THE RELATIONSHIP BETWEEN EXPORT AND ECONOMIC GROWTH IN THE NORTHWEST OF VIETNAM

PhD. Duong Thi Tinh* - PhD. Le Huyen Trang**

Abstract: ***This paper examines the dynamic relationship between export activities and economic growth in the Northwest region of Vietnam over the period 2000–2017. Utilizing both qualitative and quantitative methods, with a focus on the Autoregressive Distributed Lag (ARDL) model, the study provides empirical evidence of a positive and statistically significant impact of exports on economic growth, both in the short term and long term. The results also confirm the existence of a long-run cointegrating relationship between exports and economic growth in the region. Based on these findings, the paper proposes several policy implications aimed at enhancing export competitiveness and promoting sustainable economic development in the Northwest region.***

• Keywords: *exports; economic growth; northwest region; ARDL model; trade policy.*

Date of receipt: 25th Oct., 2025
Date of delivery revision: 04th Nov., 2025
Date of receipt revision: 20th Nov., 2025
Date of approval: 30th Nov., 2025
DOI: https://doi.org/10.71374/jfar.v25.i6.29

1. Introduction

In recent years, exports have consistently been an important factor contributing to economic development and enhancing the position of Vietnam's economy. Export contributes to sustainable economic development by ensuring a balance between export and import values and promoting the growth of international payment services (Nguyen, T. M., 2020; World Bank, 2020). Export activities have also generated employment opportunities, improved household incomes, and contributed to poverty alleviation (Heo & Doanh, 2009). Moreover, the expansion of export-oriented industries has enhanced labor productivity, reduced income disparities between urban and rural areas, and accelerated structural transformation toward industrialization and modernization, particularly in underdeveloped regions.

The Northwest region, located in the mountainous western part of Northern Vietnam and bordering Laos and China, has made notable progress in commodity exports in terms of scale, growth rate, job creation, infrastructure development, and public budget contributions. These developments have positively influenced regional economic growth. However, the export structure continues to face challenges regarding product quality, efficiency and sustainability.

Furthermore, the prevailing export model carries potential environmental risks, including biodiversity loss, carbon emissions, and resource depletion. As a result, the relationship between export performance and economic growth in the region remains ambiguous and inconsistent.

This study aims to empirically examine the dynamic relationship between commodity exports and economic growth in the Northwest region during the period 2010-2017, assess both achievements and limitations, and propose evidence-based policy recommendations to promote sustainable economic development.

2. Literature review

Many studies have discussed the relationship between exports and economic growth with different research methods and approaches. Bahramian, P. et al. (2019) examined the dynamic causality between exports and economic growth in Turkey over the period from 1960 to 2018. Employing the causality-in-quantiles test, the study found evidence of positive causality from economic growth to export growth at low and high quantiles of export growth. In another study, Evans Kulu (2023) hypothesized that exports are the main driver of economic growth. This study tested this hypothesis and further analyzed the determinants of exports in the case of West African countries. Annual panel data spanning from 2008 to 2018 was used. The results also revealed that foreign direct investment, employment, remittances, land area, and infrastructure are significant drivers of exports

** University of Economics and Business Administration, Thai Nguyen University*
*** Thang Long University (Corresponding author)*

while population, real effective exchange rate, and taxes on international trade are detrimental to exports in the region. Also using panel data, the study by Oscar Chiwira et al. (2023) employed the Autoregressive Distributed Lag (ARDL) Bounds to test for co-integration relationships, and the Generalized Least Squares (GLS) to determine the respective threshold level. This study demonstrated that exports positively support economic growth both in the short and long run in SACU and that there is a long-run bilateral causal relationship between exports and economic growth.

In Vietnam, Pham Mai Anh (2008) uses Var model to analyze four variables: GDP, investment, export and productivity, the results prove that investment is the basic factor affecting economic growth. Vietnamese economy in the period of 1986-2007. Nguyen Thanh Hai (2016) through research has proved that export plays an important role in the economic development of Vietnam by accelerating the process of industrialization and modernization of the country.

