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Fiscal Policy, Industrialisation and Economic Diversification in Nigeria

Warlice Joel Uche
Department of Economics, University of Africa Toru-Orua, Bayelsa State
Email. warlice.uche@uat.edu.ng

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Abstract: *This research looked at the impact of fiscal policy and industrialization on Nigeria's economic diversification over the period 1990-2024, using secondary data collected from publications such as the Statistical Bulletin of the Central Bank of Nigeria (2024) and the World Bank Development Outlook (2024). Nigeria over dependence of oil has brought several problems in the economy, such as high unemployment, low levels of industrialisation, and a lack of jobs. To examine the correlations among the variables in the short and long term, the Autoregressive Distributed Lag (ARDL) bounds testing method was used. The ARDL model analysis shows that government expenditure on agriculture boosts non-oil GDP in the short and long term, highlighting agriculture's importance in reducing oil reliance. Currency volatility hurts the non-oil economy, while manufacturing expenditure has a little beneficial effect. Moderate inflation may also boost short-term growth in some industries. The research emphasises the relevance of agriculture investment and macroeconomic variables like inflation and currency rates for Nigeria's long-term economic diversification and recommend that government should prioritise increasing agricultural investment to promote productivity, infrastructure, and technology adoption, promoting non-oil GDP development and lowering oil reliance and diversify the economy, policies should prioritise tax incentives, finance availability, and public-private partnerships to boost industrial growth.*
Keywords: economic, diversification, non-oil, ARDL, fiscal policy, industrialization

INTRODUCTION

Nigeria's economy has been based on crude oil for a long time, which has made it quite vulnerable to changes in global prices and other shocks. This has caused ongoing problems with the economy, such as high unemployment, low levels of industrialisation, and a lack of jobs. As a result, expanding the non-oil sector to diversify the economy has become a key priority of national development policy (Ajakaiye & Ncube, 2020). To make this change happen, there needs to be an active and well-thought-out fiscal policy framework that can boost output growth in productive

sectors like agriculture and manufacturing. This will raise non-oil GDP and lay the groundwork for long-term industrialisation.

Fiscal policy, which includes taxes and government spending, is one of the most powerful macroeconomic levers for changing how resources are used, what motivates output, and long-term growth (Musgrave & Musgrave, 2019). In developing economies such as Nigeria, government spending on agriculture and manufacturing is a strategic tool for broadening the non-oil base, creating more jobs, and encouraging exports that add value (Audu & Okpe, 2022). But Nigeria's finances have historically been dominated by recurring costs, which have made it hard to invest in productive capital (Nwosa, 2021). This mismatch has made it harder for fiscal policy to have a big effect on the real sector, especially in agriculture and industry, which are the two most important parts of non-oil GDP. Because of this, the growth of non-oil GDP has been unstable, averaging less than 3% in recent years, which is not enough to keep up with the rapidly growing workforce (National Bureau of Statistics [NBS], 2023).

The agricultural sector, which was the backbone of the Nigerian economy before the oil boom, is still very important to the non-oil GDP since it helps with food security, rural employment, and industrial raw materials. However, government spending on agriculture has consistently fallen short of the Maputo Declaration's goal of 10% of national budgets, which has hurt productivity and competitiveness (Food and Agriculture Organisation [FAO], 2021). The manufacturing sector, which should be the backbone of Nigeria's industrialisation, is still having problems because of things like bad infrastructure, inconsistent policies, and not enough government money (Ehinomen & Adeleke, 2020). The limited public investment in these sectors has hindered their ability to facilitate sustained non-oil GDP growth and promote economic diversification.

Nigeria's ongoing reliance on oil money renders its economy vulnerable to external shocks and cyclical fluctuations, thereby hindering inclusive growth and structural transformation. Even though many governments have stressed the need to diversify the economy by developing industry and agriculture, progress has been slow. The non-oil sector should be the main driver of long-term growth, job creation, and value addition, but it hasn't been able to do so because of inadequate fiscal commitment and uneven policy implementation (CBN, 2023; World Bank, 2022). Nigeria's non-oil GDP growth rate has stayed unstable, averaging less than 3% in recent years (National Bureau of Statistics [NBS], 2023). This is despite many reforms, such as the Agricultural Transformation Agenda (ATA), the National Industrial Revolution Plan (NIRP), and the Economic Recovery and Growth Plan (ERGP) (Aregbeyen & Kolawole 2020).

