



IMPACT OF EXPORTS AND FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This study determined impact of exports and foreign direct investment on economic growth in Nigeria from 1985 to 2023. Exports and foreign direct investment were proxied by total oil exports, total non-oil exports, foreign direct investment, and trade openness, while economic growth was measured by real GDP growth. The research employed an ex-post facto design and utilized yearly temporal data obtained from the Central Bank of Nigeria (CBN) statistics bulletin, the National Bureau of Statistics (NBS) report, and the World Bank's World Development Indicators. The data analysis methods comprised descriptive statistics, multicollinearity test, ADF unit root test, bounds co-integration test, and the ARDL methodology. The findings indicated that total oil exports, total non-oil exports, foreign direct investment, and trade openness have direct and considerable influences on real GDP growth in Nigeria, both in the short and extended term. It is therefore, recommended that the government should augment value addition in the oil export industry by developing local refining capabilities and petrochemical businesses. Furthermore, priority should be given to assertive diversification into non-oil exports, especially in agriculture and industry through incentives i.e. tax reductions, export subsidies, and infrastructure development in export-oriented zones.

Key words: Oil Exports, Non-Oil Exports, Foreign Direct Investment, Real GDP Growth, Trade Openness.

Introduction

Economic growth is a primary objective of macroeconomic policy in developing countries like Nigeria, because of its central role in poverty reduction, improvements in living standards and employment creation. Openness to international markets and cross-border capital flows are widely considered principal channels through which developing economies can accelerate growth: exports expand market opportunities and foreign exchange earnings (Isiwu, 2023), while foreign direct investment (FDI) supplements domestic capital, transfers technology and management practices, and can integrate host economies into global value chains. (Edu, Inaya, & Bassey (2015), Nwankwo Ademola and Kehinde (2019)). As Oladosu, Ibeinmo, and Lasisi (2023) have pointed out, exports have a direct outcome on economic growth because they increase the total production of commodities and services. This is because exports raise the entire production of goods and services. A nation's GDP surges as exports increases because of the money that the nation generates from markets outside of the country.

Nigeria, sub-Saharan Africa's largest economy, provides a compelling case for re-examining the roles of exports and FDI in growth. Historically, Nigeria's export base has been dominated by primary commodities—particularly crude oil—so that export earnings and economic growth outcomes have been highly sensitive to commodity price swings and external shocks. According to Suberu, Ajala, Akande, and Adeyinka (2015) Nigeria's economic performance was bad because it put an excessive amount of dependence on profits from oil exploration and did not make significant attempts to diversify its economy. Trade data show that raw materials and primary product categories have accounted for a large share of merchandise exports, underscoring the country's limited export diversification to date (World Bank, 2021)

Similarly, while Nigeria has attracted substantial FDI inflows over past decades, much of this investment has been concentrated in the extractive (oil and gas) sector. Studies that distinguish between extractive and non-extractive FDI underscore that the predominance of resource-sector FDI can limit technology and productivity spillovers to the broader economy and constrain linkages with domestic industries. (Nwosa, Tosin, and Ikechukwu (2019))

At the same time, global and regional patterns of FDI have become more volatile in recent years. UNCTAD's World Investment Report documents fluctuations in global FDI and emphasizes persistent disparities in the distribution of investment across countries and sectors, which has implications for the prospects of FDI-led growth in smaller emerging economies such as Nigeria. (UNCTAD, 2023).

Taken together, these features—commodity-dependence of exports, sectoral concentration of FDI, and an uncertain global investment climate—raise important empirical questions about whether and to what extent exports and FDI have contributed to Nigeria's economic growth. There is therefore the need to investigate the impact that foreign direct investment (FDI) and exports on economic growth in Nigeria.

Statement of the Problem

Theoretically, exports and FDI should positively influence economic growth through mechanisms such as capital accumulation, technology transfer and efficiency gains, but Nigeria's growth record has been uneven. The country's dependence on oil exports has amplified vulnerability to external commodity price shocks, contributing to episodes of macroeconomic instability and undermining sustained growth. Empirical trade data confirm that raw materials and primary commodities remain a dominant share of Nigerian exports, indicating limited progress in export diversification (World Bank, 2021).

Concurrently, empirical investigations into the growth effects of FDI in Nigeria have produced mixed results. Several econometric studies find only modest or statistically insignificant contributions of aggregate FDI to growth—particularly when extractive-sector inflows dominate—while others report context-dependent positive effects when FDI is channeled into manufacturing and non-extractive sectors. These divergent findings highlight the need to disaggregate FDI by sector and to control for factors that condition spillovers (e.g., human capital, absorptive capacity, and trade policy environment) (Akinlo, 2004).