It seems that export is automatically recognized as having a positive relationship in the direction of positive impacts on economic growth, so most analyzes are oriented towards promoting exports instead of analyzing relationships between exports and economic growth. The impact of both short and long-term exports on economic growth needs to be assessed through some important attributes, in order to address the urgent issues in the context of today's international integration.

3. Research Methodology

In order to achieve the research results, this paper uses co-integrated test method, proposed by Perasan (Perasan and partner, 2001) and self-regression distribution delay model (Autoregressive Distributed Lag: ARDL). In addition, based on the research models of Fayissa and partner (2010) and Khalid (2012) the ARDL model allows the estimation with a mix of stationary and non-stop data series (non-stationary), comprehension for studying the relationship between exports and economic growth in Northwest of Vietnam.

4. Results and discussion

4.1. Current goods export and economic growth in Northwest Vietnam

According to Vietnam's economic zoning plan, the Northwest region includes the provinces of Dien Bien, Lai Chau, Lao Cai, Yen Bai, Hoa Binh, and Son La.

With the results of the GDP aggregation of the provinces in the Northwest region, Lao Cai province achieved the highest GDP in the region, while Lai Chau province had the lowest (Table 01). Although the GDP of the provinces in the region are lower than those of other economic regions in the country, they have consistently increased annually from 2000 to 2023.

Table 01: GDP of 6 provinces in the Northwest region (Billions dong)

Year	Dien Bien*	Lai Chau	Yen Bai	Son La	Lao Cai	Hoa Binh
2000	1.956,75		1.670,19	1.837,35	1.417,26	5·231,28
2001	2.455,61		1.828,42	1.976,98	1.584,59	5·533,14
2002	2.637,55		2.089,33	2.133,16	1.817,66	5.719,98
2003	2.860,72		2.325,95	2.865,43	2.150,29	6·166,39
2004	1.875,63	2.687,99	2.687,99	3.428,42	2.530,52	6.655,29
2005	2.008,14	1.058,07	3.118,88	4.090,84	2.944,96	7.171,21
2006	2.400,33	1.358,00	3.731,05	5.094,47	3.327,81	6·938,33
2007	2.862,54	1.809,61	4.483,07	6.128,08	4.501,82	8·811,73
2008	3.654,45	1.988,13	5.664,79	8.565,47	6.878,00	10·674,93
2009	4.187,25	2.574,39	6.801,15	11.345,86	7.958,20	11·767,37
2010	5.237,65	3.023,81	11.160,82	14.386,14	12.358,83	15.999,68
2011	7.042,35	4.073,46	12.611,72	18.333,70	13.709,65	16.712,34
2012	8.743,14	5.138,83	15.246,99	19.766,45	18.440,58	18.542,55
2013	9.465,35	6.252,56	17.113,88	22.854,42	21.235,58	20.961,62
2014	10.473,90	7.189,36	19.094,48	26.390,21	24.603,82	24.592,63
2015	11.327,39	7.859,06	20.035,83	27.861,15	27.069,26	26.665,27
2016	12.217,99	9.883,03	22.258,39	29.979,01	30.045,92	28.382,31
2017	13.084,25	10·970,16	23·638,41	32.853,99	32.092,05	37. 94,99
2018	18.099,19	15.028,03	27.590,50	25.129,99	44.811,70	40.196,13
2019	19.339,31	19.029,95	30.529,67	26.527,22	49.950,77	46.275,75
2020	20.302,45	20.357,47	33.151,94	28.179,86	53.163,12	46.733,27
2021	22.066,02	21.368,16	35.739,64	28.799,82	58.163,12	49.705,21
2022	25.119,17	23.389,15	40.211,64	31.308,28	68.045,36	51.225,21
2023	28.075,64	25.403,75	41.820,10	34.063,41	73.600,90	56.538,97

** On November 26, 2003, the National Assembly issued a Resolution dividing Lai Chau province into Lai Chau (new) province and Dien Bien province.*

