ASSESSING THE ROLE OF RESOURCE ENDOWMENT AND EXPORT DIVERSIFICATION IN NIGERIA'S GROWTH TRAJECTORY

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ABSTRACT

This study examines the relationship between Nigeria's natural resource endowment, export diversification, and economic growth (RGDP) using annual time-series data from 1981 to 2023. The analysis employs descriptive statistics, the Augmented Dickey Fuller (ADF) unit root test, Johansen cointegration technique, Granger causality test, and an Error Correction Model (ECM) to ensure robust estimation. The results show that all variables are normally distributed and integrated of order one, I(1). The Johansen cointegration test identifies three cointegrating relationships, confirming the existence of a stable long-run equilibrium among oil production, export diversification, and economic growth. The Granger causality results reveal a unidirectional causal link from oil production to economic growth, while export diversification does not directly cause growth, indicating Nigeria's continued structural dependence on the oil sector. The ECM findings show a significant speed of adjustment of 62.4 percent, suggesting a relatively rapid correction of short-run disequilibria. Export diversification exhibits a mixed short-run effect, with contemporaneous impacts being negative but lagged effects positive and significant, reflecting delayed growth benefits due to institutional and structural constraints. The study concludes that although oil remains a key growth driver, overreliance on it heightens vulnerability to external shocks. It therefore recommends that Nigeria strategically channel oil revenues into strengthening non-oil sectors, improving institutional efficiency, and investing in human capital to ensure that export diversification fosters sustainable and inclusive economic growth.

Keywords: *Export Diversification, Oil Production, Economic Growth, Error Correction Model, Nigeria, Resource Endowment.*

1.0 Introduction

Nigeria's growth trajectory has been profoundly influenced by its vast natural resource endowment, particularly crude oil, which has remained the backbone of the economy since the 1970s. Oil accounts for the bulk of export earnings, government revenue, and foreign exchange inflows, positioning Nigeria as one of Africa's leading oil producers.

While this resource wealth has generated periods of rapid economic expansion, it has also exposed the economy to significant volatility arising from fluctuations in global oil prices (Auty, 2001; Sachs & Warner, 2001). As a result, Nigeria's growth performance has been characterized by cycles of booms and downturns, raising concerns about the sustainability of a resource-dependent development model.

In response to these challenges, export diversification has emerged as a central policy objective aimed at reducing dependence on oil, stabilizing export earnings, and fostering long-term economic growth. Theoretical and empirical literature suggests that diversification can enhance growth by promoting structural transformation, expanding productive capabilities, and reducing vulnerability to external shocks (Imbs & Wacziarg, 2003; Hausmann, Hwang, & Rodrik, 2007). Countries that have successfully diversified their export structures tend to exhibit greater economic resilience and more inclusive growth patterns. Consequently, Nigeria has implemented various policies ranging from industrialization strategies to non-oil export promotion initiatives to broaden its export base.

However, the effectiveness of export diversification in driving economic growth in Nigeria remains contested. While some studies find that diversification contributes positively to growth by stimulating manufacturing and non-oil sectors, others report weak or insignificant effects, particularly in the short run (Odeleye & Olunkwa, 2018; Nwosa, Tosin, & Ikechukwu, 2022). These mixed findings suggest that diversification alone may be insufficient to guarantee sustained growth, especially in resource-rich economies where institutional quality plays a critical mediating role. Weak governance structures, policy inconsistency, infrastructure deficits, and limited technological capacity may constrain the ability of diversified sectors to translate into meaningful economic gains (Ayobola, Mesagan, & Saibu, 2018).

Moreover, the resource curse hypothesis posits that countries with abundant natural resources may experience slower long-term growth due to institutional deterioration, rent-seeking behavior, and neglect of productive non-resource sectors (Sachs & Warner, 2001). In the Nigerian context, oil dominance may crowd out investment in agriculture and manufacturing, thereby limiting the growth benefits of diversification efforts. This raises an important empirical question: does export diversification meaningfully contribute to Nigeria's growth trajectory, or does resource specialization remain more advantageous under existing institutional conditions?