Nigeria-specific heterogeneity, global FDI flows have experienced volatility and geographic concentration in recent years, suggesting that reliance on FDI-led growth without domestic policy reforms and export diversification may yield limited developmental gains. UNCTAD's recent investment assessments point to declining or highly variable flows to some developing countries and underline the importance of domestic policy frameworks in capturing the developmental benefits of FDI. (UNCTAD 2023)

Given the above, the study raised the questions, to what extent have exports and foreign direct investment contributed to economic growth in Nigeria? Consequently, the aim of this study is to examine the effect of total oil exports, total non-oil exports, FDI and trade openness on economic growth in Nigeria over the period 1985 to 2023

Literature Review

Theoretical Framework

Two-Gap Model

Two theorists, Harrod (1939) and Domar (1946), put out the Two-Gap Model, which is considered a closed-economy post-Keynesian growth model. The core tenet of the concept is that the lack of local savings to supplement investment opportunities or the inability to finance the necessary capital and international products due to foreign currency limits is the primary reason why most nations remain undeveloped. Therefore, the model goes into the manufacture of investment products with the premise that a foreign-produced commodity is crucial. Here we may see the model:

$$Y = C + I + (X - M) \quad (2.1)$$

where: $(X - M)$ equals to net export.

Equation (2.1) can be rearranged as:

$$Y + M = C + I + X \quad (2.2)$$

Thus, sources of income in the economy = uses of resources in the economy.

Equation (2.2) can be broken down further to:

$$S + C + M = C + I + X \quad (2.3)$$

Subtracting C from both sides and defining savings ($S = Y - C$),

$$S + M = I + X \quad (2.4)$$

The two-gap model is then represented by:

$$M - X = I - S \quad (2.5)$$

(Foreign exchange gap) = (Savings gap).

A savings-investment gap exists, as stated by the concept, if the amount of local savings is insufficient to attain the desired rate of development. Furthermore, FDI is necessary to fill this gap; hence, a deficit in foreign currency will outcome from excessive importation if the growth target's maximum importation demand is above the maximum export level. This causes a trade deficit, which may be filled by assistance from other nations. Abdullahi, Aliero, and Addullahi (2013) pointed out that the model has several flaws, despite its reasonable contribution, since it relies only on the savings-investment gap to generate growth. Being a model for close economic expansion, it ignores the borrower's external sector performance, therefore obviating the need to address this transformation issue. The theory's applicability to the research lies in the fact that the model uses local savings as a means to force the economy to reach a certain growth rate objective. Furthermore, it confirmed that exportations play a crucial part in the development and expansion of every economy.

Export Led Growth Hypothesis

Balassa came up with the idea of export-led growth, or the ELG Hypothesis, in 1978. Adam Smith's Absolute Advantage Theory (1776) and David Ricardo's Comparative Advantage Theory (1817) are two traditional and neoclassical trade ideas that the theory draws on. Much of the credit for officially stating the Export-Led Growth theory as its own economic framework goes to Balassa (1978). As stated by the Export-Led Growth Hypothesis, exportations are the main factor that propel economies forward. Improving a nation's exportations is the key to boosting its GDP, employment, and industrial development. As stated by the theory, nations that are more open to foreign trade and investment have quicker growth rates than their more inwardly focused counterparts, known as protectionist economies. To rephrase, the Export-Led Growth Hypothesis states that an upsurge of exportations is one of the primary factors that determine economic advancement, and that there exists a nexus between the two. Expanding exportations, rather than growing the quantities of labour and capital, might provide overall growth for various nations, as stated by the idea. One of the many assumptions upon which this hypothesis is based is the idea that non-export sectors will benefit from the export sector's more efficient management styles and improved production techniques, which in turn will have a beneficial consequence on the export sector (Feder, 1983). The second benefit of rising exportations is the opportunity for scale economies, which will boost productivity (Helpman & Krugman, 1985; Krugman, 1994). Third, exportations may help ease restrictions on foreign currency and open doors to new global markets (Esfahani, 1991). Literature review points to new support for the claims made in endogenous growth theory, which places an emphasis on exportations as a driver of extended term prosperity via dynamic international learning and rapid technical advancement.

One theory that attempts to explain the nexus between exportations and GDP growth is the Export-Led Growth (ELG) hypothesis. First, the formula for GDP in an open economy is: $GDP = C + I + G + (X - M)$, where X represents exportations, which promote economic expansion. Net export component growth ($X - M$) leads to an upsurge in GDP as exportations rise. Second, an upsurge in exportations generates demand for produced products, which in turn encourages industrial growth. Nations like China, South Korea, and Singapore that have effectively adopted export-driven industrialization have seen their economies grow steadily over time. Conversely, demand limits limit the expansion of economies that depend entirely on local markets. Finally, more manufacturing capacity means more jobs thanks to a robust export industry.

Empirical Review

Isiwu (2023) appraised the consequence of export diversification on GDP growth in Nigeria. In an effort to conduct the analysis, we collected yearly data on the following factors: economic openness, GDP per capita, rate of exchange, gross fixed capital formation (for local investment), and Theil export diversification index from 1980 to 2020. Additionally, we constructed a dummy factor for democracy in an effort to delve deeper into the nexus between governance and GDP growth in Nigeria. For this data estimation, we employed the ARDL model in conjunction with the limits test. The research infers that diversifying exportations will have beneficial benefits on GDP growth in Nigeria both in the near and extended term. Investment at the regional level has a similar effect, rising GDP growth both now and in the future. However, you will not see any upshots until the very near future. The rate of exchange has an adverse outcome on macroeconomic expansion in the near term but a beneficial one in the extended term, which means that changes in the rate of exchange in Nigeria may be rather unpredictable. Economic openness has adverse consequences on growth in the near and extended term. However, the

prominence of this becomes clear when one gives it more thought. Democracy dummies have tiny but beneficial benefits on macroeconomic expansion in the near and extended term. The study recommends that the government spend its oil revenues in non-oil sectors i.e. agriculture and industry if it wants to diversify its export base away from only oil.