Source: Statistical Yearbook of 6 provinces, calculation of the author

In the period from 2000 to 2023, the Northwest region of Vietnam faced many challenges in exports, due to limitations in human resources, capital, production levels, and the mountainous geographical location. However, with the attention and support from the Northwest Regional Steering Committee and the leaders of the provinces in the region, policies were implemented to mobilize various economic sectors to take advantage of natural resources to boost exports. As of now, the Northwest region has developed many key export products such as agricultural products (rice, coffee, tea), minerals, aquatic products, and processed goods from agricultural and forestry products. These products not only meet domestic demand but

are also exported to many countries, particularly large markets such as China, Japan, and European countries. In 2000, the export value of the region was USD 19.912 billion, which increased to USD 216.035 billion by 2010, and reached its highest level in 2023 with USD 2.520.163 billion.

State policies on border trade have helped promote exports from border provinces such as Lai Chau, Lao Cai, and Son La. This has created favorable conditions for businesses to export goods to neighboring countries, while also supporting the economic growth of local areas.

Table 02: Export value of 6 provinces in the Northwest region (Mill.USD)

Year	Dien Bien*	Lai Chau	Yen Bai	Son La	Lao Cai	Hoa Binh	Total
2000	275		3,296	2,809	7,177	6,355	19,912
2001	689		3,937	3,976	15,146	12,971	36,719
2002	988		4,021	4,863	19,732	5,444	35,048
2003	690		4,947	3,655	12,100	9,635	31,027
2004	325	258	7,593	3,860	16,472	16,940	45,448
2005	674	634	9,228	2,046	17,144	15,129	44,855
2006	764	366	10,752	4,849	22,956	24,478	64,165
2007	754	1,628	12,578	4,207	23,408	23,231	65,806
2008	3,186	1,929	13,772	5,653	73,863	24,928	123,331
2009	5,200	3,081	17,951	4,677	74,829	27,800	133,538
2010	8,500	3,964	29,332	2,333	134,930	36,976	216,035
2011	10,327	4,117	34,796	6,464	173,829	50,309	272,445
2012	13,885	5,927	46,858	5,481	205,556	65,243	342,950
2013	18,641	4,641	53,704	15,737	407,781	78,850	579,354
2014	24,101	5,584	55,089	104,303	341,274	119,640	649,991
2015	22,815	6,225	68,176	86,387	387,724	249,290	820,617
2016	30,272	5,350	75,853	40,377	296,411	287,460	735,723
2017	39,000	10,300	105,600	68,875	258,300	505,000	987,075
2018	67,001	31,539	130,000	130,000	129,993	116,270	616,150
2019	49,680	8,548	145,744	150,242	154,578	791,900	1.300,692
2020	46,000	3,362	166,000	112,000	160,772	1.032.000	1.520,134
2021	67,016	8,975	182,700	161,210	189,876	1.217,984	1.827,761
2022	73,123	15,411	297,306	174,800	195,435	1.437,230	2.193,305
2023	83,190	38,310	311,110	177,615	214,869	1.695,069	2.520,163
Average value of the period	15,394	16,912	74,597	53,184	147,256	327,088	632,593
Average growth rate (%)	15,5	8,21	21,86	19,76	15,93	27,49	23,43

Source: Statistical Yearbook of 6 provinces, calculation of the author

In addition to Hoa Binh province achieving high export value, Lao Cai province, which shares a border with China, has also achieved significant success in exports. In recent years, provinces in the region have focused on developing infrastructure projects, especially border roads, which have helped connect production areas with domestic and international markets, facilitating exports. The region has also diversified its export markets, not only exporting to neighboring countries but also expanding to global markets. Products from the Northwest are now present in many countries and regions, contributing to the increase in export value and enhancing the region's product branding.

Overall, the success of the Northwest region in exports is attributed not only to its natural resource advantages but also to supportive policies, infrastructure improvements, and efforts to diversify export markets.