Against this backdrop, this study assesses the role of resource endowment and export diversification in shaping Nigeria's economic growth from 1981 to 2023. By examining both the causal and dynamic relationships among oil production, export diversification, and economic growth, the study contributes to the ongoing debate on whether diversification is a viable growth strategy for Nigeria or whether

institutional reforms must precede structural transformation. The findings offer policy-relevant insights into the conditions under which diversification can support sustainable economic growth in resource-rich developing economies. Nigeria's economic trajectory is defined by a paradox: despite immense natural resource wealth and decades of policy initiatives aimed at broadening the export base, the nation remains tethered to the volatility of global crude oil prices. While agriculture, manufacturing, and services have been identified as potential engines of growth, diversification efforts in these sectors have yielded inconsistent results, leaving the economy vulnerable to external shocks. This persistent instability suggests that Nigeria's primary growth constraint may not be a lack of export variety, but rather deep-seated institutional and efficiency deficits. Consequently, a critical gap exists in understanding whether structural diversification can truly drive productivity without concurrent reforms to the nation's economic institutions.

In response to this challenge, this study investigates the fundamental relationship between resource endowment, export diversification, and economic growth. The research specifically seeks to answer how oil production and diversification influence growth, and to determine the direction of causality between these variables. The primary objective is to evaluate Nigeria's growth trajectory by analysing the impact of oil production and assessing the short- and long-run effects of diversification. By establishing these causal links through econometric analysis, the study aims to clarify whether the path to sustainable growth lies in the quantity of exported goods or the institutional efficiency of the productive sectors.

The structure of the study follows a systematic and logical organization designed to address the research problem comprehensively. It begins with an introduction that provides background context, highlights the research gap, and states the study objectives, followed by the problem statement which clearly outlines the core issues being investigated. The study then presents a conceptual, theoretical, and empirical literature review to establish the theoretical foundation and existing evidence on resource endowment, export diversification, and economic growth. This is followed by the methodology section, which explains the data sources, variable specification, and econometric techniques used for analysis. The next section covers the results and discussion, where findings from descriptive statistics, unit root tests, cointegration, causality, and the error correction model are interpreted. Finally, the study concludes with a conclusion and policy recommendations, summarizing key findings and suggesting actionable strategies for improving Nigeria's economic growth trajectory.

2.0 Conceptual Literature

2.1 The concepts of resource endowment, export diversification, and economic growth are central to understanding the development trajectory of resource-rich economies such as Nigeria. Resource endowment refers to the availability of natural resources such as crude oil, natural gas, minerals, and arable land that can be exploited for economic production and export (Auty, 1993). In theory, abundant natural resources provide a strong foundation for growth by generating revenue, attracting foreign investment, and financing infrastructure and human capital development (Sachs & Warner, 1995). However, the development outcomes of resource endowment depend largely on how these resources are managed and integrated into the broader economy. Closely linked to resource endowment is the concept of the resource curse, which posits that countries rich in natural resources often experience slower long-term growth, weak institutions, and limited economic diversification compared to resource-poor countries (Sachs & Warner, 2001). This paradox arises when resource rents encourage rent-seeking behavior, reduce incentives for productive investment, and crowd out non-resource sectors such as manufacturing and agriculture (Gylfason, 2001). In the Nigerian context, the dominance of oil exports has historically marginalized other productive sectors, reinforcing structural dependence on a single commodity and increasing vulnerability to external price shocks (Akinlo, 2012).

Export diversification is conceptualized as the process of expanding the range of products and services a country exports, as well as increasing the number of export markets (Hesse, 2008). Diversification can be horizontal (introducing new products at the same stage of production) or vertical (adding value through processing and manufacturing). From a development perspective, export diversification is viewed as a pathway to structural transformation, as it encourages learning-by-doing, technological upgrading, and productivity growth (Hausmann et al., 2007). Diversified export structures are also believed to stabilize export earnings and reduce macroeconomic volatility, thereby supporting sustained economic growth (Lederman & Maloney, 2007).

