
TRADE OPENNESS, FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH NEXUS: EVIDENCE FROM NIGERIA

BY

Bernard Olagboyega MUSE

ORCID: 0000-0003-4029-0519

Department of Economics

Bamidele Olumilua University of Education, Science & Technology, Ikere-Ekiti.

muse.bernard@bouesti.edu.ng

Sola OLUWAGBENLE

ORCID: 0000-0003-1880-3541

Department of Economics,

Bamidele Olumilua University of Education, Science and

Technology, Ikere-Ekiti.

Email: oluwagbenle.sola@bouesti.edu.ng

Ireti Olamide OLASEHINDE

ORCID: 0000-0002-6248-0041

Department of Economics

Bamidele Olumilua University of Education, Science and Technology, Ikere – Ekiti

olasehinde.ireti@bouesti.edu.ng

&

Olusesan Samuel AFOLABI

ORCID: 0009-0001-7579-1121

Department of General Studies

Federal University of Technology and Environmental Sciences, Iyin – Ekiti

olusesan.afolabi@futes.edu.ng

Abstract

The study examined the relationship among trade openness, foreign direct investment, and economic growth in Nigeria between 2000 and 2024, using ARDL bound technique. The study examined few specific objectives which examined the impacts of the independent variables (FDI, TOP, INFLR, and INTR) on economic growth (RGDP) and the causality among the variables. Findings showed the establishment of a long-run relationship among the variables. In the long-run, no one variable has significant impact(s) on the economy. In the short-run, FDI likewise interest rate (INTR) showed significant impacts on the economy but the impacts are negative, while openness of trade and inflation rate (INFLR) have positive insignificant impacts on economic growth in Nigeria within the period of study. Therefore, it recommends that government should encourage a healthier foreign direct investment (FDI) in order to create employment and enhance economic growth. Government

should put up policies on trade that will promote trade openness among the neighboring countries so as to create economic expansion, stability and protection.

Keywords: FDI, trade openness, economic growth, Autoregressive Distributed Lag (ARDL), Granger causality

1.0 Introduction

Establishing commercial operations or purchasing assets abroad is recognized as foreign direct investment (FDI), which increases market access while facilitating cash inflows, technological transfer, and management experience. FDI inflows hit \$1.5 trillion in 2019, showing its significant role in global economic activity (UNCTAD 2020).

Alfaro et al., (2004) emphasized that FDI promotes an economy through a number of strategies, including human capital development, competitions, and technology spillovers. Trade openness involves reducing barriers and liberalizing policies to boost economic performance, specialization, efficiency, and innovation (Grima, Kizilkaya, Rupeika-Apoga, Romanova, Dalli, and Jakovljevic2020; Smith 1999; Rodrik 2018; Janis and Elisabeth 2015).

The amount of government-approved projects is supposed to boost FDI inflows to developing nations, but in reality, there hasn't been much support for it. India's open trade policy has boosted FDI and spurred economic growth over the past two decades. Trade openness directly boosts employment, labor efficiency, output, and technical advancement. Therefore, one of the key factors that determines and propels economic progress is openness, which has been overlooked in the research (Kugler, 1991; Khan, Saleem, Shabbir, and Huobao, 2021; Giles and Williams, 2000). However, economic growth is dependent on a number of elements, including social, cultural, policy, and non-policy aspects, in addition to FDI and trade openness. For example, economic factors like GDP per capita, human capital, investment levels, trade, and financial development influence economic outcomes (UNCTAD, 1999).

Trade openness as well as FDI are indispensable to economic upward, regional integration, and global competitiveness in the European Union (EU). European has influenced both local and global trade, and flows of investment as one of the biggest economic blocs in the world (Branislav and Mladen 2016). In order to promote innovation, employment, and structural change, EU countries have both drawn and contributed to FDI (Dornean and Oanea 2015).

Examining the connectivity among FDI, trade openness (TOP), and Nigerian economy (RGDP) between 2000 and 2024 is the goal of the study. Its specific goals are to examine how FDI and TOP affect economic growth and to look into the causal relationship between the variables.

2.1 Literature Review

FDI and trade openness drive economic growth and shape international economic relations. A solid theoretical foundation is needed to understand their relationship and inform economic theory. According to neoclassical economists, FDI and other capital additions directly boost economic growth by raising an economy's potential for production (Solow 1956). According to this concept, foreign direct investment (FDI) enhances domestic investment and promotes capital accumulation, technological advancement, and efficiency gains (Barro and Sala-i-Martin 1992).

