significance of the study

The CPTPP enhances market access and economic cooperation for Vietnam's textile and garment industry, a key driver of national growth. Understanding its impact on exports to Canada is crucial for stakeholders to maximize trade benefits. Using a modified gravity model, this study assesses the CPTPP's influence, providing insights for businesses and policymakers to optimize trade strategies and stay competitive.

2. Literature review

2.1. Previous studies of Vietnam's textile and garment export under CPTPP

Previous studies have research on the opportunities and the challenges Vietnam has after the participation in CPTPP. Nguyen (2019), regarding the upsides, Vietnam can potentially increase its scale, export turnover. From the statistics gathered by Vietnam Customs, the total of export turnover of Vietnam to CPTPP countries in 2018 reached 36.809 billion USD, increasing by 5.6% compared to the figure in 2017 (*Viet Nam Customs*). The total export turnover of Vietnam to 10 nations of CPTPP saw an increase of 7.7% just in the first nine months of 2018 (Jung, 2023). The participation of CPTPP has shown that China's participation in the CPTPP may generate

significantly higher productivity, GDP, and welfare effects (Le, 2021). The paper showed that when tariff reduces, trade openness increases, real VND-to-currency exchange rate, the export turnover of Vietnam would increase.

There are some papers researching the export of textile and garment. CPTPP encourages the development of the supply chain of the textile industry in the vertical sector, and creates opportunities for Vietnamese enterprises to participate more deeply in the supply chain within the CPTPP (Nguyen, 2019). Textile and garment is the largest export industry, with the export turnover at 3.1 billion USD. From the statistics gathered from the General Statistics Office of Vietnam, the export turnover of textile to Canada has been on increase in recent years with 0.56% of increase in 2017 to 3.01 in 2023. Therefore, Canada is the potential market for textile and garments, with the average turnover export of 13.3 billion USD per year.

There has been research on the effects of trade policies like CPTPP on the export of textiles and clothing. Developing countries like Vietnam and Bangladesh face difficulties arising from non-tariff measures (NTMs), which negatively affect their trades with EU countries, even though Vietnam gains some reliefs from non-technical NTMs (Sharma & Bharti, 2025). Therefore, the effects of NTMs in CPTPP agreements can potentially negatively affect the export of textiles and clothing from Vietnam to Canada. From the statistics of UN Trade and Development, Canada, along with China, America, New Zealand, Australia and Thailand, are the multilateral partners that posed the most NTMs on the export of Vietnam (Vu, 2022).

Regarding the effects of the application of material origin principles, material origin principles may face barriers. According to the statistics by January 2024 from the General Department of Vietnam Customs, Vietnam exported garment and textile products to Canada worth nearly $1.1 billion, which is a modest value compared to Canada's annual demand of $13-$15 billion. This is primarily attributed to the majority of domestic businesses not ensuring the origin of fibre materials according to CPTPP requirements Post-CPTPP, Canada has eliminated material origin principles in agreements with Chile, New Zealand, and Indonesia. This precedent suggests the potential for Vietnam to secure a similar exemption from Canada. The existing agreements indicate a willingness to modify these rules within the CPTPP framework.

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2.2. Previous studies of Vietnam's textile and garment export

Phan Thanh and Phan Xuan (2024) applied the gravity model of trade, originally developed by Tinbergen (1962), to examine Vietnam's textile export flows from 2007 to 2019. The model is augmented with factors such as GDP size, per capita income disparity, free trade agreements (FTAs), labor force participation, logistics performance, and foreign direct investment (FDI). The authors found that all factors, except FDI, positively influenced Vietnam's textile exports. Their findings highlight the significance of logistics quality and FTAs in improving Vietnam's export efficiency. The study recommends policies focusing on workforce skill enhancement, infrastructure improvement, and better FTA utilization.

Ngô, Nguyễn and Phạm (2020) calculated the export efficiency of Vietnam's textile and garment sector to 28 EU countries from 2007 to 2019 and identifies its determinants, employing the stochastic frontier gravity model (SFGM) to assess export efficiency, an extension of the traditional gravity model. It considers macroeconomic factors such as GDP, population, exchange rate, logistics performance, and trade agreements. Results show all indicators positively impact export efficiency, which falls within the average efficiency group. Mean efficiencies range from 0.4754 to 0.4919, indicating room for growth. The findings suggest that FTA participation, logistics performance, and labor participation rate significantly enhance Vietnam's textile exports. However, exchange rate fluctuations had mixed effects, and geographical distance remained a trade barrier. The study emphasized that Vietnam has not fully exploited its export potential in the EU market and could enhance competitiveness by improving governance and reducing trade costs.