One important part of this problem is how fiscal spending is set up and what it is made up of. Public spending has been strongly skewed towards recurrent consumption, whereas few capital

outlays are directed to the productive sectors of agriculture and manufacturing (Nwosa, 2021). As a result, fiscal policy has not been able to boost industrial output, improve agricultural productivity, or grow the non-oil GDP base. Despite agriculture and manufacturing constituting a substantial share of employment and non-oil exports, the fiscal focus on these sectors has been inconsistent and frequently falls short of internationally recommended standards, exemplified by the Maputo Declaration's objective of designating a minimum of 10% of the national budget to agriculture (FAO, 2021).

Theoretical and empirical evidence concerning the efficacy of fiscal expenditure on non-oil GDP performance is inconsistent and unsatisfactory. For instance, Aregbeyen and Kolawole (2020) identified a favourable correlation between sectoral government expenditure and non-oil economic growth, while Egbetunde and Fasanya (2021) discovered negligible impacts of fiscal expenditure on industrial output. Audu and Okpe (2022) also said that weak links between spending on agriculture and manufacturing have made it harder for fiscal policy to affect the rest of the non-oil sector. These differing results indicate the necessity for a more sophisticated econometric analysis that encompasses both short-term and long-term dynamics of fiscal expenditure and sectoral output performance.

LITERATURE REVIEW

Theoretical Review

Keynesian Theory of Fiscal Policy

The Keynesian hypothesis, proposed by John Maynard Keynes (1936) in The General hypothesis of Employment, Interest, and Money, is still one of the most prominent frameworks in contemporary fiscal policy analysis. Keynes contended that during periods of underemployment and idle capacity, aggregate demand is the primary determinant of output and employment. As a result, an increase in government spending, particularly in productive areas, stimulates demand, encourages investment, and boosts national revenue via the multiplier effect (Keynes 1936).

In Nigeria, fiscal expansion through public spending on agriculture and manufacturing boosts sectoral output, increases rural incomes, and promotes non-oil GDP development. For example, agricultural subsidies and capital allocations to manufacturing facilities can increase productivity and employment while also encouraging aggregate demand and supply (Ajakaiye & Ncube, 2020). The Keynesian model also advocates counter-cyclical fiscal policies, which indicate that the government should spend more during downturns to counterbalance private-sector weakness—an important understanding for Nigeria's oil-price-driven economic cycles. However, Keynesian theory has been attacked for its emphasis on the short run and disregard for budgetary

sustainability. Persistent fiscal deficits, which are prevalent in emerging economies such as Nigeria, can lead to inflationary pressures, debt buildup, and crowding-out effects if spending is not carefully managed (Nwosa, 2021). Despite this restriction, the Keynesian perspective is nonetheless useful in explaining how government expenditure in productive sectors boosts non-oil output and industrial activity in the near run.

Endogenous Growth Theory

Romer (1986) and Lucas (1988) developed the Endogenous Growth Theory, which goes beyond the Keynesian short-run focus and explains the long-run drivers of economic expansion through internal mechanisms like human capital accumulation, technological innovation, and knowledge spillovers. Unlike neoclassical models, which ascribe development to external technical progress, endogenous growth models argue that policy-induced investments in education, research, and infrastructure provide growing returns to scale, hence maintaining growth over time.

In Nigeria, the idea says that fiscal spending on agriculture and manufacturing boosts long-term non-oil GDP by increasing productive capacity, spurring innovation, and improving efficiency. Agricultural investment promotes research, mechanisation, and productivity advances, whereas manufacturing expenditure improves industrial technologies and value-added processing. These investments broaden the productive frontier of the non-oil economy and encourage diversification.

The endogenous growth approach is particularly pertinent to this study because it relates fiscal policy decisions to long-term structural transformation rather than just cyclical demand management. However, its limitation stems from the assumption of efficient institutions and optimal policy implementation, which are frequently undermined in Nigeria by corruption, weak fiscal discipline, and low public investment efficiency (Olayemi et al., 2023).

Empirical Review

Andohol (2024) examined Trade Liberalisation, Non-Oil Exports, and Economic Growth in Nigeria to assess the impacts of trade openness and fiscal policy on non-oil exports and economic growth. The research encompassed the years 1990 to 2022, utilising data from the National Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN), and employed the Autoregressive Distributed Lag (ARDL) bounds testing methodology. The results showed that non-oil exports had a positive effect on GDP, and that fiscal support for export-oriented industries, especially agro-processing and manufacturing, was needed to keep diversification and industrial growth going.