By highlighting the importance of transfer of technology, understanding spillovers, and skill expansion as crucial processes via which FDI boosts productivity growth, endogenous growth theorists expand on this claim (Grossman and Helpman 1991; Romer 1986). Based on Romer's model, foreign direct investment facilitates the existence of technological know-how, allowing host economies to more successfully integrate into global value chains. Additionally, FDI can promote knowledge transfer and skill development, while boosting local investment and job growth (Blomström and Kokko, 2003).

Dependency philosophers, on the other hand, offer a more critical perspective, contending that rather than promoting self-sustaining prosperity, FDI may instead increase economic dependency. Relying on foreign technology and capital can create structural imbalances, making host nations dependent on multinationals (Prebisch, 1950; Cardoso, 1977).

Macroeconomic metrics like real GDP and GDP growth rate are frequently recycled to measure economic growth. Although a lot of research has ignored the changing association among GDP, trade, and FDI, economies with high GDP per capita are often considered developed (Bazán, Ciro, and Víctor 2022; Kevin 2016; Shiri 2023). It is commonly acknowledged that trade openness and FDI are key factors in economic growth, especially in economies that are globally connected.

2.2 Empirical Literature

Yeboah, Baffour, Chibalamula, and Atiso (2025) used World Bank data (1995–2021) to investigate the impacts of trade openness and FDI on economic growth in nine (9) European nations, using Pooled Mean Group (PMG) and Autoregressive Distributed Lag (ARDL) model to achieve the objectives. The results demonstrated that FDI has a favorable short-term effect on economic growth but a detrimental long-term effect. Similarly, trade openness promotes growth in the near term but has a detrimental long-term impact on economic growth. Although it has no immediate impact on GDP per capita, gross fixed capital formation eventually makes a beneficial contribution. Granger causality studies showed that there was a bidirectional causality between fixed production and trade openness, but a unidirectional causal relationship between GDP per capita and both. These results point to the necessity of balanced policy actions to minimize long-term dangers and optimize the advantages of FDI and trade openness.

Okere et al. (2022) examined Nigeria's trade openness, FDI, and economic growth (1982-2018), using Bayer-Hanck cointegration and augmented ARDL methods, which have accounted for the 2007-2008 global crisis and 2016 commodity crisis. Findings showed that global crisis has slowed down growth, negative interactions between trade, FDI, and crisis dampened growth relationships. Long-term FDI-crisis impact was more significant than short-term.

Ari, Jibir, and Hassan (2022) used ARDL bound technique to investigate the relationship between trade openness, FDI, and Nigeria's economy between 1996 and 2019. The results demonstrated the short- and long-term interactions between FDI and capital stock and economic growth. Both the short and long terms are negatively impacted by trade openness. Furthermore, there is a strong negative correlation between economic growth and labor force participation, inflation, and corruption.

The long-term and causal relationship between foreign direct investment (FDI) inflows, trade openness, and economic growth from India was investigated by Kumari, Shabbir, Saleem, Khan, Abbasi, and Lopez (2021). In this work, the Johansen cointegration and vector autoregression (VAR) model were used to annual time series data from 1985 to 2018. The results indicated that none of the three variables mentioned above had a long-term association. Additionally, a bidirectional correlation was validated by the VAR Granger causality results, which showed that FDI causes economic growth and economic growth causes FDI. On the other hand, our analysis discovered no reciprocal causal relationship between economic development and trade openness.

Saleem & Shabir (2020) found trade openness drives economic growth in Pakistan, Nepal, India, and Sri Lanka, but not Bangladesh, using ARDL (1975-2016 data). Kong et al., (2020) found trade openness boosts economic growth quality, considering exchange rate fluctuations (1994-2018).

Alam and Sumon (2020) examined the relationship between trade openness and financial development for 15 Asian countries between 1990 and 2017. They found that trade openness positively impacts economic growth in 15 Asian countries (1990-2017), using cointegration and causality techniques.

Oana (2018) evaluated the importance of FDI and local investment in driving export performance in EU States between 1999 and 2012, discovering diverse effects across different sectors and nations. The author found that FDI and local investment impacted EU export performance differently across sectors and nations (1999-2012). Majid & Elahe (2016) found short-term causality between GDP and FDI in developing Europe and Asia, while Nikolaos & Pavlos (2018) highlighted FDI's role in labor markets and trade-growth links in 15 EU countries, emphasizing the significance of FDI in labor market dynamics and the causal links among trade, unemployment, and economic growth.