Sharma and Bharti (2025) integrates New Trade Theory (NTT) into the augmented gravity model to analyze the impact of EU trade policies on textile imports from Vietnam, China, India, and Bangladesh. NTT emphasizes economies of scale and product differentiation, which are critical for Vietnam's competitive position. The authors highlight that non-tariff measures (NTMs), such as EU technical regulations, create challenges for Vietnam's textile exports. However, Vietnam benefits from preferential trade agreements such as the Everything But Arms (EBA) initiative. Compared to India and China, Vietnam has gained market share in the EU, demonstrating the effectiveness of FTA-driven market access.

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Doan (2016) evaluates the impact of the Trans-Pacific Partnership (TPP) on Vietnam's textile exports using the gravity model. The study finds that TPP membership could significantly boost Vietnam's textile exports by reducing tariffs and increasing integration with North American markets. However, concerns remain about rules of origin compliance, which could limit Vietnam's ability to maximize TPP benefits.

2.3. Research gap

While Vietnam's textile and garment exports have been widely studied, the specific impact of CPTPP on its trade with Canada remains unclear. Existing research lacks in-depth analysis using augmented gravity models, particularly concerning CPTPP-specific factors like tariff reductions. Though gravity models have been applied to Vietnam's EU trade, their application to the Vietnam-Canada textile trade is limited, hindering assessments of trade potential and efficiency under CPTPP.

Additionally, while studies such as Sharma and Bharti (2025) highlight the impact of non-tariff measures (NTMs) on Vietnam's exports to the EU, there is little research on NTMs in CPTPP trade with Canada, despite Canada being among the countries imposing the most NTMs on Vietnam. These barriers could offset tariff benefits, limiting Vietnam's ability to maximize its textile exports.

Another critical gap is the impact of rules of origin on Vietnam's market access in Canada. Vietnam exported only $1.1 billion worth of textiles to Canada in 2024, far below Canada's $13-15 billion demand, due to supply chain constraints. While Canada has waived material origin requirements for other CPTPP partners, Vietnam has yet to secure similar exemptions, highlighting a need for research on policy negotiations and supply chain restructuring.

Moreover, existing research has largely overlooked the role of Liner Shipping Connectivity (LSC) in Vietnam-Canada textile trade. Given that over 80% of Vietnam's exports rely on maritime transport, and that LSC significantly affects logistics costs and transit times, its impact on export efficiency and market access under CPTPP is a crucial but underexplored area. Incorporating LSC into trade analysis could provide deeper insights into transportation barriers and opportunities to enhance competitiveness.

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Vietnam's export efficiency to Canada under CPTPP is also unknown. While inefficiencies are documented in Vietnam's EU textile trade, no comparable analysis exists for Canada. Given Canada's rising imports from Vietnam, it's crucial to assess if CPTPP benefits are fully realized or if remaining trade barriers hinder efficiency.

Current research inadequately addresses Vietnam-Canada textile trade under CPTPP, specifically regarding export efficiency, non-tariff measures (NTMs), rules of origin, and the role of Liner Shipping Connectivity. This study employs an augmented gravity model to analyze Vietnam's textile and garment export efficiency to Canada within the CPTPP framework and identify key influencing factors.

3. Research Methodology

3.1. Data collection

This study uses monthly time-series data (2013-2023, 132 observations) to model bilateral textile and garment trade between Canada and Vietnam. The dependent variable, Canada's monthly import value (USD) from Vietnam, was derived from Trade Map data (HS codes 50-63). Independent variables were sourced from Trade Map, the World Bank, and Vietcombank.

