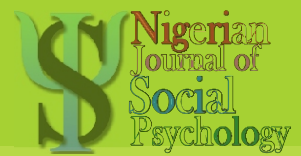


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Cross-border Trade and Economic Growth in Nigeria: a Kernel-based Regularised Least Squares Approach

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Abstract

Following recent innovations to foreign trade policies of the Nigerian government, this study investigated the relative impacts of export earnings, import value, and trade openness on the Nigerian economy using annual time series data for the period 1981-2022. The preliminary unit root test from the Dickey-Fuller test indicated that the series are integrated of order one. This was confirmed by further tests using the Phillips-Perron and the Zivot-Andrews tests. However, a cointegration test using the Engle-Granger test indicated that the series are not cointegrated towards long-run equilibrium. Results from the vector autoregression (VAR) were unconvincing prompting us to employ the Kernel-based regularized least squares (KRLS). We found that GDP growth rate increases by 0.044% for every 1% increase in the value of exports; a percentage growth of imports value results in a 0.131% increase in GDP growth rate; and -0.18 percentage loss of GDP growth is associated with a one per cent increase in the index of trade openness. This implies that greater trade openness hurts the Nigerian economy. The study concludes that the Nigerian economy will benefit more meaningfully from international trade by prioritizing exports over imports. The federal government of Nigeria should therefore implement economic policies that stimulate macroeconomic stability, which will help increase the country's competitive edge in the global economy.

Keywords: *International trade; Economic Growth; Export; Import; KRLS*

1.0 Introduction

External trade is a crucial component of the macroeconomic policy necessary for growth and socio-economic well-being. This is because a free trade situation results in overall global welfare gains as each trading nation will maximize output based on the doctrine of relative comparative advantage and/or factor endowments. It is expected that trade openness would foster the export of labour-intensive products thereby generating gains in labour employment and poverty alleviation. Within the past four decades, Nigeria's government has tried to pursue innovative trade and exchange rate policies aimed at encouraging external trade. In some cases, export duties were slashed, export restrictions were cancelled and import licensing for many commodities was abolished. All of these measures resulted in a huge inflow of imported goods into the Nigerian market. For instance, between 1985 and 2003, the real exchange rate of the Naira had depreciated by more than 95% thereby further worsening the terms of trade. The food export-import gap which had been reduced in the early part of the 1980s has since been widened. With seemingly favourable government policies, the value of Nigeria's total trade increased from 23.8 million Naira in 1981 to 54.4 billion Naira in 2023 (Central Bank of Nigeria, 2023). However, the trade balance was unfavourable for 9 years across the two periods.

Although the period 1981-2023 saw an average GDP growth of 3.27%, this was due to outliers in 1990 (11.78%), 2002 (15.33%) without which the average annual growth rate would be lower than 2%. Despite the increase in net export in recent years, GDP growth has

been unsatisfactory, resulting in poor standard of living, low per capita income, poverty and high unemployment rate in the country. Previous empirical studies such as Shido-Ikwu, et al. (2023), Chilasa et al., (2023), Bisiriyu et al. (2021), and Abendin and Duan (2021) have shown conflicting results regarding the impact of cross-border trade on economic growth in Nigeria. This study therefore reassessed the relationship using a larger sample and a relatively new method – the Kernel-based regularised least square – which the aforementioned studies did not apply. Consequently, the study aims to determine the extent to which exports, imports, and trade openness impact economic growth in Nigeria.

2.0 Related literature

2.1 Theoretical support: the comparative advantage theory

Comparative advantage is an economic theory attributed to the British economist David Ricardo in the 19th century (Samuelson, 1995). The theory argues that countries can benefit from trading with each other by focusing on making the things they are best at making, while buying the things they are not as good at making from other countries (Montevirgen, 2024). This theory is based on the idea that every country has different cost structures and opportunity costs (costs in terms of other goods given up). By focusing on their strengths, they can produce more efficiently. Ricardo's research demonstrated that even if one country can make everything more efficient than another country, international trade is still beneficial. The theory of comparative advantage supports free trade and specialization among countries.

Comparative advantage is a key principle in international trade and forms the basis of why free trade is beneficial to countries. The theory of comparative advantage shows that even if a country enjoys an absolute advantage in the production of goods, trade can still be beneficial to both trading partners. This is why the theory is relevant to the present study. Nevertheless, the comparative advantage theory is not without criticisms. Notable criticisms include that transport costs may outweigh any comparative advantage, increased specialization may lead to diseconomies of scale, governments may restrict trade, the theory only considers labour costs and neglects all non-labour costs involved in the production of the commodities, and that the theory assumes all labour to be homogeneous. These criticisms notwithstanding, the comparative advantage theory encourages free trade which can benefit not only advanced countries but more importantly developing countries.