Joseph (2024) undertook a study entitled "Capital and Recurrent Expenditure and Economic Growth in Nigeria" to ascertain the varying effects of capital and recurrent spending on economic

performance. Utilising annual data from 1981 to 2022 obtained from the CBN and NBS, and employing cointegration and error correction analysis, the findings indicated that both types of expenditure positively impacted economic growth, with capital expenditure demonstrating a more pronounced long-term effect. The study suggested that more money should be put into agriculture and manufacturing to boost non-oil GDP and structural diversification.

Olayemi, Yusuf, and Adegboye (2023) conducted a study entitled "Fiscal Sustainability, Public Investment Efficiency, and Industrial Growth in Sub-Saharan Africa," aimed at analysing the impact of fiscal efficiency on industrial growth across 25 African economies, including Nigeria, from 1990 to 2022. The results, which came from IMF and World Bank data and were analysed using panel ARDL estimation, showed that the efficiency of fiscal investment, not the amount of spending, was the main factor that affected industrial output. The study identified weak project execution and fiscal indiscipline in Nigeria as significant constraints and recommended the fortification of fiscal governance to improve industrial performance and stimulate non-oil GDP growth.

Uche and Obeng (2023) analysed Public Investment, Fiscal Policy, and Economic Diversification in West Africa to explore the role of fiscal investments in fostering economic diversification across 10 ECOWAS nations from 1995 to 2021. Utilising World Bank and IMF fiscal data and employing a Dynamic Panel GMM methodology, the results indicated that productive fiscal investments in agriculture and manufacturing substantially improved non-resource GDP. The study determined that Nigeria ought to synchronise its fiscal policy with regional industrial development frameworks to attain significant diversification.

Abubakar and Bello (2023) examined Oil Price Dynamics, Fiscal Responses, and Non-Oil Growth in Nigeria to evaluate the impact of fiscal policy responses to oil price variations on non-oil sector performance from 1981 to 2020. Utilising secondary data from the CBN and IMF and employing the Nonlinear ARDL methodology, the study identified asymmetric fiscal responses: positive oil price shocks augmented allocations to productive sectors and enhanced non-oil growth, whereas negative shocks diminished these allocations. The study suggested the adoption of fiscal regulations and safeguards to preserve stability in non-oil expenditures amid declines in oil revenues.

Audu and Okpe (2022) examined Public Expenditure and Sectoral Output in Nigeria to ascertain the impact of government spending on performance in critical non-oil sectors. The research encompassed the years 1981 to 2020 and utilised secondary data from the Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS). The researchers utilised the Error Correction Model (ECM) and discovered that agricultural expenditure had a substantial positive influence on

non-oil GDP, whereas manufacturing expenditure produced ambiguous effects due to infrastructural constraints and limited absorptive capacity. The study suggested improving the effectiveness of fiscal expenditures and maintaining consistency in capital investment to foster economic diversification.

Egbetunde and Fasanya (2021) investigated Fiscal Policy and Industrial Performance in Nigeria to analyse the relationship between fiscal expenditure and industrial output. The study utilised annual data from 1980 to 2019 sourced from the CBN Statistical Bulletin, employing Ordinary Least Squares (OLS) regression and Granger causality tests. The findings demonstrated that total public expenditure exhibited a positive yet statistically insignificant correlation with manufacturing output. The authors determined that inconsistent policies and insufficient infrastructure have impeded the efficient transmission of fiscal policy to industrial growth in Nigeria.

Nwosa (2021) examined Government Expenditure and Sectoral Output Performance in Nigeria to ascertain the impact of fiscal expenditure on sectoral GDP components from 1981 to 2018. Utilising time-series data from the Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS) and employing the Vector Error Correction Model (VECM), the study demonstrated that agricultural expenditure had a significant and positive impact on sectoral output, while manufacturing expenditure exhibited a delayed yet positive effect. The research indicated that ongoing fiscal investment in productive sectors could maintain non-oil growth and mitigate excessive reliance on crude oil revenues.

Aregbeyen and Kolawole (2020) undertook a study on Fiscal Policy and Non-Oil Economic Growth in Nigeria, aiming to analyse the correlation between fiscal policy variables and non-oil GDP growth. The study utilised annual time-series data from 1981 to 2018, obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and the World Bank World Development Indicators, employing the Autoregressive Distributed Lag (ARDL) bounds testing methodology. The results showed that both capital and recurrent spending had a big effect on non-oil GDP over the long term, but recurrent spending had a smaller effect than capital spending. The study determined that efficient fiscal management and the prioritisation of capital expenditure in productive sectors are essential for attaining sustainable diversification in Nigeria.