3 Methodology

The model of the study was adapted from the work of Yeboah *et al.*, (2025) which was modified to model 1 of the study as thus;

$$GDPPC_t = f(FDI_t, TOP_t, GFCF_t)$$

Model 1: This is to examine the relationship among FDI, openness of trade and economic growth in Nigeria between 2010 and 2024.

$$RGDP_t = f(FDI_t, TOP_t, INTR_t, INFLR_t) \dots\dots\dots (1)$$

Where:

RGDP = real gross domestic product

FDI = foreign direct investment

TOP = trade openness

INTR = interest rates proxied by real interest rates

INFLR = inflation rate

Equation 1 can be written in econometrics form as follows;

$$RGDP_t = \alpha_0 + \alpha_1 FDI_t + \alpha_2 TOP_t + \alpha_3 INTR_t + \alpha_4 INFLR_t + u_t \dots\dots\dots (2)$$

Where:

$\alpha_1 - \alpha_4$ = parameters to estimate

u_t = error terms

4 Results and Discussion

Table 1: Descriptive Statistics

	FDI	RGDP	INFLR	INTR	TOP
Mean	1.356000	3.426800	13.95400	4.963320	36.77080
Median	1.370000	3.460000	12.90000	5.900000	33.06000
Maximum	2.930000	11.30000	33.95000	23.80000	84.00000
Minimum	-0.040000	-1.800000	5.400000	-42.30000	20.72000
Std. Dev.	0.811424	2.741306	6.044624	13.06911	14.01783
Skewness	0.276117	0.281688	1.510319	-1.803338	1.486236
Kurtosis	2.056468	4.620788	6.066929	8.082014	6.086944
Jarque-Bera	1.245017	3.067026	19.30241	40.45310	19.13001
Probability	0.536597	0.215776	0.000064	0.000000	0.000070
Observations	25	25	25	25	25

Source: Authors' Computation (2026).

Table 1 showed the descriptive statistics, indicating that the mean ranged from 1.356000 (FDI) to 36.77080 (TOP). The standard deviation showed positive value for all the variables, ranging from 0.811424 (FDI) to 14.01783 (TOP). From the Jarque-Bera, it is shown that only FDI and RGDP are statistically and normally distributed, having values greater than 5% significant value, while INFLR, INTR and TOP are not normally distributed because their p-values are less than 5%.

Table 2: Lag Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-346.7059	NA	3684626.	29.30882	29.55425*	29.37394
1	-314.2166	48.73399*	2083283.*	28.68471*	30.15728	29.07539*

Source: Authors' Computation (2026).

Table 2 indicated the lag selection for the study whereby lag 1 is suitable for the study because 4 out of 5 of the lag criteria are attached to lag 1.

Table 3: Unit root test

VARIABLES	Augmented Dickey-Fuller Test		
	F-STAT	5% C.V	ORDER OF INTEGRATION
RGDP	-4.282291	-2.991878	I(0)
FDI	-8.195550	-2.998064	I(1)
TOP	-3.785467	-2.991878	I(0)
INTR	-7.382901	-2.991878	I(0)
INFLR	-5.091991	-2.998064	I(1)

Source: Authors' Computation (2026).

Table 3 revealed the unit root of the variables employed, where economic growth (RGDP), trade openness (TOP), and interest rate (INTR) are stationary at level [I(0)], while foreign direct investment (FDI) and inflation rate (INFLR) are stationary at 1st difference [I(1)]. As a result of this, ARDL technique is suitable to achieve one or two of the study's objectives.

Table 4: ARDL bound test

	f-statistic	K
Value	6.860301	4
ARDL BOUND TEST		
	I(0)	I(1)
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Authors' Computation (2026).

The study's ARDL bound test was displayed in Table 4, where K is 4 and f-statistics is 6.860301. According to the data shown here, f-statistics (6.860301) exceeds all upper-bound values of 10%, 5%, 2.5%, and 1 %, with corresponding values; 3.09, 3.49, 3.87, and 4.37. As a result, the variables were shown to have a long-term association, which led to their cointegration.