2.2 Empirical review

2.2.1 Impact of export and import on economic growth

The study by Shido-Ikwu et al. (2023) investigated the impact of international trade on Nigeria's economic growth for the period 1981-2019. The authors used the autoregressive distributed lag (ARDL) approach and found a long-run relationship among the variables. The error correction results indicate that only export trade has a significant impact on Nigeria's economic growth over the study period.

Chilasa, Ezechi, and Edem (2023) investigated the extent to which international trade impacted the Nigerian economy between 1986 and 2018. The authors revealed that a relationship exists between international trade and economic growth and that export trade exerted a positive and significant effect on growth. Likewise, Bisiriyu, et al (2021) examined the relationship between trade integration and Nigeria's economic growth for the period 1981-2019. The authors employed the cointegration approach and found that export, trade openness, and import have a positive impact on economic growth of Nigeria in the long run. The study by Abendin and Duan (2021) examined the impact of international trade on Africa's economic growth based on a 53-country sample from 2000-2018 while highlighting

the role of the digital economy in the relationship. The authors divided the sample into five sub-regions, and the models were estimated by pooled ordinary least square (POLS), random and fixed effects, and the generalised method of moment (GMM) techniques. The findings showed that trade only has positive effects on economic growth when interacting with the digital economy in the POLS estimations; trade has a significantly positive impact on economic prosperity without and with the interactive term in the random effect, fixed effect, and the system generalized method of moments (GMM) estimations.

Likewise, the relationship between the export and import of goods and services and economic growth per capita for the BRICS countries (Brazil, Russia, India, China, and South Africa) were examined by Bhattacharya and Bhattacharya (2016) using panel unit root, panel cointegration, Granger causality test, FMOLS and DOLS. The results showed that all three variables are co-integrated and that the export of goods and services and the import of goods and services Granger cause economic growth per capita in the long run. The study concludes that the export-led growth hypothesis holds for the BRICS countries.

In Nigeria, Yusuf, Adekanye and Babalola (2020) examined how foreign trade impacted the GDP from 1986 to 2017. The authors used the OLS method and reported that there is a negative connection between foreign trade and GDP per capita. Similarly, Agbo, Agu and Eze (2018) assessed how international trade affected economic growth in Nigeria over the period 1980-2016 and reported that export trade significantly improved the nation's GDP whereas import trade had no significant effects on the expansion of the Nigerian economy.

2.2.2 Impact of trade openness on economic growth

Ekanayake et al (2023) used data on trade disaggregated by the level of technological sophistication of the production process for a total of 223 countries over the period 1962-2019 and found that the effects of foreign trade on income are not the same across technology categories. Likewise, Abdulkarim (2023) interrogated the dynamic interface between trade openness and economic growth in Nigeria over the period 1980-2020. The study found that oil exports and imports have negative impacts on Nigerian economic growth while non-oil imports supported long-term inclusive growth.

Omoke and Opuala-Charles (2021) explored the link between trade openness and Nigeria's economic growth taking institutional quality into account for the period 1984-2017. ARDL method was used and it was found that import trade has a significant negative influence on economic growth whilst export trade has a significant positive impact on economic growth. These findings mirror those of Elijah and Ahmed (2019).

Earlier, Onuorah (2018) examined trade liberalization and economic growth in Nigeria. The findings revealed that trade balance or net export has a positive significant impact on GDP while exchange rate and balance of payments exert a negative impact on the economic progress of the country. Similarly, Agbo, Agu and Eze (2018) reviewed the impact of international trade on the economic growth of Nigeria. The results of the study showed that there is a significant impact of export trade on Nigerian economic growth. The study also revealed that there is no significant impact of import trade on Nigerian economic growth.

Afolabi et al (2017) examined the impact of international trade on economic growth in Nigeria. The study used time series data for 1981-2014 and reported that import and export are all positively significant while exchange rate and foreign direct investment are negatively insignificant to the growth process of the Nigerian economy. These studies revealed mixed results and none of them employed the Kernel-based regularised least square (KRLS).