Ajakaiye and Ncube (2020) examined Fiscal Policy, Industrialisation, and Economic Transformation in Africa to evaluate the impact of fiscal policies on structural change in 20 Sub-Saharan African countries from 1990 to 2018. Utilising a Panel Generalised Method of Moments (GMM) estimation technique and data from the World Bank and IMF, the study demonstrated that nations sustaining consistent capital expenditure in agriculture and manufacturing experienced

elevated non-resource GDP growth rates. The authors suggested that Nigeria should shift its fiscal spending from consumption to capital investment in productive sectors to promote non-oil GDP growth.

Ehinomen and Adeleke (2020) examined Industrialisation and Economic Diversification in Nigeria: Challenges and Policy Options to evaluate the impact of fiscal and trade policies on industrial diversification. The research encompassed the years 1985 to 2018, utilising data sourced from the Central Bank of Nigeria (CBN) and the World Development Indicators. The results from regression and descriptive analysis showed that problems with fiscal policies, low capital allocations, and poor infrastructure made industries less competitive. The study suggested a stable and productivity-driven fiscal framework to promote diversification and enhance the manufacturing sector's contribution to non-oil GDP.

METHODOLOGY

This chapter presents the methodological framework adopted to examine fiscal policy, industrialisation and economic diversification in Nigeria, with particular emphasis on agricultural and manufacturing expenditure as key drivers of non-oil GDP. It outlines the research design, data sources, model specification, estimation techniques, and analytical procedures employed to achieve the study's objectives. The methodology is structured to provide both theoretical and empirical rigour, ensuring that the relationships among the study variables are accurately measured and interpreted. By employing the Autoregressive Distributed Lag (ARDL) Bounds Testing approach, the study captures both short-run and long-run dynamics between fiscal policy instruments and non-oil economic performance, thereby providing reliable evidence for policy formulation aimed at promoting sustainable industrial growth and diversification in Nigeria.

Nature and Sources of Data

The study employs annual secondary data covering 1990–2024, obtained from authoritative national and international sources. Specifically, data on non-oil GDP, agricultural expenditure, manufacturing expenditure, and control variables were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin (2023), the National Bureau of Statistics (NBS), and the World Bank's World Development Indicators (WDI, 2024). All variables are measured in natural logarithms to stabilise variance and reduce heteroskedasticity.

Model Specification

The model is theoretically grounded in the Endogenous Growth Theory, which posits that government expenditure on productive sectors such as agriculture and manufacturing enhances long-term growth through capital formation, innovation, and productivity. Following the works of

Aregbeyen and Kolawole (2020) and Audu and Okpe (2022), the functional form of the model is specified as:

NONGDP = f(AGREXP, MAEXP, EXCHR, INFLR) (3.1)

This functional form is transformed into a linear econometric equation as follows:

LN(NONGDP)_t = $\varphi_0 + \varphi_1 LN(AGREXP)\_t + \varphi_2 LN(MAEXP)\_t + \varphi_3 EXCHR\_t$ $\varphi_4 INFLR\_t + \mu\_t$ (3.2)

Where:

NONGDP = Non-oil Gross Domestic Product (proxy for economic diversification)

AGEXP = Government expenditure on agriculture

MAEXP = Government expenditure on manufacturing

Exchange Rate = Real exchange rate

INFL = Inflation rate

LN = Natural Logarithm

$\varphi_0 = Constant\ term$

$\varphi_1 - \varphi_4$ = Long-run elasticities of explanatory variables

μ_t = Error term

Estimation Technique

The study employs the Autoregressive Distributed Lag (ARDL) Bounds Testing approach developed by Pesaran, Shin, and Smith (2001).

The ARDL model for this study is expressed as:

$\Delta LN(NONGDP)t = \alpha_0 + \sum \alpha_{1i} \Delta LN(NONGDP)\{t-i\} + \sum \alpha_{2i} \Delta LN(AGEXP)\{t-i\} + \sum \alpha_{3i} \Delta LN(MAEXP)\{t-i\} + \sum \alpha_{4i} \Delta EXCHR\{t-i\} + \sum \alpha_{5i} \Delta INFLR_{\{t-i\}} + \theta_1 LN(NONGDP)\{t-1\} + \theta_2 LN(AGEXP)\{t-1\} + \theta_3 LN(MAEXP)\{t-1\} + \theta_4 EXCHR\{t-1\} + \theta_5 INFLR\{t-1\} + \varepsilon\_t$ (3.3)

Where:

where Δ denotes the first-difference operator, α represents short-run coefficients, θ denotes white-noise error term.