Using the ARDL approach, Shido-Ikwu, Dankumo, Pius, and Fazing (2023) appraised the nexus between foreign trade and the growth of Nigeria's economy from 1981 to 2019. Applying the ARDL bound test approach, we found that all three extended term vectors in the model were indeed part of an extended term equilibrating nexus. While importation trade, foreign direct investment, and the currency rate all had adverse and in empirically validated effects on GDP growth in Nigeria over the study period, the model's near- and extended term estimations reveal that export trade had a direct and empirically validated impact. This study found that over the time period under consideration, Nigeria's GDP growth was unaffected by international trade. The upshots indicate that in an effort to rise exportations and minimise importations, the government should provide tax cuts and subsidies to domestic businesses. Dealing with political instability (i.e. Boko Haram, kidnappings, etc.) via inclusive and respectful governance is another approach to rise FDI. Concurrently, we need to work on enacting beneficial foreign trade policies to boost exportations and reduce importations, the two factors that are dragging down Nigeria's economy. Finally, for international trade to soar and the economy to prosper, we need a practical mechanism for the rate of exchange that will propel our currency into the double digits.

Nwosa (2019) conducted an investigation of the nexus between Nigeria's oil exportations and the nation's GDP development from 1962 to 2019. There is an application of the ARDL approach in this study. As stated by the upshots of this study, diversifying exportations has a beneficial consequence on GDP growth in Nigeria, although one that is inconsiderable. Even if the government of Nigeria is making steps to diversify the economy, the previous outcome demonstrates that the oil sector continues to have a empirically validated amount of sway over the Nigerian economy. After taking all of this into consideration, the research comes to the conclusion that intentional economic steps are necessary so as to diversify the economy away from its dependence on oil. As stated by the upshots of the study, diversifying Nigeria's exportations has minimal consequence on the nation's GDP growth.

The authors Ugwo, Umeh, and Ochuba (2019) appraised the sway that the export of crude oil has had on the economic advancement of Nigeria. The particular goals are to: The specific goals are to ascertain whether or not crude oil exportations make a empirically validated contribution to the GDP of the economy, to ascertain the extent to which crude oil exportations contribute to the growth of the economy in Nigeria, and to investigate the nexus between crude oil exportations and the growth of the economy in Nigeria. As stated by the upshots of the study, the export of crude oil has a beneficial consequence on the economic performance of Nigeria by a factor of 32 percent thirty-two percent. As stated by the upshots of the study, the government should make a greater effort to ensure that crude oil and its natural components are fully utilized. Additionally, the conditions that contribute to the underutilization, misuse, and underutilization of crude oil should be removed. These conditions comprise those that pertain to technology, human capital, manpower capital, funding, bureaucratic bottlenecks, public policy, and regulatory laws.

Over the course of 33 years, from 1990 to 2022, Oladosu, Ibeinmo, and Lasisi (2023) appraised the consequence of oil and non-oil exportations on Nigeria's macroeconomic expansion. This

research followed the Two-Gap Model. The research employed data collected over time from the CBNs' statistics bulletin. Methods for analyzing the data comprised the ECM, the ARDL strategy, and the ADF statistic. Oil exportations notably affect GDP in the near and extended term, in congruent with the research's most imperative finding. Similarly, exportations of services and commodities other than oil have a beneficial and empirically validated effect on GDP in the near and far future. FDI has an adverse outcome on GDP that is seen in both the near and extended term. In congruent with the research's upshots, exportations of both oil and non-oil products notably contribute to Nigeria's macroeconomic expansion.

Aremu (2016) appraised the years 1981–2015 to determine how Nigeria's non-oil exportations affected the nation's economy. The examination comprised a variety of research approaches, comprising impulse response functions (IRF), variance decomposition (VD), the Johansen co-integration test, the Granger causality test, and the ADF and PP unit root tests. Cointegration analysis shows an empirically validated link between GDP, oil exportations, and non-oil exportations. Granger causality test upshots infer that oil exportations and GDP have a one-way causal link, which means that this connection only exists in the near term. However, non-oil exportations only have a one-way causation link to GDP, unlike oil exportations which have an extended term causality connection that flows in both ways. In congruent with the research's upshots, exportations of non-oil commodities encourage macroeconomic expansion, whereas exportations of oil products have the reverse effect.

In their 2024 study, Aminat and Oluwoye appraised how FDI affected the agricultural output of Nigeria. The performance was assessed on three fronts: produce, shipments, and jobs in agriculture. The VAR model, which captures the links between performance factors and FDI, was the anchor of the analytical method. It was the Akaike Information Criterion that led to the selection of a lag order of 2. After looking at the descriptive and stationarity aspects of the series, the VAR estimates showed that FDI has had an adverse consequence on agricultural production and employment in Nigeria, but a beneficial consequence on agricultural exports. Many took this to mean that FDI mostly goes towards making agriculture tradables, or products with exportation potential. These upshots suggest that so as to streamline agricultural exportations, the government should do more to encourage business and make it easier for ventures to operate. To ensure that this strategy does not reduce agricultural output and job opportunities, small and medium-scale farmers should also get real and regulated government funding.