3.0 Methodology

3.1 Model specification and source of data

The model formulated to assess the impact of cross-border trade on Nigeria's economic growth follows the work of Oviemuno (2007). The model is a modified form of that used by Lucas (1988). In Lucas's model the index of trade liberalization only includes exports and degree of openness but in the modified model, import and the exchange rate are added so as to reflect international trade for an open economy like Nigeria. The theoretical model follows the comparative cost theory which links external trade to economic growth. Thus,

$$\text{GDP} = f(\text{International trade}) \quad 1$$

By substituting the international trade components, the model becomes,

$$\text{GDP} = f(\text{EXP, IMP, TOP, EXR}) \quad 2$$

It is stated in log-linear form as

$$\log \text{GDP}_t = \beta_0 + \beta_1 \log \text{EXP}_t + \beta_2 \log \text{IMP}_t + \beta_3 \log \text{TOP}_t + \beta_4 \log \text{EXR}_t + \mu_t \quad 3$$

Where GDP is gross domestic product, EXP is export value, IMP is import value, TOP is trade openness measured as the ratio of total trade to the GDP, and EXR is exchange rate. β_0 is the intercept of the regression line, $\beta_1 - \beta_4$ are the regression parameters associated with the explanatory variables.

Data were obtained from the Central Bank of Nigeria Statistical Bulletin of 2023 for the period 1981-2022 for real GDP, total export, total imports, and exchange rate (Naira/1\$ US). The data is available at: <https://statistics.cbn.gov.ng/shop>. We thereafter used the trade and GDP data to compute the trade openness data.

3.2 Estimation Procedure

First, we conducted a preliminary test on the data using unit root tests. We used three methods, namely, the Dickey-Fuller, Phillips-Perron, and Zivot-Andrews tests, to establish the order of integration of each series. Based on the results of the unit root test, we conducted a co-integration test using the Engle-Granger test and then employed the vector autoregression (VAR) method to estimate the empirical model of the study. Furthermore, to resolve any doubts about the true functional form of the model, we employed the Kernel-based regularized least squares approach to estimate the empirical model. Lastly, we investigated the nature of the causal relationship between export and import earnings and the GDP using the Spectral (Frequency domain) Granger causality test. The regression results were used to test the research hypotheses of the study.

4.0 Results

4.1 Unit root test result

We used three different unit root tests: (i) Dickey-Fuller (ii) Phillips-Perron and (iii) Zivot-Andrews, to establish the order of integration of the variables of the study. The latter takes care of structural breaks in the data which is desirable. The decision regarding the final order of integration was made based on the majority result for each variable across the different unit root tests. The summary of each result is presented below.

Table 1: Summary of Dickey-Fuller unit root test result

Series	Z-Test statistic	5% Critical value	P-value	Z-Test statistic	5% Critical value	P-value	Order of Integration
Level				(1 st Difference)			
LGDP	0.892	-2.955	0.993	-4.032	-2.958	0.0013	I(1)
LEXP	-1.277	-2.955	0.6397	-6.634	-2.958	0.0000	I(1)
LIMP	-0.793	-2.955	0.8211	-7.281	-2.958	0.0000	I(1)
TOP	1.129	-2.955	0.9955	-5.378	-2.958	0.0000	I(1)
LEXR	-2.192	-2.955	0.2091	-5.419	-2.958	0.0000	I(1)

Source: STATA 16 results, 2025

A data set is stationary at 5% when the p-value of the test statistic is less than 0.05. The result in Table 1 is a summary of the unit root test based on the Dickey-Fuller test. The result shows that all the variables have unit root at level but are stationary at first difference. Thus, the series have the same order of integration, namely, order one.

Table 2: Summary of Phillips-Perron unit root test result

Series	Z-Test statistic	5% Critical value	P-value	Z-Test statistic	5% Critical value	P-value	Order of Integration
Level				(1 st Difference)			
LGDP	0.423	-2.955	0.9823	-3.936	-2.958	0.0018	I(1)
LEXP	-1.363	-2.955	0.5999	-6.714	-2.958	0.0000	I(1)
LIMP	-0.793	-2.955	0.8211	-7.225	-2.958	0.0000	I(1)
TOP	-1.480	-2.955	0.9974	-5.291	-2.958	0.0000	I(1)
LEXR	-2.251	-2.955	0.1883	-5.412	-2.958	0.0000	I(1)

Source: STATA 16 results, 2025

The Phillips-Perron result in Table 2 shows that all the variables have unit root at level which disappears at first difference. The results confirm those of the Dickey-Fuller test.