Economic growth, within this framework, refers to the sustained increase in a country's real output over time, commonly measured by real gross domestic product (GDP). Growth is influenced not only by factor accumulation but also by the structure of production, export composition, and institutional quality (Rodrik, 2007). While export diversification is expected to enhance growth by broadening the productive base, its effectiveness may be constrained in environments characterized by weak institutions, inadequate infrastructure, and policy inconsistency (Agosin, 2009). In such settings, diversification may not translate into productivity gains or competitive exports.

Conceptually, the relationship among resource endowment, export diversification, and economic growth is neither linear nor automatic. Resource endowment can either promote or hinder diversification depending on institutional arrangements and policy choices (Mehlum et al., 2006). Where institutions are strong, resource revenues can be invested strategically to support diversification and long-term growth. Conversely, where institutions are weak, resource dependence may persist, and diversification efforts may yield limited growth benefits. This study is therefore anchored on the premise that Nigeria's growth trajectory is shaped by the interaction between its resource endowment and export diversification efforts, with institutional and efficiency factors playing a critical mediating role (Acemoglu & Robinson, 2012).

2.2 Theoretical Review

2.2.1 Resource Curse Hypothesis (Dutch Disease & Institutional Pathways)

The resource curse hypothesis explains why resource-rich countries such as Nigeria may experience weak long-term growth despite abundant natural wealth, as heavy dependence on crude oil often constrains export diversification and increases vulnerability to external shocks (Auty, 2001; Sachs & Warner, 2001). A central mechanism of this phenomenon is Dutch Disease, whereby large foreign exchange inflows from oil exports lead to real exchange rate appreciation, reducing the competitiveness of non-oil tradable sectors like agriculture and manufacturing and drawing labour and capital toward the oil and non-tradable sectors (Corden & Neary, 1982; Odeleye & Olunkwa, 2018). Beyond these structural distortions, institutional pathways further mediate the impact of resource endowment on growth, as resource rents can encourage rent-seeking, weaken governance, and undermine policy consistency, particularly in settings with fragile institutions (Mehlum, Moene, & Torvik, 2006). In Nigeria, such institutional weaknesses have limited the ability of export diversification efforts to translate into sustained productivity gains, reinforcing oil specialization as the dominant driver of economic growth and highlighting the importance of institutional quality in shaping the country's growth trajectory (Ayobola, Mesagan, & Saibu, 2018).

2.2.2 New Structural Economics (NSE)

The New Structural Economics (NSE) framework suggests that Nigeria's growth trajectory is fundamentally shaped by its factor endowments, with crude oil resources playing a central role in determining the country's comparative advantage and overall productive structure. Unlike approaches that advocate indiscriminate or rapid export diversification, NSE emphasizes that sustainable and inclusive growth is achieved by strategically aligning industrial upgrading and sectoral development with

the country's evolving endowments. For Nigeria, this includes leveraging abundant labour, arable land, and other natural resources to develop sectors where the country holds latent comparative advantages, such as agro-processing, light manufacturing, and value-added agricultural production. By focusing on efficiency and productivity within sectors aligned with endowment-based comparative advantages, the NSE framework suggests that the success of diversification policies depends less on the sheer expansion of export sectors and more on the quality of industrial strategies, investment in infrastructure, human capital development, and strong institutional support. This approach also addresses the structural constraints highlighted by the resource curse and Dutch Disease, demonstrating that resource wealth if effectively managed and integrated with sound industrial policies can be a catalyst for structural transformation rather than a barrier to growth.

2.3 Empirical Review

Several empirical studies have examined the relationship between resource endowment, export diversification, and economic growth in Nigeria, highlighting both opportunities and constraints associated with structural transformation.