Louis, Iyabo, and Jacob (2024) appraised the FDI influx from 1981 to 2022 and how different macroeconomic factors affected it. We were able to identify the sway of Nigeria's political system in attracting FDI because, unlike previous research, ours also records the bearing of a regime change on FDI intake to the nation. We applied the ARDL model to display the FDI-Macroeconomic regressors extended term linkages and their dynamic interactions. FDI models predicted extended term and near term co-efficient infer that inflation rate and economic openness are imperative regressors attracting FDI to Nigeria. Investments from outside tend to rise in tandem with economic expansion and non-oil exportations. But they do not amount to much in the grand scheme of things. Direct investment into Nigeria is highly sensitive to the two most imperative policy factors: the currency rate and the monetary policy rate. Depreciation of the currency leads to a rise in FDI, as stated by the estimated upshots. Real wage channel theory predicts that as a nation's currency depreciates, wages and production costs fall in comparison to other nations. As stated by the research, a stable currency rate is essential for Nigeria to attract

FDI. The government should lower the monetary policy rate, which is now too high and hurting FDI inflows. At the same time, they should step up their fight against corruption.

Onodugo, Ikpe, and Anowor (2020) appraised how non-oil exportations contributed to Nigeria's economic expansion from 1981 to 2018. The research applied the Endogenous Growth Model (EGM) to analyse the Augmented Production Function (APF). We applied the standard methods to check for co-integration and mean reversion. The upshots infer that non-oil exportation has a negligible upshot on the pace of change in Nigeria's economic advancement. The study has done more than just provide evidence that does not support the idea that Nigeria's economy has grown thanks to non-oil exportations; it has also established a data benchmark for evaluating how the sector can do better in the future in terms of its contributions to GDP growth

From 1980 until 2020, Joseph, Simeon, Benison, and Jamilu (2023) appraised the bearing of FDI on the production of Nigeria's service industry. Government expenditure (GEX) and rate of exchange (EXR) served as control factors, while service sector output (SSO) served as the regresand and FDI was the key regressor. The CBN Statistical Bulletin 2020 served as the data source. We have to utilize ECM because of the factors. FDI has a beneficial upshot on service sector production, as stated by the short-term ECM dynamic model. The research found a beneficial and empirically validated lag value for service sector production, which means that in Nigeria, service sector output beneficially reacts to previous service sector output. an adverse and empirically validated one-period lag co-efficient for the ECM ($p < 0.05$) infers that, within a year, service sector production responds to changes in both explanatory factors and its own lag. In an average of one year, the ECMt-1 restores 17.3 percent of the imbalance between the static and short-term dynamic models of SSO (Service Sector Output). As stated by the research, the service sector is vital to the expansion and development of this emerging market economy. It is a crucial part of the economy's macroeconomy since it affects the overall performance of the economy, the direction and flow of revenue, and the BOP position. The report concludes that the government should be more fiscally responsible and put more money into constructing the infrastructure that the service industry needs to develop. In the extended term, this will help the Nigerian economy as a whole.

Ogbonna, Chukwuma-Ogbonna, Nwachukwu, and Uzoma (2023) appraised the sway that FDI had on the expansion of Nigeria's GDP from 1981 to 2020. The first stage of the investigation involves utilizing the ADF unit root test so as to determine whether or not the data set undergoes a stationary state. The Bounds test demonstrated that FDI had an adverse connection with the economy over the extended term. In contrast, FDI has a beneficial association with the economy in the near term, although the trade balance and the purchasing power parity (PI) both have adverse nexus. The study concludes with the following recommendations: first, that the government create an appropriate political and economic climate so that portfolio investment can flow in; second, that the relevant authorities assess Nigeria's business-friendliness; third, that the government should work to boost the real sector of the economy; and fourth, that the government should work to improve the nation's current ranking in the ease of doing business index. Because of this, our trade balance will improve, and the earnings we make from exportations will increase.

Research on the link between openness of trade and Nigeria's economic development was carried out by Udude, Anthony, and Apoloian (2022) from 1981 to 2019. Utilizing time series

econometrics, this research set out to probe the connection between Nigeria's openness of trade and GDP growth. All of the above were accomplished by applying yearly temporal data from the CBN statistics bulletin 2019 to regress changes in GDP on TOP, EXR, and INF. This was achieved by applying ARDL, OLS, and unit root tests. Inconsistent integration was revealed by the upshots of a unit root test. Because of this, it seems that certain regressors were level-stationery and others were first-difference-stationary. When the ECT reached 40 percent, there was a marked change every year in the near and extended term. This study's upshots indicate that openness of trade is notably related to Nigeria's macroeconomic expansion. As far as the Durbin-Watson test was concerned, autocorrelation was cleared up. An imperative recommendation from the research is that the government should do everything it can to encourage macroeconomic expansion, which comprises keeping the currency rate stable relative to other countries' currencies. To help the Nigerian economy flourish, the nation's fiscal regulators should do everything they can to keep inflation low and steady.

Gap in literature

From the review of empirical literature, it was observed that some studies have been carried out on the relationship between exports, FDI and macroeconomic performance globally, Nigeria inclusive. However, most of the studies focused on the effect of exports, FDI on macroeconomic performance while neglecting the effect of a disaggregated exports, FDI and trade openness on real gross domestic product in Nigeria thus creating a gap in literature. This study filled this gap by empirically analyzing the effect of total oil export, total non-oil export, FDI and trade openness on the real GDP Nigeria over the period 1985-2023.