Table 5: ARDL long-form cointegration

	COEFFICIENT	STD. ERROR	t-STAT	P-VALUE
FDI	1.223147	1.089960	1.122194	0.2783
TOP	-0.057673	0.078882	-0.731124	0.4753
INFLR	0.015780	0.143137	0.110242	0.9136
INTR	-0.211731	0.107756	-1.964914	0.0670

Source: Authors' Computation (2026).

Table 5 showed the ARDL long-run cointegration whereby none of the independent variables (FDI, TOP, INFLR, INTR) statistically influenced the economic growth (RGDP) in Nigeria within the period of study. However, the findings showed that FDI and INFLR have positive insignificant impact on the economy, while TOP and INTR show negative insignificant impact on the economic growth.

Table 6: ARDL short-form cointegration

	COEFFICIENT	STD. ERROR	t-STAT	P-VALUE
D(FDI)	-1.485536	0.690240	-2.152201	0.0470
D(TOP)	0.006574	0.021751	0.302247	0.7664
D(INFLR)	0.009622	0.086743	0.110920	0.9131
D(INTR)	-0.129101	0.038315	-3.369437	0.0039
CointEq(-1)	-0.609742	0.082956	-7.350161	0.0000

Source: Authors' Computation (2026).

The ARDL short-run cointegration was displayed in Table 6. This table shows that throughout the study period, trade openness (TOP) and inflation rate (INFLR) had positive insignificant effects on economic growth, while foreign direct investment (FDI) and interest rate (INTR) had negative significant effects.

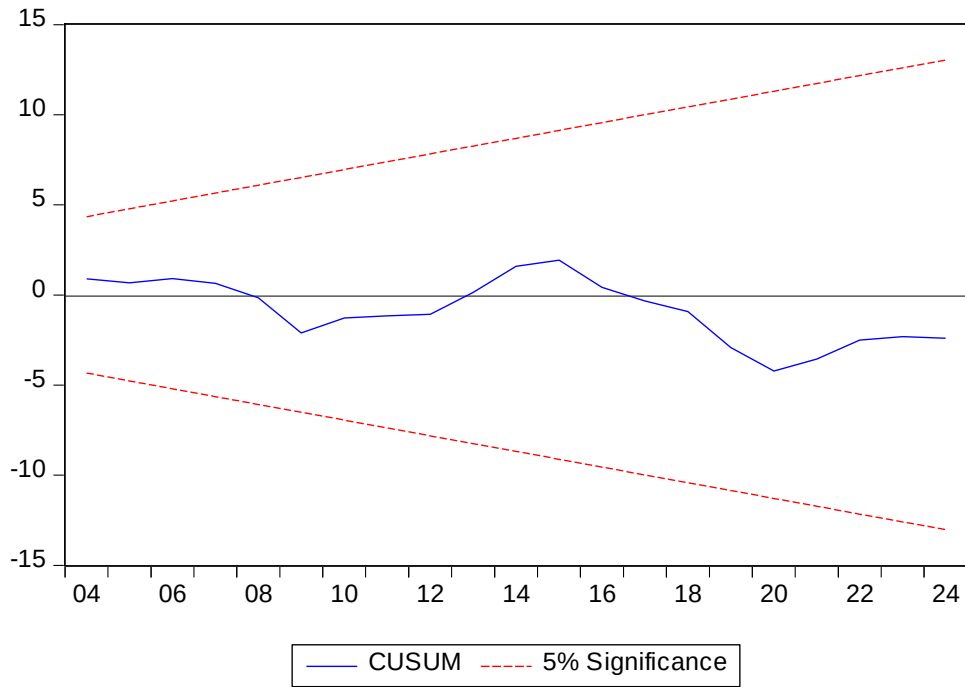


Figure 1: This is cusum for the stability diagnostic which showed that the variables employed were adequate stable and valid for the study.