Table 3: Summary of Zivot-Andrews unit root test result

Series	Z-Test statistic	1% Critical value	5% Critical value	Z-Test statistic	1% Critical value	5% Critical value	Order of Integration
Level				(1 st Difference)			
LGDP	-3.164	-5.34	-4.80	-4.825	-5.34	-4.80	I(1)
LEXP	-2.950	-5.34	-4.80	-7.135	-5.34	-4.80	I(1)
LIMP	-3.758	-5.34	-4.80	-7.815	-5.34	-4.80	I(1)
TOP	-1.945	-5.34	-4.80	-6.024	-5.34	-4.80	I(1)
LEXR	-2.616	-5.34	-4.80	-6.134	-5.34	-4.80	I(1)

Source: STATA 16 results, 2025

The result in Table 3 shows that all the variables have unit root at level but are stationary at first difference, based on results from the Zivot-Andrews test. The results confirm those of the Dickey-Fuller and Phillips Perron tests, that all the series are integrated of order one.

4.2 Cointegration test and vector autoregression (VAR) results

Since the variables have the same order of integration, we therefore checked whether the series are co-integrated using the Engle-Granger test.

Table 4: Cointegration test result

Engle-Granger test for cointegration				N (1st step) = 42
				N (test) = 41
	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	Value	Value
Z(t)	-1.781	-5.518	-4.765	-4.396
Critical values from MacKinnon (1990, 2010)				

Source: STATA 16 results, 2025

The null hypothesis is that of no cointegration. The Test statistic in Table 4 is -1.781 and it is smaller than the 5% critical value (-4.765) in absolute terms. The result implies the non-rejection of the null hypothesis which implies that the series are not co-integrated. We are therefore restricted to short-run analysis using vector autoregression (VAR).

Table 5: VAR lag order selection result

Selection-order criteria									
Sample: 1985 - 2022					Number of obs = 38				
lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC	

0	-57.815				.000019	3.30605	3.38271	3.52152	
1	146.151	407.93	25	0.000	1.5e-09*	-6.11323	-5.65325*	-4.82039*	
2	167.167	42.032	25	0.018	2.0e-09	-5.90353	-5.06023	-3.53334	
3	187.159	39.984	25	0.029	3.2e-09	-5.63995	-4.41334	-2.1924	
4	223.474	72.63*	25	0.000	2.7e-09	-6.23548*	-4.62555	-1.71057	
Endogenous: lgdp lexp limp top lexr Exogenous: cons									

Source: STATA 16 results, 2025

The result in Table 5 means that the optimal lag order is 1, going by the majority of the information criteria: Final Prediction Error (FPE), Hannan-Quinn (HQIC), and Bayesian information criterion (SBIC), although the Akaike information criterion suggests 4 lags.

Table 6: VAR result

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
lgdp						
lgdp						
L1.	1.026312	.1557634	6.59	0.000	.7210212	1.331602
L2.	-.1285027	.1516714	-0.85	0.397	-.4257733	.1687678
lexp						
L1.	.0501827	.0240206	2.09	0.037	.0031032	.0972622
L2.	-.014727	.0229788	-0.64	0.522	-.0597645	.0303106
limp						
L1.	-.0366712	.015029	-2.44	0.000	-.086517	.0131747
L2.	-.0119909	.0047208	-2.54	0.000	-.05536	.0313781
top						
L1.	-.0937438	.1292754	-0.73	0.468	-.347119	.1596314
L2.	.3631806	.1473917	2.46	0.014	.0742982	.652063
lexr						
L1.	.0266216	.0190807	1.40	0.163	-.0107758	.064019
L2.	.0034166	.02234	0.15	0.878	-.0403689	.0472021
cons	1.100678	.4031144	2.73	0.006	.3105881	1.890768

Source: STATA 16 results, 2025

The result in Table 6 means that a 1 per cent GDP growth in the previous year (one-year lag) produces a 1.03 per cent significant increase in GDP growth in the present year (short run growth); a 1 per cent growth of export in the previous year (L1.LEXP) produces a 0.05 per cent significant increase in GDP growth in the present year; a 1 per cent growth of import in the previous year (one-year lag or L2.LIMP) produces a -0.04 per cent loss of GDP growth in

the present year while same percentage growth of export two years back (L2.LIMP) results in a -0.012 percentage loss in GDP growth in the current year. Also, the second lag of exchange rate exerts a positive influence on GDP growth, pushing it up by 0.36 per cent, significant at the 5% level, *ceteris paribus*; however, exchange rate appears to have insignificant impact on the short run GDP growth.