A Priori Expectations

Theoretically, agricultural expenditure is expected to exert a positive effect on non-oil GDP,. Similarly, manufacturing expenditure is anticipated to have a positive relationship with non-oil GDP. Capital expenditure is also expected to influence non-oil GDP positively. The real exchange rate may have either a positive or negative effect. Conversely, inflation is expected to have a negative effect on non-oil GDP.

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RESULTS AND DISCUSSION

Descriptive Statistics Results

These descriptive statistics give a preliminary idea of the nature of the distribution of the model as well as the magnitude of the relationship amongst the variables used in the study.

Table: 4.1 Descriptive Statistics

VARIABLES	NONGDP	MAEXP	AGEXP	EXCHR	INFLR
Mean	6188850.	12.83593	433.0094	161.3147	18.36814
Median	2937208.	11.93621	322.2821	130.7550	12.10000
Maximum	24596788	20.92708	2048.422	645.1900	76.80000
Minimum	42904.40	6.552817	6.356700	8.040000	0.200000
Std. Dev.	7046017.	4.407131	446.5245	143.1272	16.57340
Skewness	1.194902	0.353365	1.881584	1.425237	2.197354
Kurtosis	3.337017	1.739827	6.757024	5.187665	7.191143
Jarque-Bera	8.251723	2.957295	40.05861	18.29069	52.24544
Probability	0.016150	0.227946	0.000000	0.000107	0.000000

Source: Field Work, 2026.

In Table 4.1, non-oil GDP (NONGDP) data has a right-skewed distribution with a mean of 6,188,850 and a median of 2,937,208. This reflects periods of great expansion, as seen by the high of 24,596,788, and economic decline, with a minimum of 42,904. The 7,046,017 standard deviation shows large non-oil GDP variations. A somewhat right-skewed distribution with moderate outliers is indicated by the skewness (1.19) and kurtosis (3.34) values, and the Jarque-Bera test ($p = 0.016$) confirms non-normality.

Government manufacturing expenditure (MAEXP) has a mean of 12.84 and a median of 11.94, indicating a symmetric distribution. The Jarque-Bera test ($p = 0.228$) demonstrates that spending follows a normal distribution with a standard deviation of 4.41. The dataset's kurtosis (1.74) and skewness (0.35) indicate fewer extreme values. Agriculture government spending (AGEXP) has a right-skewed distribution (skewness of 1.88) with a mean of 433.01, much higher than the median (322.28). This indicates substantial agriculture spending, peaking at 2048.42. The Jarque-Bera test ($p = 0.000$) supports non-normality, whereas the high kurtosis (6.76) implies outliers. Agricultural spending volatility is shown by the 446.52 standard deviation.

Exchange rates (EXCHR) range from 161.31 to 645.19 and 8.04, indicating significant volatility. In nations with currency crises, exchange rates fluctuate greatly, as seen by the right-skewed distribution (skewness of 1.43) and significant kurtosis (5.19). The Jarque-Bera test ($p = 0.000$) shows that exchange rate data is not normally distributed. Finally, the inflation rate (INFLR) has a mean of 18.37% and a standard deviation of 16.57 and skewness of 2.20, indicating volatility.

Outliers (kurtosis of 7.19) with a maximum value of 76.80 indicate hyperinflation. Jarque-Bera (p = 0.000) indicates non-normality, verifying extreme inflationary activities over the time.

Data Analysis

Unit Root Test Results

The results of the Phillip-Perron (PP) test for the study variables are presented in Table 4.2

Table 4.2: Phillip-Perron (PP) Unit Root Test

Variable	PP Statistic		Critical Value (5%)		~I(d)
	Level	Prob.	1st Diff.	Prob.	
NONGDP	-3.237445	0.0948	-11.54569	0.0000	I(1)
CO2	-2.312995	0.4158	-5.790626	0.0002	I(1)
MAEXP	0.237578	0.9973	-4.918824	0.0020	I(1)
AGEXP	-2.337994	0.4032	-6.498833	0.0000	I(1)
EXCHR	-2.476095	0.3370	-5.22947	0.0009	I(1)
INFLR	-4.495937	0.0057			I(0)

Source: Field Work, 2026.