Table 1: Textile and garment products codes

Chapter	Meaning
50	Silk
51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric
52	Cotton
53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn
54	Man-made filaments; stip and the like of man-made textile materials
55	Man-made staple fibres
56	Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables

	and articles thereof
57	Carpets and other textile floor coverings
58	Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery
59	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use
60	Knitted or crocheted fabrics
61	Articles of apparel and clothing accessories, knitted or crocheted
62	Articles of apparel and clothing accessories, not knitted or crocheted
63	Other made-up textile articles; sets; worn clothing and worn textile articles; rags

Source: Authors' compilation

Exchange rates (CAD to VND, monthly, 2013-2023) were sourced from Vietcombank. Annual GDP (Vietnam and Canada, billion USD) came from the World Bank. Quarterly GDP growth (%) for Vietnam (General Statistics Office) and Canada (internet) was used to calculate quarterly GDP (billion USD).

3.2. Methodology

The gravity model, a widely accepted tool in trade analysis, predicts trade volume based on economic size and geographic distance, analogous to Newton's law of gravitational attraction. In trade, it measures economic interaction between nations, using their economic masses and distance as key factors. Tinbergen (1962) first applied the model to international trade flows. Gross Domestic Product (GDP) is typically used as an indicator of economic size, while the physical distance between countries serves as a measure of separation. The fundamental equation of this model is as follows:

$$F_{ij} = A * (X_i * X_j / D_{ij}) \, n_{ij} \qquad (1)$$

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In this model, F_{ij} represents the trade volume between country i and country j, while A is a constant. The GDPs of these nations are denoted by X_i and X_j, whereas D_{ij} signifies the distance between them. The gravity model plays a crucial role in forecasting shifts in export activities following the enactment of trade agreements. It helps identify key determinants such as the GDP and population of trading partners, trade barriers like tariffs, and geographical distance. These factors are essential for analyzing the impact of free trade agreements (FTAs) on trade flows.

The traditional way to estimating this equation consists in putting logs at both sides, forming the following equation:

$$\ln(F_{ij}) = \beta o + \beta 1 * Ln(X_i) + \beta 2 * Ln(X_j) - \beta 3 * Ln(D_{ij}) + e_{ijt} \quad (2)$$

Equation (2) describes the connection between trade, economic size, and distance. The gravity model of international trade is widely regarded as one of the most empirically useful findings in economics (Chaney, 2018). According to this model, trade volume between two countries is directly related to their economic size, typically measured by GDP, and inversely related to the geographical distance between them. However, in real life, numerous other factors influence trade, including tariff barriers, exchange rates, language, cultural similarities, trade agreements, transportation costs, and more. As a result, these additional elements must also be considered when analyzing trade relationships (Guan et al., 2021).

Therefore, this paper includes variables relevant to the trade between Vietnam and Canada, to obtain the following modified gravity equation:

$$\ln(TRADE) = \beta o + \beta 1 * \ln(GDP) + \beta 2 * \ln(EXCHANGE) + \beta 3 * (OPN\_VN) + \beta 4 *$$
$$(OPN\_CA)\ \beta 5 * (LSC\_VN) + \beta 6 * (LSC\_CA) +\ \beta 6 * CPTPP + e_t$$

Where:

i = Vietnam

j = Canada

t = 2013, 2014, 2015, … 2023

Table 2: Variables description

Variable	Description	Measurement	Source	Expected Sign
Dependent Variable				
TRADE	The import value of textile and garments of Canada from Vietnam 2013 - 2023	Billion USD	Trade Map	
Independent Variables				
GDP	The Gross Domestic Product of Vietnam multiplied by the Gross Domestic Product of Canada from 2013 - 2023	Billion USD	World Bank	+
EXCHANGE	Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market 2013 - 2023	CAD to VND	Vietcombank	+
OPN_VN	Trade openness of Vietnam in goods and services 2013 - 2023	%	World Bank	+
OPN_CA	Trade openness of Canada in goods and services 2013 - 2023	%	World Bank	+

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LSC_VN	Liner shipping connectivity of Vietnam 2013 - 2023	0 to 100	World Bank	+
LSC_CA	Liner shipping connectivity of Vietnam 2013 - 2023	0 to 100	World Bank	+
CPTPP	Whether the CPTPP agreement is applied	0 or 1		$\neq 0$

Source: Authors' compilation

3.3. Variables and research hypotheses

3.3.1. Gross Domestic Product (GDP)

GDP is a key indicator of economic activity and plays a crucial role in international trade. In this research, we calculate a combined GDP variable (GDP_VN_CA) by multiplying the GDP of Vietnam (GDP_VN) with the GDP of Canada (GDP_CA). This combined GDP serves as a proxy for the overall economic scale of the two countries and reflects their capacity to engage in trade. Data for GDP_VN and GDP_CA were obtained from the World Bank database for the period 2013–2023.