4.3 Kernel-based regularized least squares (KRLS) result

We employed the KRLS in the present study to further investigate the impact of cross-border trade on economic growth in Nigeria to overcome the functional form bias. The KRLS draws from Regularized Least Squares (RLS), a machine learning technique designed to solve regression and classification problems without relying on linearity or additivity assumptions (Hainmueller & Hazlett, 2014). It blends flexibility with interpretability, making it fit for a wide range of regression and classification problems where the correct functional form is unknown.

Table 7: KRLS result

lgdp	Avg.	SE	t	P> t	P25	P50	P75
lexp	.043872	.009767	4.492	0.000	.017849	.039998	.068516
limp	.13074	.011942	10.948	0.000	.050625	.111593	.203142
top	-.177931	.082766	-2.150	0.038	-.461973	-.1734	.075195
lexr	.078772	.013631	5.779	0.000	-.005025	.088229	.175796

Source: STATA 16 results, 2025

The result in Table 7 means that a one per cent increase in the value of total exports results, on average, in a 0.044 per cent increase in GDP growth in the current year (short-run) significant at the 1 per cent level, other factors held constant; similarly, a one per cent increase in the value of total imports yields, on average, a 0.13 per cent increase in GDP growth in the current year significant at the 1 per cent level, other factors remaining the same. On the other hand, a percentage increase in the trade openness index results in, on average, a -0.18 per cent loss of GDP significant at the 5 per cent level; whereas a percentage increase in the Naira/Dollar exchange rate (Naira depreciation) results in, on average, a -0.08 per cent gain of GDP significant at the 1 per cent level, other factors held constant.

4.4 Spectral Granger (Frequency Domain) causality test result

The concept of Granger causality implies that the causal variable can be used to forecast the future values of the effect variable. Breitung and Candelon (2006) developed a Granger causality test in frequency domain that is easy to implement. The test can be used to determine whether a particular component of the “cause” variable at frequency ω is useful in predicting the component of the “effect” variable at the same frequency one period ahead. Frequency domain or spectral analysis aims at decomposing variability in a time series into its periodic components, allowing us to determine relatively more important frequencies that contribute to fluctuations in the variable (Tastan, 2015).

Table 8: Spectral Granger causality result for lnEXP and lnIMP

PANEL A

Conditioning type is = geweke

Granger-causality from lexp to lgdp conditional on limp top lexr

H0: No Granger-causality from lexp to lgdp at frequency $w = 0.20$

Wald test statistic = 5.1990

p-value = 0.0473

PANEL B

Conditioning type is = geweke

Granger-causality from limp to lgdp conditional on lexp top lexr

H0: No Granger-causality from limp to lgdp at frequency $w = 0.20$

Wald test statistic = 4.8837

p-value = 0.0870

Source: STATA 16 results, 2025

In the result in Panel A of Table 8, the null hypothesis of ‘No Granger-causality from LEXP to LGDP at frequency $w = 0.20$ ’ is rejected at the 0.05 critical level and in Panel B, the null hypothesis of ‘No Granger-causality from LIMP to LGDP at frequency $w = 0.20$ ’ is accepted at the 0.05 critical level. The results suggest that export earnings strongly help to explain Nigeria’s GDP whereas import payment accounts little in explaining the GDP at the stated frequency domain.

5.0 Discussion

5.1 Export earnings and economic growth in Nigeria

The study obtained a regression coefficient of 0.044 for the export variable (LEXP) in the KRLS result. This means that a 1 per cent increase in the value of export or export earnings will stimulate a 0.044 per cent increase in Nigeria’s GDP growth. In other words, a 10 per cent growth in export earnings in the current year will result in a 0.44 per cent increase in the GDP growth rate. In the same vein, if export earnings were to double its size within a given year, then the GDP growth rate would rise by 4.4 per cent.

We obtained a similar result from the VAR model for lag values of export earnings. The result revealed that a one per cent increase in the first lag of export earnings (L1.LEXP) contributes about 0.05% to the country’s GDP growth rate in the current year and the result is significant at the 5% level. The findings suggest that export earnings have a positive and significant impact on economic growth in Nigeria. Exports of goods and services in Nigeria accounted for 10.74% of GDG in 2021 and 11.2% in 2022 (World Bank, 2022).