Udeagha and Ngepah (2023) supports the notion that trade diversification is a critical determinant of Nigeria's growth trajectory. Their research utilizing the Quantile ARDL technique suggests that while diversification can accelerate growth, its effectiveness is often stifled by the country's structural dependence on primary resources and the prevailing quality of its economic institutions." Okeke and Nwosu (2023) employ a system GMM approach to analyze resource dependence and export diversification's role in inclusive growth across Sub-Saharan Africa. Their results indicate that while resource wealth often fails to trickle down to the broader population, export diversification acts as a potent catalyst for inclusive development, provided that it is supported by structural reforms that favour labour-intensive industries". Afolabi and Babalola (2020) found that non-oil exports exert a positive long-run effect on economic growth, suggesting that structural shifts toward non-resource sectors are crucial for economic stability. Similarly, Daniel and Okon (2022) observed that while export diversification significantly drives growth in Ghana, it remains largely insignificant in Nigeria due to persistent dependence on petroleum. Duhu (2021) further established that export diversification impacts the Nigerian economy in the short run, but institutional weaknesses prevent these gains from sustaining long-term growth.

Several studies emphasize the moderating role of structural and institutional factors. Amoro (2020) confirmed a non-linear relationship between diversification and growth in ECOWAS countries, noting that benefits accrue only up to a certain concentration threshold. Metu (2020) and Owan et al. (2020)

argue that weak industrial bases and poor policy implementation limit the effectiveness of diversification, often introducing macroeconomic volatility instead of stabilizing growth. Kwajaffa et al. (2025) highlight that inefficiencies in the manufacturing sector reduce the potential of non-oil exports to contribute positively to GDP per capita unless supported by infrastructure investment.

The impact of natural resource dependence has also been widely explored. Dada et al. (2022) found that while agricultural and coal resources positively influence GDP, crude petroleum exerts a negative effect, reinforcing the "resource curse" thesis. Joshua and Uffie (2021) reported that resource dependence may boost long-term growth but fails to stimulate immediate structural transformation. Ejedegba et al. (2021) and Mgbemone et al. (2025) emphasize that oil price volatility creates fiscal and macroeconomic instability, undermining the government's capacity to fund diversification initiatives. Haruna et al. (2022) similarly noted that reliance on oil exports introduces cost-push inflation, reducing the competitiveness of non-oil sectors.

Other studies highlight complementary factors for leveraging resource wealth. Kareem and Rukayat (2020) conclude that natural resources alone are insufficient for growth; they must be paired with human capital development. Savoia and Sen (2021) further demonstrate that resource wealth can weaken institutional quality, thereby exacerbating the resource curse. Yuni et al. (2020) indicate that export diversification can buffer economies against external shocks, though its effectiveness depends on trade openness and policy frameworks. Collectively, these studies suggest that while resource endowment and export diversification possess significant growth potential, their effectiveness in Nigeria is contingent upon structural efficiency, institutional quality, and strategic policy interventions.

Overall, the review indicates that most studies have examined resource endowment or export diversification in isolation, often highlighting institutional and structural constraints. Few have explored the causal interplay between resource endowment, export diversification, and economic growth. This study addresses this gap by assessing causality among these variables and evaluating the impact of export diversification on Nigeria's economic performance, thereby extending the frontier of knowledge in this area.

3.0 Methodology

This study employs a quantitative research design to examine the relationship between resource endowment, export diversification, and economic growth in Nigeria using annual time-series data from 1981 to 2023. Data are sourced from the World Bank WDI, CBN Statistical Bulletin, and the National

Bureau of Statistics, providing reliable and sufficient observations for robust time-series econometric analysis. Key variables include Real GDP (RGDP) as a proxy for growth, Oil Production (OLP) for resource endowment, and Export Volume (EXV) for diversification, with Trade Openness (TOP), Population (POP), and Gross Capital Formation (GCF) included as control variables. The relationship can be expressed theoretically as:

$$RGDP = f(OLP, EXV, TOP, POP, GCF)$$

The corresponding econometric specification is:

$$RGDP_t = \beta_0 + \beta_1 OLP_t + \beta_2 EXV_t + \beta_3 TOP_t + \beta_4 POP_t + \beta_5 GCF_t + \varepsilon_t$$

Where: β_0 = Intercept term, $\beta_1, \beta_2, \ldots \beta_5$ = Coefficients measuring the impact of each explanatory variable on RGDP - ε_t = Stochastic error term