The structure of heavy industrial and mineral products accounted for the highest value and proportion in the six commodity groups of the Northwest region, then the agricultural products.

Table 03: Export value of Vietnam and the Northwest region

Year	Viet Nam		Northwest region		Proportion of export value of Northwest / Vietnam (%)
	Total export value (Mill.USD)	Export increase (%)	Total export value (Mill. USD)	Export increase (%)	
2000	14.483	25,5	21,183	20,8	1,46
2001	15.029	3,7	37,905	78,9	2,52
2002	16.706	11,1	36,081	-2,7	2,15
2003	20.149	20,6	33,199	-7,9	1,64
2004	26.504	31,5	46,103	38,8	1,74
2005	32.447	22,5	44,855	-2,7	1,38
2006	39.826	22,7	64,165	43,1	1,61
2007	48.561	21,9	65,806	2,6	1,35
2008	62.685	29,1	123,331	87,4	1,96
2009	57.096	-8,9	133,538	8,3	2,33
2010	72.236	26,5	216,035	61,8	2,99
2011	96.905	34,2	272,445	26,1	2,81
2012	114.529	18,2	342,950	25,9	2,99
2013	132.032	15,3	579,354	68,9	4,38
2014	150.217	13,8	649,991	12,2	4,32
2015	162.016	7,9	820,617	26,2	5,06
2016	176.580	9,0	735,723	-10,3	4,16
2017	214.019	21,2	987,075	34,2	4,61
2018	244.700	14,3	616,150	-21,3	2,51
2019	264.190	15,4	1.300,692	111,1	4,92
2020	281.500	16,4	1.520,134	16,8	5,40
2021	336.310	19,5	1.827,761	20,2	5,43
2022	371.850	21,5	2.193,305	19,9	5,89
2023	356.600	20,6	2.520,163	14,9	7,06
Average growth rate (%)		18,0	-	28,0	-

Source: General Statistics Office

To better assess the export situation of the Northwest region, the table 3 shows the export value of the region compared to the whole country. Although the region's export share remains relatively low in the national export value, this share has increased significantly from 2000 to 2023.

4.2. The relationship between commodity exports and economic growth in Northwest Vietnam

To study the impact of exports on economic growth in the Northwestern region of Vietnam, the author used the co-integrated test method, which was proposed by Perasan (Perasan and parter, 2001). Autoregressive Distributed Lag: ARDL images are constructed as follows:

$$\Delta LGDP_t = \theta_0 + \delta_1 LGDP_{t-1} + \delta_2 LEX_{t-1} + \sum_{i=1}^{k} \lambda_{1i} LGDP_{t-i} + \sum_{i=0}^{k} \lambda_{2i} \Delta LEX_{t-i} + \varepsilon_t \quad (1)$$

According to Perasan and partner (2001), the application of ARDL model consists two steps as follows:

firstly, Using the AIC (Akaike Information Criterion) and SBC (Schwarz Bayesia Information Criterion) standards which select the latency option for the ARDL model. Test long-term co-integration relationship between ARDL model variables by using Wald (F- statistics) test to verify hypothetical pairs: H_0: $\delta_1 = \delta_2 = 0$ and H_1: $\delta_1 = \delta_2 \neq 0$ The Ho hypothesis depends on the statistical value F.

Secondly, if the long-term relationship between the variables has been confirmed through the Wald test, the long-term regression coefficients will be estimated in terms of equations (08) with the ARDL model latency. Then the short-term relationship between variables is also estimated with the Error correction model (ECM) as follows:

$$\Delta LGDP_t = \alpha_2 + \sum(i = 1)^k * \lambda_{1i} \Delta LGDP_{ti} + \sum(i = 0)^k * \lambda_{2i} \Delta LEX_{ti} + \Psi ECM_{t-1} + \varepsilon_{1t}$$

The ECM error correction is the remainder of the long-term regression results according to the previous ARDL model. Data used for the study are yearly data from 2000 to 2017, variables before being included in the calculation are adjusted by the author according to the original year price 2000.