Trade agreements like CPTPP are expected to influence this combined GDP variable by fostering economic cooperation, reducing trade barriers, and promoting export-import activities. A higher GDP_VN_CA indicates greater economic potential and capacity for bilateral trade. It reflects Vietnam's ability to produce and export textiles and garments, alongside Canada's ability to consume and import these goods.

Previous studies underline the significant and positive impact of GDP on trade flows. Doan (2016) found Vietnam's GDP growth under the TPP increased export capacity, while higher GDP in trading partners like Canada significantly boosted import demand for Vietnamese products. Similarly, Ngô, Nguyễn and Phạm (2020) examined Vietnam's textile exports to the EU and confirmed GDP as a key positive determinant of trade efficiency. These findings suggest GDP's general positive effect, while acknowledging variations based on specific trade contexts.

Our research model examines the direct effect of GDP_VN_CA on Canada's imports of textiles and garments from Vietnam and the moderating role of CPTPP. A larger combined GDP is expected to have a positive effect on trade flows, as it signals stronger production capacity, greater market demand, and enhanced economic collaboration under CPTPP.

3.3.2. Trade openness

Trade openness, measured as (exports + imports)/GDP (World Bank), reflects a country's participation in international trade. Higher values indicate greater openness. This study examines the direct impact of trade openness on trade flows and the indirect impact through the CPTPP dummy variable, which represents the agreement's role in reducing trade barriers.

Existing literature highlights the link between trade openness and the textile industry. DiMenna (2022) shows that trade liberalization, a key aspect of trade openness, significantly impacts textile-exporting countries like Bangladesh, illustrating how policies promoting openness affect the industry. Kariuki (2018) further explores this relationship, noting that the effects of trade liberalization can be both positive and negative for the textile sector.

Building on these findings, this study hypothesizes that increased trade openness in both Vietnam (OPN_VN) and Canada (OPN_CA) will positively impact Canada's imports of textiles and garments from Vietnam. A more open Vietnamese economy, with lower trade barriers, is expected to enhance the cost-effectiveness and competitiveness of textile exports. Similarly, greater openness in Canada will likely reduce import barriers, improving access to Vietnamese textiles and fostering stronger trade relations between the two countries.

3.3.3. Exchange rate

Exchange rate is expected to have a positive effect on exports. Indeed, an undervalued currency can be understood that the country may apply some anti-dumping policies to restrict import and encourage export (Nicita, 2013). Also, with the case of CPTPP, the exchange rate is positively related to Vietnam's export turnover to CPTPP countries. Therefore, the hypothesis for this variable can be as follows: Exchange rate from CAD to VND has a positive effect on the export of textiles and garments.

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3.3.4. Liner Shipping Connectivity (LSC)

LSC measures a country's integration into global liner shipping networks. This index, calculated from a weighted average of six components and assigned and scaled up to 100, represents the quality of shipping infrastructure. In our model, LSC specifically reflects the infrastructure of Vietnam and Canada.

Reza, Suthiwartnarueput and Pornchaiwiseskul (2015) investigated the impact of five LSC components (number of ships, liner shipping capacity, number of liner companies, logistics services, maximum ship size) on international trade volume. Their analysis, using correlation with the Logistics Performance Index (LPI) and panel data regression, indicated robust shipping infrastructure, as measured by LSC components, enhances a country's trade competitiveness. They also suggested that improved infrastructure can lower transport costs, making a country a more attractive trade partner. Fugazza and Hoffmann (2017) expanded upon the Liner Shipping Bilateral Connectivity Index (LSBCI), which specifically reflects connectivity between pairs of countries. Their research demonstrated a positive relationship between exports and LSBCI.

Drawing upon this prior literature, we hypothesize that Liner Shipping Connectivity will positively influence the export of textiles and garments.