Methodology

Research Design

This study employed the ex-post facto research technique in an effort to conduct an analysis of the causal links that have been developed over the course of this investigation. It was able to establish the manner in which exports and FDI contributed to the real GDP growth of Nigeria. Annual times data were sourced from the Central Banks of Nigeria (CBNs), National Bureau of figures (NBS), and world Development Indicators covering the time span from 1985 to 2023, which implies that there were thirty-nine (39) years of sample observations.

Model Specification

This inquiry was as per the Two-Gap Model, which served as the theoretical underpinning for the investigation. The work that Oladosu, Ibeinmo, and Lasisi (2023) did in their analysis of the bearing of non-oil and oil exports on economic development in Nigeria served as the basis for the building of the model utilized in this research when it was applied to the situation that was being appraised. The following is a statement that describes the model that Oladosu, Ibeinmo, and Lasisi (2023) created. $GDP = \delta_0 + \delta_1 OEXP + \delta_2 NOEX + \delta_3 FDI + \mu_t$

The model was modified to not only accommodate all of the regressors that were chosen for the investigation but also to exclude factors that were not comprised in this particular study. Thus, the model is represented in its functional, mathematical and econometrical forms respectively:

Functional Model Specifications

$$RGDPG = f(TOE, TNO, FDI, TOP) \quad (3.2)$$

Mathematical Model Specifications

$$RGDPG_t = \delta_0 + \delta_1 TOE_t + \delta_2 TNO_t + \delta_3 FDI_t + \delta_4 TOP_t \quad (3.6)$$

Econometrical Model Specifications

$$RGDPG_t = \delta_0 + \delta_1 TOE_t + \delta_2 TNO_t + \delta_3 FDI_t + \delta_4 TOP_t + U_{it} \quad (3.10)$$

Log Linear Model Specifications

$$\ln RGDPG_t = \delta_0 + \delta_1 \ln TOE_t + \delta_2 \ln TNO_t + \delta_3 \ln FDI_t + \delta_4 \ln TOP_t + U_{it} \quad (3.14)$$

ARDL Model Specifications

$$\begin{aligned} \Delta(\ln RGDPG_t) = & \delta_0 + \delta_{1i} \Delta(\ln RGDPG_{t-1}) + \delta_{2i} \Delta(\ln TOE_{t-1}) + \delta_{3i} \Delta(\ln TNO_{t-1}) \\ & + \delta_{4i} \Delta(\ln FDI_{t-1}) + \delta_{5i} \Delta(\ln TOP_{t-1}) + \sum_{t=1}^p \lambda_{1i} \Delta(\ln RGDPG_{t-1}) \\ & + \sum_{t=1}^q \lambda_{2i} \Delta(\ln TOE_{t-1}) + \sum_{t=1}^p \lambda_{3i} \Delta(\ln TNO_{t-1}) \\ & + \sum_{t=1}^q \lambda_{4i} \Delta(\ln FDI_{t-1}) + \sum_{t=1}^q \lambda_{5i} \Delta(\ln TOP_{t-1}) \\ & + \varepsilon_{1i} \end{aligned} \quad (3.18)$$

Where:

f	=	Function of
$\delta_0, \alpha_0, \beta_0, \Psi_0$	=	Constant regressors in the models.
RGDPG	=	Real GDP growth
TOE	=	Total Oil Export
TNO	=	Total Non-Oil Export
FDI	=	Foreign Direct Investment
TOP	=	Trade Openness
$\delta_1 - \delta_4$	=	Co-efficient of independent regressors in real GDP growth model
U_i	=	Error term

A Priori Expectation: $\delta_1 > 0; \delta_2 > 0; \delta_3 > 0; \delta_4 > 0$.

Data Analysis Techniques

The study adopted the ARDL method that was presented by Pesaran, Shin, and Smith (2001) in an effort to estimate the model. This followed the result of the unit root test and a co-integration test carried out, which showed a mixed order of integration and co-integrating equations respectively.

Results Presentation and Analysis**Unit Root Test**

The series is tested for stationarity using the ADF statistic to rule out artificial regression. Here are the results of the ADF unit root test, as shown in Table 4.3:

Table 4.3: Augmented Dickey-Fuller (ADF) Test Upshots

Factors	ADF at Levels		ADF at First Difference		Order of Integration	Decision
	ADF Statistic	5 percent Critical Value	ADF Statistic	5 percent Critical Value		
$RGDPG_t$	-3.361251	-2.941145	-	-	I(0)	Stationary @ Level
$InTOE_t$	-2.215271	-2.941145	-3.041283	-2.951125	I(1)	Stationary @ 1 st Differences
$InTNO_t$	-1.438398	-2.941145	-7.170658	-2.943427	I(1)	Stationary @ 1 st Differences
$InFDI_t$	-2.831543	-2.941145	-6.172176	-2.943427	I(1)	Stationary @ 1 st Differences
$InTOP_t$	-3.417477	-2.941145	-	-	I(0)	Stationary @ Level

Source: Compilation by Researcher, 2025 (EViews, 12.0 Output).