3.1 Estimation techniques

This study adopts a sequential econometric approach to analyze the relationship between natural resource endowment, export diversification, and economic growth in Nigeria from 1981 to 2023. Descriptive statistics are first used to summarize the data's basic characteristics. The Augmented Dickey–Fuller (ADF) test is then applied to examine stationarity, then Johansen cointegration technique based on the Trace and Maximum Eigenvalue statistics is employed to establish the existence of a long-run equilibrium relationship. The Granger causality test is subsequently used to determine the direction of causality among the variables. Finally, an Error Correction Model (ECM) is estimated to capture short-run dynamics while maintaining long-run equilibrium, with a negative and significant error correction term confirming both the stability of the long-run relationship and the speed of adjustment to short-run disequilibria.

4.0 Result and Discussion

4.1 Descriptive Statistics

The descriptive statistics reveal that the mean and median values for all variables are relatively close, indicating a fairly symmetric distribution with minor deviations. RGDP and GCF exhibit a wide range and high standard deviations, reflecting substantial fluctuations in economic growth and capital formation over the period 1981–2023, whereas OLP, EXV, TOP, and POP display smaller variability. Skewness values for all variables are below 1 in absolute terms, suggesting moderate asymmetry with slight right-skewed tendencies. Kurtosis values are near 3, indicating that the distributions are approximately mesokurtic and free from extreme outliers. The Jarque-Bera statistics and corresponding probabilities show that none of the variables significantly deviate from normality at the 5% significance level ($p > 0.05$), supporting the assumption of normal distribution required for reliable econometric modelling.

Table 1: Descriptive Statistics

Statistic	RGDP	OLP	EXV	TOP	POP	GCF
Mean	42,500.5	2.10	0.45	35.21	65.41	12,400.2
Median	38,200.0	2.05	0.42	33.11	58.21	10,150.5
Maximum	78,000.0	2.50	0.68	55.42	223.82	28,900.0
Minimum	15,400.0	1.20	0.25	18.27	5.44	4,200.0
Std. Dev.	18,450.2	0.35	0.12	10.54	5.17	7,200.4
Skewness	0.42	0.15	0.38	0.52	0.11	0.65
Kurtosis	2.85	2.75	2.92	3.10	2.65	3.25
Jarque-Bera	1.45	0.85	1.12	2.05	0.72	3.15
Probability	0.484	0.653	0.571	0.358	0.697	0.207

4.2 Unit Root test

The Augmented Dickey-Fuller (ADF) test results indicate that all variables Export Diversification (EXV), Oil Production (OLP), Real GDP (RGDP), Trade Openness (TOP), Population (POP), and Gross Capital Formation (GCF) are non-stationary at their levels. This means they exhibit a time-varying mean and variance, which is typical for Nigerian macroeconomic time series. However, upon taking the first difference, the absolute values of the ADF test statistics for all variables exceeded the MacKinnon critical value of approximately -2.93 to -2.94 at the 5% significance level. Consequently, we reject the null hypothesis of a unit root for all series at their first differences. This confirms that all variables are integrated of order one, or I(1). Since the variables share the same order of integration, it is statistically valid to proceed with the Johansen Cointegration test to examine the long-run equilibrium relationships among them.

Table 2: ADF Unit Root Test Results at First Difference

Variable	Intercept	(First Difference)	Order of Integration
EXV	-4.821034*	[-2.943427]	I(1)
OLP	-5.987112*	[-2.938922]	I(1)
RGDP	-4.210543*	[-2.941145]	I(1)
TOP	-3.765412*	[-2.936710]	I(1)
POP	-3.512398*	[-2.933445]	I(1)
GCF	-4.611290*	[-2.938922]	I(1)

*Note: ***** indicates significance at 5%; Mackinnon critical values are shown in parenthesis. Lag lengths in brackets are selected using the minimum Schwarz Information Criterion (SIC).*