3.3.5. CPTPP

CPTPP can encourage export turn over in Vietnam, thus increasing the export turn over (Barai, Le and Nguyen, 2017; Maliszewska *et al.*, 2020). Therefore the hypothesis for CPTPP would be as follows: The CPTPP has an effect on the export of garment and textiles in Vietnam to Canada.

4. Discussion

4.1. Testing and defects

4.1.1. Testing for multicollinearity

Firstly, our team tested the model for multicollinearity error by using a statistical tool called Variance Inflation tool. The result is as follow:

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. vif
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Variable	VIF	1/VIF
lngdp	16.37	0.061099
LSC_VN	15.23	0.065645
OPN_VN	5.37	0.186386
CPTPP	4.53	0.220750
lnexc	3.02	0.330593
OPN_CA	2.03	0.492379
LSC_CA	1.48	0.673648
Mean VIF	6.86	

Figure 1. Test for multicollinearity

Source: Authors' compilation

Multicollinearity is only considered a "problem" when the VIF value is more than 10. The VIF values are all below 10; therefore, this should not have a significant effect on the model.

4.1.2. Testing for autocorrelation

To test the autocorrelation error, we applied the Breush- Godfrey test. The result is as follow:

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Breusch-Godfrey LM test for autocorrelation

lags(p)	chi2	df	Prob > chi2
1	23.351	1	0.0000

H0: no serial correlation

Figure 2: Test for autocorrelation

Source: Authors' compilation

From the table, p-value is 0.00, which is smaller than 0.05, therefore we can conclude that the model has autocorrelation error. This indicates that the model needs to be corrected.

4.1.3. Model estimation results

As the defect of autocorrelation is found to exist in the model, we use the command "robust" in Stata to fix this default. The result is as follow:

```
. reg lntrade lngdp lnexc OPN_VN OPN_CA LSC_VN LSC_CA CPTPP ,robust

Linear regression                                    Number of obs   =        132
                                                     F(7, 124)       =      65.55
                                                     Prob > F        =     0.0000
                                                     R-squared       =     0.7863
                                                     Root MSE        =     .19973

                           Robust
  lntrade |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------+----------------------------------------------------------------
    lngdp |   .6001397     .19724     3.04   0.003     .2097465    .9905328
    lnexc |  -.2569886    .5128487   -0.50   0.617     -1.27206    .7580827
   OPN_VN |   .0034914    .0020212    1.73   0.087     -.000509    .0074919
   OPN_CA |   .0228801    .0129858    1.76   0.081    -.0028225    .0485827
   LSC_VN |   .0009554    .0011253    0.85   0.398     -.001272    .0031827
   LSC_CA |  -.0042847    .0041235   -1.04   0.301    -.0124463    .0038768
    CPTPP |   .1436507     .069152    2.08   0.040     .0067796    .2805218
    _cons |  -16.59761    4.378718   -3.79   0.000    -25.26432   -7.930902
```

Figure 3: Fix the defect of autocorrelation

Source: Authors' compilation

From the results we received, the p-values for GDP, CPTPP are smaller than 0.05; therefore, these independent variables are statistically significant. In contrast, the p-values for other variables, namely OPN_CA, OPN_VN, LSC_VN, LSC_CA are higher than 0.05, which suggest that these variables are not marginally significant.

Regarding the variable GDP, the coefficient is 0.6, which is positive. This aligns with the hypothesis H2 we mentioned before and proved the results of the research by Doan (2016) and Ngo *et al.* (2020).

The variable CPTPP has the coefficient of 0.14, which means that CPTPP has an effect on the export of garments and textiles of Vietnam to Canada. This supports the research by Barai *et al.* (2017) and Maliszewska *et al.* (2020).

4.2. Limitations of the research

There are some limitations of this thesis that future research can improve:

Firstly, the study relies on secondary data from sources like the World Bank and Trade Map. While credible, potential discrepancies, data gaps, or outdated figures may affect accuracy.

Additionally, variables such as non-tariff barriers (NTBs) lack comprehensive data, limiting their analysis.

Secondly, the augmented gravity model focuses mainly on economic factors like GDP, trade openness, and exchange rates. However, it excludes critical variables such as cultural proximity, logistical efficiency, and non-tariff measures, reducing its explanatory power and leading to an incomplete understanding of Vietnam-Canada trade dynamics.