Stopping tests are performed through a unit root test for variables in the model. The study used standards of Augmented Dickey-Fuller and Phillip Perron.

Table 04: Unit root test results

Variables	ADF		PP	
	I(0)	I(1)	I(0)	I(1)
LGDP	-3,840824**	-4,015944**	-3,840824**	-4,098287**
LEX	-2,053656	-5,319805***	-1,976434	-5,246424***

*Note: ***, **, * are stationary series corresponding to 1%, 5%, 10% significance*

The LGDP variable is the stop sequence I (0) according to ADF and PP standards with a significance level of 5%. With the variable LEX is the stop chain I (1) according to ADF and PP standards with a significance level of 1%.

Table 05: Results of Pearson co-integration test

F-statistics 22.532	90%		95%		99%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
Critical value	3,17	4,14	3,79	4,85	5,15	6,36

Implementing Wald (F-statistic) test to calculate statistical value F = 22,532, hypothesis: H_0: δ_1 = δ_2 = 0 is rejected with a statistically significant level of 1% and has sufficient basis to conclude between variables in the model have a long-term co-existence relationship. Continue to estimate the ARDL (1.0,0) model to determine the regression coefficients that describe the long-term and short-term relationships between exports and economic growth in the Northwest during the study period. The estimated results are as follows.

Table 06: Estimating model of long-term coefficients

The dependent variable is LGDP

Variable name	Coef	Std. Err	t	P>
LEX	0,54492	0,0460	11,84	0,000
C	5,04444	0,23254	21,29	0,000
R^2 = 0,89 Serial Correlation LM Test: = 0,014 [0,9071] Heteroskedasticity Test: χ2 = 3,57 [0,0585]				

Table 07: Estimating model of short-term coefficients

The dependent variable is ΔLGDP

Variable name	Coef	Std. Err	T	P>
ΔLGDP(-1)	0,4044518	0,0561502	7,20	0,000
ΔLEX	0,1509376	0,0568475	2,66	0,021
ECM(-1)	0,1816361	0,083664	2,17	0,051
C	0,1153255	0,0204263	5,65	0,000
= 0,9 Serial Correlation LM Test: = 0,515 [0,431] Heteroskedasticity Test: χ2 = 0,53 [0,4658]				

The ARDL (1.0,0) model estimation results show that in long-term exports (LEX) have a positive relationship with economic growth (LGDP) with 1% statistical significance, if exports increase by 1%, the rate of economic growth also increases by 0.54%. In the study, the estimation results of the ECM model determine the short-term relationship between exports and economic growth in Northwest of Vietnam. The results show that in the short-term exports (LEX) have a positive relationship with economic growth (LGDP) with a 5% statistical significance. Finally, the coefficient of correction error (ECMt-1) of 0.181 is statistically significant at 10%, indicating a short-term correction rate of long-term equilibrium after impact shocks.

The results of this study have been clearly explained, through estimating the coefficients in the short and long term, exports all have a positive impact on economic growth, which is a new step compared to previous studies. The diagnostic tests of autocorrelation and variance error change show that the basic conditions of econometrics on the reliability of regression results are guaranteed.

5. Conclusions and policy implications

The economy in the Northwest of Vietnam has achieved many important targets, the structure

shifted in a positive direction, compliance with the trend of promoting the export of goods of the region. Although the scale and quality of goods in the provinces in the Northwest region have not developed as expected, the export value has prospered which increased every year. The region's share of export value compared to the whole country is still modest, but it plays an important role in Vietnam's export promotion strategy.

The results of ARDL model have explained clearly the positive impact of exports on economic growth. The assessment of this relationship is important in Vietnam's policy orientation in the coming years in order to improve the efficiency of international integration and expand export markets.