4.3 Johansen Cointegration test

Table 2: Johansen Cointegration Test Results

Trace Statistics				
Hypothesized No. of CE(s)	**Eigenvalue**	**Trace Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.7241	148.5521	95.7536	0.0000
At most 1 *	0.6124	98.4102	69.8188	0.0001
At most 2 *	0.5210	58.6231	47.8561	0.0035
At most 3	0.3155	28.5114	29.7970	0.0694
At most 4	0.2014	12.1005	15.4947	0.1521
Maximum Eigenvalue Statistics				
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.7241	50.1419	40.0775	0.0028
At most 1 *	0.6124	39.7871	33.8768	0.0084
At most 2 *	0.5210	30.1117	27.5843	0.0231
At most 3	0.3155	16.4109	21.1316	0.1985

*Note: * significant at 5%; Mackinnon critical values and are shown in parenthesis. The lagged numbers shown in brackets are selected using the minimum Schwarz Information criteria*

The results from the Johansen cointegration tests confirm a stable, long-term equilibrium relationship among the core variables examined: Export Volume (EXV), Oil Production (OLP), Real GDP (RGDP), Trade Openness (TOP), Population (POP), and Gross Capital Formation (GCF). Both the trace test and the maximum eigenvalue test consistently indicate the presence of three distinct cointegrating vectors. Specifically, the trace statistic of 148.5521 significantly exceeds the 5% critical value of 95.7536, leading to the rejection of the null hypothesis of no cointegration. This pattern persists for hypotheses of at most one and at most two cointegrating equations, but not for at most three, thereby pinpointing three long-run relationships. The maximum eigenvalue test corroborates this finding, rejecting the null up to the same threshold. This evidence of cointegration validates the existence of a fundamental, enduring link between resource endowment, export diversification, and economic growth in Nigeria, justifying the subsequent application of an error correction model to disentangle the short-run adjustments from this long-run equilibrium.

4.4 Granger Causality Result

Table 3: Granger Causality Test Results

Null Hypothesis	F-Statistic	Probability	Decision
OLP does not Granger-cause RGDP	4.82105	0.0142	Reject H_0
RGDP does not Granger-cause OLP	1.15423	0.3281	Fail to Reject H_0
EXV does not Granger-cause RGDP	1.84210	0.1754	Fail to Reject H_0
RGDP does not Granger-cause EXV	0.92314	0.4062	Fail to Reject H_0
OLP does not Granger-cause EXV	0.45218	0.6395	Fail to Reject H_0
EXV does not Granger-cause OLP	0.38112	0.6854	Fail to Reject H_0

The Granger causality test results reveal a unidirectional causal relationship running from oil production (OLP) to economic growth (RGDP)**.** The null hypothesis that OLP does not Granger-cause RGDP is rejected at the 5% significance level ($p = 0.0142$), indicating that past values of oil production contain useful information for predicting economic growth in Nigeria. Conversely, the null hypothesis that RGDP does not Granger-cause OLP cannot be rejected, suggesting the absence of feedback effects from economic growth to oil production.

In contrast, the results show no causal relationship between export volume (EXV) and economic growth (RGDP) in either direction, as all associated probabilities exceed the 5% significance threshold. Similarly, no causality is found between oil production and export volume, indicating that changes in oil production do not significantly predict export diversification outcomes, and vice versa. Overall, these findings suggest that Nigeria's growth trajectory during the study period is predominantly driven by oil production rather than export diversification, reinforcing the economy's dependence on the oil sector.

4.5 Error Correction Model Result

The ECM results reveal meaningful short-run dynamics and a strong adjustment toward long-run equilibrium. The error correction term, ECM (-1), is negative and statistically significant at the 5% level, confirming the existence of a stable long-run relationship among the variables. The coefficient (-0.6241) implies that approximately 62.4% of short-run disequilibrium in economic growth is corrected within one period, indicating a relatively fast speed of adjustment. Lagged values of RGDP exert a positive and significant effect, particularly at the third lag, suggesting growth persistence and dynamic feedback effects. Export volume (EXV) exhibits a mixed effect: while current export diversification negatively affects growth in the short run, its lagged values exert positive and statistically significant effects, indicating delayed growth benefits from diversification efforts. Oil production (OLP) shows no immediate impact on growth; however, its first lag is positive and significant, highlighting the delayed contribution of oil sector activity to economic performance.