Nigeria’s top five export destinations in 2023 second quarter were The Netherlands (11.24%), the United States of America (10.24%), Indonesia (7.84%), France (7.71%) and Spain (7.19%) of total exports. Altogether, exports to the top five countries amounted to 44.23% of the total value of exports (National Bureau of Statistics, NBS, 2023). According to the source, the largest export items of the country in 2023 were ‘Petroleum oils and oils obtained from bituminous minerals, crude’, ‘Natural gas, liquefied’ and ‘Urea, whether or not in aqueous solution’ in that order.

Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services, but exclude compensation of employees, investment income or factor services, and transfer payments (NBS, 2023). The results are similar to those of previous studies such as Shido-Ikwu et al.

(2023), Chilasa et al (2023), Bisiriyu et al (2021), Abendin and Duan (2021), Afolabi et al (2017). However, the results are different from those of previous studies such as Yusuf, Adekanye and Babalola (2020), Omoke and Opuala-Charles (2021) in Nigeria.

5.2 Import earning and economic growth in Nigeria

The study found that import earnings have a positive and significant impact on economic growth in Nigeria. The KRLS results revealed that a percentage increase in import earnings results in a 0.13% increase in the GDP growth rate on average, holding every other factor constant. However, results from the VAR model appear to suggest that the variable exerts a negative influence on the response variable, the GDP, though the regression coefficient is not statistically significant. Remarkably, the regression coefficient for import (0.131) far outweighs that of export (0.044). Thus, compared to export, imports have greater relative impact on the Nigerian economy. The result reflects the reality in Nigeria as it is further proof of the low competitiveness of the nation's export items. The result implies that Nigeria is an import-dependent nation, unfortunately. The country's imports of goods and services in Nigeria were valued at 11.84% of GDP in 2021 and 13.65% in 2022 (World Bank, 2022).

In the second quarter of 2023, China (22.17%), the United States of America (16.09%), Belgium (8.04%), India (7.30%) and The Netherlands (6.46%) constituted the top five import sources to Nigeria (NBS, 2023). The values of imports from the top five countries amounted to 60.05% of total imports. While the commodities with the largest values of imported products were 'Motor Spirit Ordinary' (21.50%), 'Used Vehicles, with diesel or semi-diesel engine, of cylinder capacity >2500cc' (12.82%) and 'Gas oil' (4.03%) (NBS, 2023).

The findings of the present study are similar to those of previous studies such as Bisiriyu et al (2021), and Abendin and Duan (2021). However, the results are different from those of previous studies such as Shido-Ikwu et al. (2023), Yusuf, Adekanye and Babalola (2020), Omoke and Opuala-Charlse (2021), and Afolabi et al (2017).

5.3 Trade openness and economic growth in Nigeria

We found that trade openness (TOP) has a negative and significant impact on economic growth in Nigeria. The KRLS results imply that there is a -0.18% loss of GDP growth for every 1% increase in the trade openness index in Nigeria. A similar result was obtained from the VAR model which shows that the one-year and two-year lags of the variable exert a negative influence on economic growth in the country. The result implies that the Nigerian economy does not benefit from increased trade openness. This is perhaps because of the overbearing effect of imports on the nation's economy.

The TOP index measures the ease of flow of trade in and out of the economy. In this study, it is the ratio of total trade value to the GDP. TOP is associated with low levels of trade barriers and high levels of trade volumes. Lower trade barriers may negatively affect GDP in developing economies, implying that excessive trade openness could impede economic growth. Conversely, increased trade volumes positively affect GDP, highlighting the potential advantages of trade openness for economic growth (Hyun-Jung & Doojin, 2024). The findings of the present study are similar to those of previous studies such as Bisiriyu et al (2021), Onuorah (2018). However, the results are different from those of previous studies such as Nwadike et al (2020), Abdulkarim (2023), Elijah and Ahmed (2019).

6.0 Conclusion

Based on the findings, the study concludes that the Nigerian economy will benefit more meaningfully from international trade by prioritizing exports over imports. Consequently, the federal government of Nigeria should implement policies that promote the volume of exports from the country such as waiver on customs and exercise duties and providing increased access to finance for businesses that produce export goods. Also, the Nigerian government should clamp down on the importation of non-essentials into the country, such as manufactured goods. It is also imperative that the Nigerian government is advised to implement economic policies that stimulate macroeconomic stability, which will help increase the country's competitive edge in the global economy.

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