Several policies and strategies shall be proposed, with the aim of fostering an effective mutual relationship between exports and economic growth in the Northwest region of Vietnam, as follows:

Active export strategy combined with strengthening economic development: It is necessary to apply technology in production and use resources efficiently, protect the environment, and focus on developing high-quality human resources at the local level and more broadly across the Northwest region. Emphasis should be placed on promoting exports based on a sustainable and rational growth model that balances breadth and depth, quantity and quality, with a long-term vision and strategic focus.

Supply for goods export to stabilize the market: Diversifying the supply for export goods is indispensable to localize the added value of exports, reduce excessive dependence on some partners leading to high risks, to meet the objective requirements of rules of goods origin. Satisfying the requirements of customers in terms of quantity and quality of goods, improving the reputation of enterprises in the market, high growth. This will meet the needs, not only one or several small markets but also meet the needs of many other markets with high value orders.

Restructuring export products contributing to restructuring the economy: The structure of the economy in the Northwest shifted positively as a foundation to boost the restructuring of the export market, this is one of the key solutions to develop and expand the export market of the Northwest region next time. It is necessary to gradually reduce the growth model of production and export of raw products on the basis of exploiting the advantages of resources to switch to the export model of processed products with increasing economic value and added value.

Enhancing the image, branding, and affirmation of the quality of export products: Focusing on convincing customers to consume export products is an urgent requirement in the context of increasingly deep global integration. This involves not only enhancing product quality, design, and branding, but also ensuring compliance with international standards on safety, sustainability, and traceability. Exporters need to invest in technology, innovation, and green production processes, while strengthening value chains and building reputable brands in foreign markets. Additionally, expanding market research and customer insights, optimizing logistics, and actively participating in trade fairs and e-commerce platforms will significantly contribute to elevating the position of Vietnamese export products on the global stage.

Continue to effectively implement export support policies to promote sustainable economic growth: Exports not only bring in a substantial source of foreign currency, but also stimulate domestic production, expand business scale, create jobs, and improve people's living standards. When export activities grow steadily, the economy gains a solid foundation for long-term development. Export support policies help enterprises enhance their competitiveness, access market information, and meet technical standards and strict regulations set by importing countries. This is especially crucial in the context of globalization and the rise of protectionism.

Refercences:

Bahramian, P., & Saliminezhad, A. (2020). On the relationship between export and economic growth: A nonparametric causality-in-quantiles approach for Turkey. The Journal of International Trade & Economic Development, 29(1), 131-145. https://doi.org/10.1080/09638199.2019.1648537

Chiwira, O., Muchingami, L., & Jambani, L. (2023). Exports and economic growth: Relationships and threshold analysis for the Southern Africa Customs Union. International Journal of Research in Business and Social Science, 12(8), 274-288. https://doi.org/10.20525/ijrbs.v12i8.2912

Kulu, E. (2024). Relationship between export and economic growth: Evidence from West African countries. The Indian Economic Journal, 72(2), 287-302. https://doi.org/10.1177/00194662231212756

General Statistics Office of Vietnam (GSO). (2014). Statistical yearbook of Vietnam 2013. Statistical Publishing House.

Le, D. V. (2013). Scientific arguments for building a sustainable import-export policy of Vietnam in the period 2011-2020. Hanoi.

Rui-Napole, P. (2001). Liberalization, export and growth in Mexico 1978-94: A structural analysis. International Review of Applied Economics, 15(2), 173-189.

Nguyen, T. H. (2016). Impact of export on economic growth in Vietnam: Empirical research and recommendations. International Business and Management, 13(3), 45-52.

Heo, Y., & Doanh, N. K. (2009). Trade liberalisation and poverty reduction in Vietnam. The World Economy, 32(6), 934-964. https://doi.org/10.1111/j.1467-9701.2009.01183.x

Nguyen, T. M. (2020). Regional export dynamics and economic growth in Vietnam. Journal of Asian Business and Economic Studies, 27(1), 85-98. https://doi.org/10.1108/JABES-10-2019-0090

World Bank. (2020). World Development Indicators. Washington, DC: World Bank. https://databank.worldbank.org/source/world-development-indicators