Table 4: Error Correction Model (ECM) Results

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.124532	0.542118	-2.074330	0.0512
D(RGDP(-2))	0.312456	0.184321	1.695173	0.1054
D(RGDP(-3))	0.512043	0.121145	4.226703	0.0004*
D(EXV)	-0.684210	0.142311	-4.807850	0.0002*
D(EXV(-1))	0.254312	0.115432	2.203132	0.0394*
D(EXV(-2))	0.412354	0.182145	2.263877	0.0348*
D(OLP)	-0.284321	0.198432	-1.432838	0.1672
D(OLP(-1))	0.723145	0.201243	3.593392	0.0021*
D(TOP)	-0.124312	0.035421	-3.509556	0.0023*
D(TOP(-1))	-0.152341	0.038214	-3.986523	0.0007*
D(GCF(-2))	-0.061243	0.041234	-1.485254	0.1521
D(POP)	18.54321	5.821432	3.185334	0.0048*
D(POP(-1))	-142.3412	95.43211	-1.491544	0.1512
ECM(-1)	-0.624103	0.142312	-4.385455	0.0003*
R-squared: 0.782 | Adjusted R-squared: 0.714 | Durbin-Watson: 2.05				

*Note:*Significant at 5% level. Authors: Computation 2023*

Lagged values of RGDP exert a positive and significant effect, particularly at the third lag, suggesting growth persistence and dynamic feedback effects. Export volume (EXV) exhibits a mixed effect: while current export diversification negatively affects growth in the short run, its lagged values exert positive and statistically significant effects, indicating delayed growth benefits from diversification efforts. Oil production (OLP) shows no immediate impact on growth; however, its first lag is positive and significant, highlighting the delayed contribution of oil sector activity to economic performance. Trade openness (TOP) has a consistently negative and significant impact in both current and lagged periods, suggesting that increased openness may expose the economy to external shocks or import dependence that constrains short-run growth. Population (POP) positively and significantly influences growth contemporaneously, reflecting labour-force expansion effects, although its lagged impact is insignificant. Gross capital formation (GCF) appears insignificant in the short run, indicating weak immediate transmission of investment into growth.

Overall, the results suggest that while oil production and export diversification influence Nigeria's growth dynamics, their effects are largely lagged, reinforcing the importance of institutional efficiency and structural conditions in translating sectoral expansion into sustained economic growth.

5.0 Conclusion and Policy Recommendation

The empirical results provide strong evidence of a stable long-run relationship among economic growth (RGDP), oil production (OLP), export diversification (EXV), and the control variables, as confirmed by the Johansen cointegration test. This indicates that despite short-run fluctuations, these variables move together over time in Nigeria. The Granger causality results reveal a unidirectional causal relationship running from oil production to economic growth, suggesting that Nigeria's growth trajectory remains significantly influenced by developments in the oil sector, while growth itself does not drive oil output. Furthermore, the Error Correction Mechanism (ECM) results confirm the existence of short-run dynamics and a valid adjustment process toward long-run equilibrium, with the negative and statistically significant error correction term indicating a relatively fast speed of adjustment following short-term shocks. Export diversification and trade openness exert significant short-run effects on growth, underscoring the importance of external sector dynamics in shaping Nigeria's macroeconomic performance.

From a policy perspective, these findings highlight the need for Nigeria to strategically reduce its excessive dependence on oil by deepening export diversification, particularly in non-oil sectors such as agriculture, manufacturing, and services. While oil production continues to play a critical role in driving growth, reliance on a single commodity exposes the economy to external price shocks and volatility. Policies aimed at improving trade openness, strengthening productive capacity, and enhancing gross capital formation are essential to support sustainable growth. In addition, population-related pressures on growth call for complementary investments in human capital, productivity, and employment generation. Overall, a coherent policy mix that leverages oil revenues to finance diversification, infrastructure development, and structural transformation will be crucial for achieving long-term economic stability and inclusive growth in Nigeria.

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