Thirdly, the study examines only Vietnam-Canada textile and garment trade under CPTPP, offering depth but limiting broader insights. Excluding Vietnam's trade with other CPTPP members restricts comparative analysis and may overlook key regional trade dynamics.

Lastly, the data covers 2013-2023, a short post-CPTPP period since Vietnam joined in 2019. This limited timeframe may not fully capture the agreement's long-term effects on trade flows and export performance.

5. Conclusion and Recommendation

5.1. Conclusions

This study aimed to analyze the impact of the CPTPP agreement on Vietnam's textile and garment exports to Canada. Utilizing a modified gravity model and data from 2013 to 2023, the research examined the influence of key economic variables including GDP, exchange rates, liner shipping connectivity and trade openness.

The findings indicate that the CPTPP agreement and the combined GDP of Vietnam and Canada have a significant effect on the import value of textile and garments of Canada from Vietnam. The influence of CPTPP aligns with previous research that highlighted its role in promoting Vietnam's export turnover. However, the exchange rate between CAD and VND, trade openness, and the Liner Shipping Connectivity do not have a significant effect.

The study acknowledges limitations, including the reliance on secondary data, the focus on economic factors in the gravity model, the exclusive focus on Vietnam-Canada trade, and the relatively short post-CPTPP period considered.

Despite these limitations, the research provides valuable insights into the impact of CPTPP on Vietnam's textile and garment exports to Canada. The findings suggest that CPTPP has had a

positive influence. Further research could explore the role of non-tariff measures, rules of origin, and export efficiency to provide a more comprehensive understanding and help Vietnam optimize its trade benefits under CPTPP.

5.2. Recommendations

Based on the findings and analysis, the following recommendations are proposed to enhance Vietnam's textile and garment exports to Canada under the CPTPP framework.

One of the challenges that Vietnamese exporters are facing is compliance with CPTPP's strict rules of origin. To fully benefit from preferential tariffs, Vietnam should strengthen its domestic production of raw materials such as yarn and fabric. Currently, a significant portion of inputs used in Vietnam's textile manufacturing is imported from non-CPTPP countries, which limits the ability of exporters to qualify for duty-free access under CPTPP (VietnamCredit, 2019). Investing in domestic material production will help address this issue, reducing reliance on non-originating inputs and improving supply chain resilience.

Sustainability has become a major consideration for consumers and businesses in Canada, with increasing demand for environmentally responsible products (Agriculture and Agri-Food Canada, 2024). To remain competitive, Vietnamese exporters should adopt green manufacturing practices that minimize waste, reduce energy consumption, and optimize water usage. Obtaining internationally recognized certifications such as OEKO-TEX, LEED, or Global Organic Textile Standard (GOTS) will help enhance credibility and align with Canadian buyers' environmental requirements.

To compete with China, India, and Bangladesh, Vietnam's textile industry must focus on enhancing product differentiation and competitiveness. Investment in advanced textile technologies will allow manufacturers to improve production efficiency and product quality while reducing costs. Innovation in textile design and branding is essential to create high-value, specialized products that appeal to the Canadian market. Developing a skilled workforce through specialized training programs in textile design, production management, and quality assurance will further boost Vietnam's competitiveness and long-term industry growth.

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Expanding market access through trade promotion efforts is crucial for increasing exports to Canada. Vietnamese businesses should actively participate in international trade fairs, exhibitions, and networking events to establish direct connections with Canadian buyers. Leveraging digital trade platforms and e-commerce channels can help Vietnamese firms reach a broader audience and facilitate smoother transactions with Canadian importers.

Finally, addressing non-tariff barriers (NTBs) and regulatory challenges is essential for ensuring seamless trade between Vietnam and Canada. Vietnamese exporters often face difficulties related to technical regulations, product labeling requirements, and import compliance standards. To overcome these obstacles, Vietnam should engage in policy dialogues with Canada to advocate for fair and transparent trade policies. Businesses must be well-informed about Canadian import regulations, and industry associations should offer training programs to help exporters comply with labeling, safety, and quality standards. Promoting standardization efforts across the Vietnamese textile sector will further reduce trade disruptions and improve the efficiency of export procedures.

By implementing these recommendations, Vietnam's textile and garment industry can maximize the benefits of CPTPP, enhance its competitiveness in the Canadian market, and drive sustainable export growth in the years to come.

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