Note: (i) * implies stationarity at 5 percent level of significance; (ii) Decisions are as per absolute values.

Table 4.3 shows that the ADF unit root test was successful in discarding the null hypothesis of unit root for RGDPG and TOP at their respective levels. This means that the consequence of and real GDP growth (RGDPG) and TOP are flat at their respective levels and have an integration of order zero, denoted as [I(0)].

However, for the following factors: TOE, TNO, and FDI at levels, it is not possible to discard the null hypothesis of unit root. This indicates that the regressors in question have unit roots at certain levels. First difference analysis allows us to discard the null hypothesis of unit root for the following factors: TOE, TNO, and FDI. With an integrated degree of one, or [I(1)], these regressors are also stationary at first difference. The data should not comprise any misleading or false regression estimates, as stated by the upshots of the unit root test. Since there exist a mixture of I(0) and I(1) factors, indicating mixed stationarity, co-integration analysis is warranted.

Estimation of Real GDP Growth (RGDPG) Model

Multicollinearity Test

In order to identify multicollinearity, this research used the nexus matrix. You can see the results of the nexus matrix in table 4.4:

Table 4.4: nexus Matrix Result

	$RGDPG_t$	$InTOE_t$	$InTNO_t$	$InFDI_t$	$InTOP_t$
$RGDPG_t$	1				
$InTOE_t$	0.006094	1			
$InTNO_t$	-0.06156	0.16393	1		
$InFDI_t$	-0.05982	0.38687	0.583387	1	
$InTOP_t$	0.170281	0.450775	0.266753	0.361277	1

Source: Compilation by Researcher, 2025 (EViews, 12.0 Output).

Table 4.4 displays the upshots of the nexus test, which demonstrate that, from 1985 to 2023, there exist a beneficial association between TOE, TNO, FDI, and TOP. We can confidently go on with our econometric study since this indicates that the independent regressors do not exhibit any signs of multicollinearity.

Bound Cointegration Test

Table 4.6 displays the upshots of the boundaries co-integration test.

Table 4.6: ARDL Bounds Cointegration Test Result

Null Hypothesis: No Extended term Relationships Exist				
Critical Value Bounds				
T-statistic	Value	Significance	I(0)	I(1)
F-statistic	4.657198	10 percent	2.2	3.09
K	4	5 percent	2.56	3.49
			2.88	3.87
		1 percent	3.29	4.37

Source: *Compilation by Researcher, 2025 (EViews, 12.0 Output).*

Table 4.6 displays the upshots of the ARDL bound co-integration test. The F-statistic value of 4.657198 is above the upper bound critical value and the lower bound critical value both set at 5 percent. This means that the null hypothesis is discarded and that the model regressors are cointegrated. Further evidence from the boundaries test points to a extended term link or co-integration between trade openness, FDI, TNO, TOE, and the balance of payments. So, trade openness, TNO, FDI, and TOEs are all strong predictors of extended term real GDP growth. We estimated our ARDL model after detecting co-integrating nexus in the model.

Estimation of Autoregressive Distributed Lag (ARDL) Short-run RGDPG Model Estimation

Table 4.7: Short-run Autoregressive Distributive Lag (ARDL) RGDPG Model

Dependent Factor = $RGDPG_t$				
Factor	Co-efficient	Std. Error	t-Statistic	Prob.*
D(RGDPG _{t-1})	-0.252815	0.129120	-1.957978	0.0739
D(InTOE _t)	13.14762	3.981864	3.301877	0.0063
D(InTOE _{t-1})	3.430483	3.664998	0.936012	0.3677
D(InTOE _{t-2})	-2.790045	2.683612	-1.039660	0.3190
D(InTOE _{t-3})	-14.22782	3.514815	-4.047956	0.0016
D(InTNO _t)	8.394263	1.540475	5.449139	0.0001
D(InTNO _{t-1})	2.583401	1.580828	1.634207	0.1282
D(InTNO _{t-2})	4.849091	1.606624	3.018186	0.0107
D(InTNO _{t-3})	-2.499643	1.447911	-1.726379	0.1099
D(InFDI _t)	5.551018	2.314049	2.398833	0.0336
D(InFDI _{t-1})	-0.231673	2.049154	-0.113058	0.9119
D(InFDI _{t-2})	-7.052771	1.564125	-4.509083	0.0007
D(InFDI _{t-3})	7.963059	1.864024	4.271973	0.0011
D(InTOP _t)	9.244073	4.185369	2.208664	0.0474
D(InTOP _{t-1})	-20.94163	4.702057	-4.453717	0.0008
D(InTOP _{t-2})	-3.496950	4.971609	-0.703384	0.4952
D(InTOP _{t-3})	8.951982	3.408964	2.626013	0.0221
CointEq(-1)*	-0.515354	0.137312	-3.753157	0.0028
Adjusted R-squared = 0.686095; Durbin-Watson stat = 2.155390				

Source: *Compilation by Researcher, 2025 (EViews, 12.0 Output).*

The TOE has a beneficial co-efficient value (13.14762) and a probability value (0.0063) that is below the significance threshold of 5 percent, as stated by the short term ARDL outcome in Table 4.7. There exist a direct and arithmetically considerable nexus between TOE and real GDP growth (RGDPG) in the short term. For this reason, a unit rise in TOE will lead to a 13.14762 rise in real GDP growth (RGDPG), whilst a unit fall in TOE would lead to a 13.14762 decrease in RGDPG.