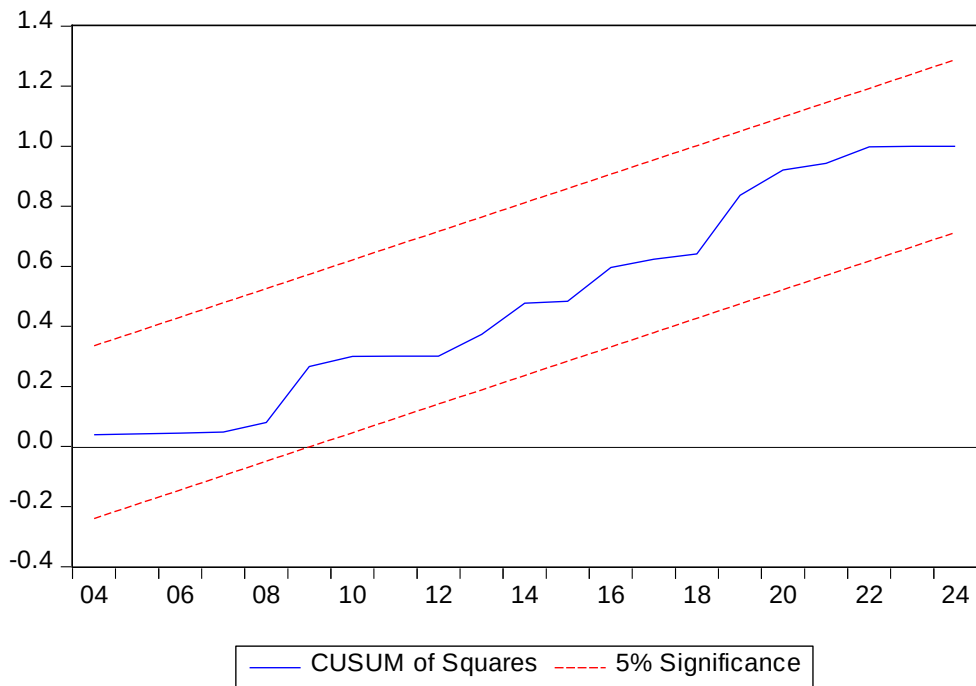


Figure 2: This is CUSUM of squares which indicated that all the variables were okay for the study. And it showed that the stability of the model was established.

Table 7: Pairwise granger causality technique

Null hypothesis	Obs.	F-statistics	P-value	Economic decision
FDI does not Granger Cause RGDP RGDP does not Granger Cause FDI	24	5.49540 2.79083	0.0290 0.1096	Unicausality
TOP does not Granger Cause RGDP RGDP does not Granger Cause TOP	24	0.34847 0.54955	0.5613 0.4667	No causality
INFLR does not Granger Cause RGDP RGDP does not Granger Cause INFLR	24	0.13611 0.76505	0.7159 0.3916	No causality
INTR does not Granger Cause RGDP RGDP does not Granger Cause INTR	24	0.66436 0.74451	0.4242 0.3980	No causality
TOP does not Granger Cause FDI FDI does not Granger Cause TOP	24	0.11232 1.98970	0.7408 0.1730	No causality
INFLR does not Granger Cause FDI FDI does not Granger Cause INFLR	24	0.21319 3.75451	0.6490 0.0662	No causality
INTR does not Granger Cause FDI FDI does not Granger Cause INTR	24	0.08409 1.76471	0.7747 0.1983	No causality
INFLR does not Granger Cause TOP TOP does not Granger Cause INFLR	24	0.39267 0.70245	0.5377 0.4114	No causality
INTR does not Granger Cause TOP TOP does not Granger Cause INTR	24	2.12994 0.00757	0.1592 0.9315	No causality
INTR does not Granger Cause INFLR INFLR does not Granger Cause INRE	24	0.13599 1.44694	0.7160 0.2424	No causality

Source: Authors' Computation (2026).

The Granger causality test of the factors where a unicausality was found between economic growth (RGDP) and FDI was displayed in Table 7, whereas no causality was found for any of the other variables. The results, however, indicated that FDI alone was responsible for economic growth (RGDP).

5 Conclusion and Policy Implications

The ARDL technique was used to examine how FDI, trade openness, and economic growth relate in Nigeria between 2000 and 2024. The study looked at the particular goals that considered how the independent variables (FDI, TOP, INFLR, and INTR) affected economic growth (RGDP). The results demonstrated the establishment of a long-term link between the variables. None of the factors significantly affect economic growth over the long term. While openness of trade and inflation rate (INFLR) have positive but negligible effects on Nigerian economy within the period of study, foreign direct investment (FDI) and interest rates (INTR) have considerable but negative short-term effects. Therefore, the study recommends that government should encourage a healthier FDI in order to create employment and enhance the economic growth. Government should put up policies on trade that will promote trade openness among the neighboring countries so as to create economic expansion, stability and protection.

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