Additionally, the co-efficient value (8.394263) and probability value (0.0001) for TNO are beneficial, and they are both below the significance threshold of 5 percent. This infers that, at least in the near term, TNO considerably and beneficially affects real GDP growth (RGDPG). For this reason, a unit rise in TNO will lead to an 8.394263 rise in real GDP growth (RGDPG), whilst a unit decline in TNO would outcome in an 8.394263 fall in RGDPG.

Furthermore, FDI has a beneficial co-efficient value of 5.551018 and a probability value of 0.0336—both of which are arithmetically inconsiderable at the 5 percent level. In the medium term, this infers that FDI has a direct and considerable consequence on RGDPG, or real GDP growth. Therefore, for every one unit rise in FDI, real GDP growth (RGDPG) would rise by 5.551018, and for every one-unit reduction in FDI, real GDP growth (RGDPG) will fall by 5.551018.

Moreover, TOP is arithmetically considerable at the 5 percent level, with a beneficial co-efficient

value of 9.244073 and a probability value of 0.0474. This shows that in the near term, real GDP growth (RGDPG) is beneficially and considerably affected by TOP.

Therefore, for every one unit rise in TOP, real GDP growth (RGDPG) will rise by 9.244073, and for every one unit decline in TOP, real GDP growth (RGDPG) would fall by 9.244073.

More specifically, Table 4.7' short term ARDL outcome reveals that CointEq(-1)'s anticipated adverse sign (-0.515354) is arithmetically considerable (0.0028). This proves that the regressors with their different considerable delays do in fact have a extended term connection. With a CointEq(-1) co-efficient of -0.515354, we can see that by the next year, we have corrected the extended term divergence from real GDP growth by 51 percent.

Furthermore, the adjusted R-squared (R²) value of 0.686095 shows that in the near term, TOE, TNO, FDI, and TOP account for 69 percent of the systematic variation in real GDP growth, while other regressors outside the model account for the remaining 31 percent.

Finally, a Durbin-Watson value of 2.155360 shows that the model does not comprise serial nexus.

Estimation of Autoregressive Distributed Lag (ARDL) Long-run RGDPG Model Estimation

Table 4.8: Long-run Autoregressive Distributive Lag (ARDL) RGDPG Model

Dependent Factor = $RGDPG_t$				
Factor	Co-efficient	Std. Error	t-Statistic	Prob.
InTOE _t	3.224748	1.286114	2.507358	0.0193
InTNO _t	4.656520	1.184282	3.931936	0.0006
InFDI _t	18.38804	7.470173	2.461528	0.0300
InTOP _t	5.460508	1.342244	-4.068194	0.0004
C	-44.61479	26.22357	-1.701324	0.1146

Source: *Compilation by Researcher, 2025 (EViews, 12.0 Output).*

The TOE has a beneficial co-efficient value (3.224748) and a probability value (0.0193) that is below the significance threshold of 5 percent, as stated by the long term ARDL result. There exist a direct and arithmetically considerable nexus between TOE and real GDP growth (RGDPG) over the extended term. For this reason, a unit rise in TOE will lead to a 3.224748 rise in real GDP growth (RGDPG), whilst a unit fall in TOE would cause a 3.224748 decrease in RGDPG.

The long term ARDL upshots also infer that TNO has an arithmetically considerable beneficial co-efficient (4.656520) and probability (0.0006), both of which are below the significance threshold of 5 percent. The upshots infer that TNO has a beneficial consequence on real GDP growth (RGDPG) over the extended term. A unit rise in TNO will lead to a 4.656520 rise in real GDP growth (RGDPG), whereas a unit decline in TNO will cause a 4.656520 fall in RGDPG.

Additionally, FDI has a beneficial co-efficient value (18.38804) and probability value (0.0300) that is below the significance threshold of 5 percent, as stated by the long term ARDL finding. This proves that FDI, or FDI, considerably and beneficially affects RGDPG, or real GDP growth, over the extended term. Consequently, for every one unit rise in FDI, real GDP growth

(RGDPG) will rise by 18.38804, and for every one unit drop in FDI, real GDP growth (RGDPG) would fall by 18.38804.

Finally, trading openness (TOP) has a beneficial co-efficient value (5.460508) and a probability value (0.0004) that is below the significance threshold of 5 percent, as stated by the long term ARDL finding. There exist a direct and arithmetically considerable nexus between TOP and real GDP growth (RGDPG) over the long term. Therefore, for every one unit rise in TOP, real GDP growth (RGDPG) will rise by 5.460508, and for every one unit drop in TOP, real GDP growth (RGDPG) would fall by 5.460508.

Post-Estimation Tests of Real GDP Growth (RGDPG) Model

The following are the results of the post-estimation tests performed in this research:

Table 4.9: Post-Estimation Tests Upshots

Test	F-Statistic	P-value	Null Hypothesis	Decision
Jarque-Bera Normality Test	2.040237	0.360552	H₀ : Normally distributed	Retain H ₀
Breusch-Godfrey Serial nexus LM Test	0.452931	0.6482	H₀ : No serial nexus	Retain H ₀
Heteroskedasticity Test	1.256553	0.3491	H₀ : Homoscedasticity	Retain H ₀
Ramsey RESET Test	2.636707	0.1327	H₀ : Correctly specified	Retain H ₀

Source: *Compilation by Researcher, 2025 (EViews, 12.0 Output).*

The post-estimation test results showed that our RGDPG model's factors—real GDP growth, TOE, TNO, FDI, and trade openness—are consistent with the fundamental assumptions of OLS estimation.

Discussion of Results

The major objective of this study was to investigate the impact that FDI and exports have had on the real GDP in Nigeria from 1985 to 2023. The findings of the analysis showed that TOEs have a beneficial influence on real GDP growth in Nigeria over the medium and extended term. This shows that a rise in Nigeria's TOEs will produce a rise in the nation's real GDP growth. The findings of Ikpe, Bassey, and Umoren (2023) were similar in that they concluded that the exportation of crude oil had a considerable and beneficial outcome on the economy of Nigeria. Furthermore, in congruent with Khayati (2021), oil exports rise economic growth both in the short run and in the extended term. In addition, Badreldin and Ahmed (2020) discovered that the reason for the improvement in Saudi Arabia's economic performance throughout the study period was the nation's augmented exports of oil. In congruent with the results of Ugwo, Umeh, and Ochuba (2019), the export of crude oil has a beneficial outcome on the economic performance of Nigeria that is advantageous.

This study also discovered that Nigeria's TNO has a direct and considerable outcome on the nation's real GDP growth over the medium and extended term. This infers that a rise in Nigeria's TNO would cause a decrease in the nation's real GDP growth, this outcome is related to the one that was discovered by Onodugo, Ikpe, and Anowor (2020), who discovered that the rate of change in Nigeria's income growth was not notably affected by the export of non-oil products. There exists a nexus between the two upshots". Furthermore, Aremu (2016) found that there exists a causal link between Nigeria's GDP and exports of commodities other than oil over the

extended term. Moreover, Mohsen (2015) established that there exists a two-way extended term causal nexus between Syria's GDP and exports of commodities other than oil-based products.

In addition, the upshots of the research demonstrated that FDI contributes to the expansion of Nigeria's real GDP in both the short and extended terms. This shows that a rise in FDI would outcome in a fall in Nigeria's real GDP growth. As a outcome of the fact that Louis, Iyabo, and Jacob (2024) have shown that the growth rate of the GDP and exports of non-oil commodities also have a beneficial outcome on FDI inflows over the extended term, our upshots are consistent with theirs. In addition, Sunday (2023) found that FDI into Nigeria upshots in a steady rise in industrial output. Additionally, Silva and Ijeoma (2022) found that there exist a extended term connection between FDI and the real estate industry throughout the course of their analysis.

After doing the study, the researchers came to the conclusion that trade openness has a beneficial outcome on real GDP growth in Nigeria over the medium and extended term. Given this, it is reasonable to anticipate that Nigeria's real GDP would increase, the trade balance will become more beneficial, as trade continues to open up. This lends credence to the findings of Afolabi and Oyelekan (2020), which is that the openness of trade contributes to the expansion of the GDP in Nigeria. In congruent with Tyokosu and Abakpa (2023), the openness of trade has a direct and considerable outcome on the growth of the economy in Nigeria. In congruent with Solomon and Tukur (2019), the openness of trade also has a considerable and beneficial outcome on the growth of the economy.

Conclusion and Recommendations

Conclusion

This study examined the effect exports and FDI have had on the real GDP in Nigerian from 1985 to 2023. As noted from the results total oil exports, total non-oil exports, FDI, and trade openness positively influenced real GDP in Nigeria. Based on the findings, the research comes to the conclusion that exports and FDI have a key role in enhancing and driving the growth of real GDP in Nigeria.

Recommendations

Based on the findings and conclusion, the following are recommended:

1. The government need to work towards the development of local refining capacity and petrochemical businesses so as to rise the value addition in the oil export industry. Nigeria should improve its trade balance and drive real GDP growth by exporting refined petroleum products and derivatives rather than depending primarily on crude oil exports. This would be a more effective way to achieve these goals.
2. It should be a top priority to make aggressive diversification into non-oil exports, notably agriculture and industry. Providing incentives i.e. tax exemptions, export subsidies, and the building of infrastructure in export-oriented zones are all ways to accomplish this goal. Increasing the base of non-oil exports may help minimize overdependence on oil, improve job prospects, and contribute to sustainable growth in the GDP among other benefits.
3. So as to rise productivity and the number of jobs available, it is necessary to have policies in place that both attract and keep FDI. It is imperative that the government of Nigeria address concerns over the ease of doing business, the clarity of the law, and corruption. Through the strengthening of investment protection regimes, the reduction of regulatory bottlenecks, and the improvement of infrastructure, Nigeria will become more appealing to investors from other nations. Employment and price stability are both supported by a macroeconomic environment that is stable, which in turn contributes to an upsurge in GDP growth.

4. Although there is the possibility of advantages brought about by trade openness, it should be controlled strategically so as to prevent undue dependency on imports and the collapse of local industries. Beneficial tariffs, import substitution policies, and export promotion policies should be implemented so as to promote competitiveness, safeguard emerging sectors, and assist the development of local content.

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