The unit root test shows that most variables—NONGDP, CO2, MAEXP, AGEXP, and EXCHR—are non-stationary at I(1) but stationary at the first difference. In contrast, INFLR is stationary at (I(0)). The ARDL (Autoregressive Distributed Lag) method is ideal for your research since it may analyse variables with varied stationarity (I(0) and I(1)). ARDL permits stationary and non-stationary variables without needing the same integration order. Thus, the ARDL technique may simulate short-term and long-term fiscal policy instrument-non-oil economic performance dynamics despite your variables' heterogeneous order of integration.

Optimal Lag Length

Optimal Lag Length

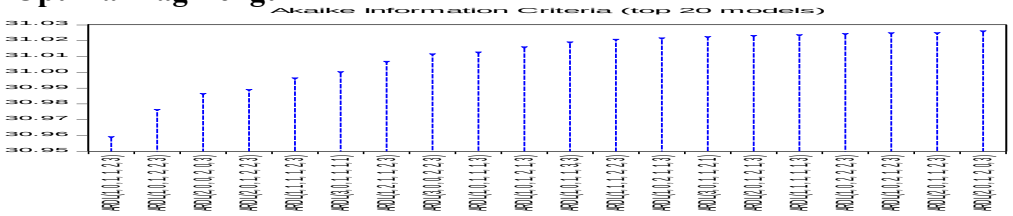

Figure 4.1 AIC lag length Criteria

Source: Field Work, 2025

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ARDL Bound Test

The ARDL bounds test was conducted to determine whether a long-run equilibrium relationship exists among the variables during the study period.

Table 4.3 ARDL Bound Test Output

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	6.813993	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: Field Work, 2025.

The bound test reveals that the F-statistic (6.81) exceeds the upper limit critical values at all significant levels (10%, 5%, 2.5%, and 1%), rejecting the null hypothesis of no long-run association. This implies that the variables have a substantial long-run cointegrating connection, supporting the use of the ARDL model to analyse short- and long-run dynamics.

ARDL Long-run

Table 4.4 Long-run ARDL Output

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(MAEXP)	927081.6	461406.2	2.009253	0.0617
LOG(AGEXP)	1693131.	403703.6	4.193994	0.0007
EXCHR	391.7760	2352.933	0.166505	0.8698
INFLR	51511.80	14917.10	3.453205	0.0033
ECT(-1)	-0.118386	0.089913	-1.316671	0.2065
C	-11909623	2705918.	-4.401325	0.0004

EC = D(NONGDP) - (927081.5939*LOG(MAEXP) + 1693130.6370
*LOG(AGEXP) + 391.7760*EXCHR + 51511.7958*INFLR -0.1184*ECT(
-1) -11909623.4818)

Source: Field Work, 2026.

A 1% rise in government manufacturing spending increases non-oil GDP by 927,081.6, according to LOG(MAEXP). The p-value of 0.0617 is somewhat above the 5% criterion, but it is still significant at the 10% level, demonstrating that government investment on manufacturing has a limited beneficial influence on economic diversity.

A 1% rise in government farm spending increases non-oil GDP by 1,693,131.0, according to LOG(AGEXP). A large p-value of 0.0007 shows that agriculture expenditure boosts Nigeria's non-oil economy. Sustainable agriculture investment is crucial for economic diversification.

A 1% exchange rate depreciation would raise non-oil GDP by 391.7760, according to the EXCHR coefficient. Due to the strong p-value of 0.8698, this model shows that the exchange rate has no long-term influence on Nigeria's non-oil GDP. While a 1% increase in inflation increases non-oil GDP by 51,511.80. The long-term beneficial effect of inflation on non-oil GDP is statistically significant (p-value 0.0033). The surprising positive link may indicate short-term inflationary pressures supporting agriculture and industry.

Error Correction Term (ECT) is -0.118386, representing the system's long-run equilibrium adjustment speed. The ECT is statistically negligible at 0.2065, indicating that the adjustment to equilibrium is sluggish and does not significantly alter non-oil GDP long-run dynamics in this model.

ARDL Short-run Output

Table 4.5 Short run ARDL Output

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NONGDP(-1))	-1.118873	0.351420	-3.183863	0.0058
LOG(MAEXP)	1964368.	1036636.	1.894944	0.0763
LOG(AGEXP)	1228376.	762815.1	1.610320	0.1269
LOG(AGEXP(-1))	2359153.	921660.3	2.559677	0.0210
EXCHR	-21168.73	7207.891	-2.936883	0.0097
EXCHR(-1)	21998.85	8547.443	2.573735	0.0204
INFLR	53238.42	31015.95	1.716485	0.1054
CointEq(-1)*	-2.118873	0.261640	-8.098437	0.0000
R-squared	0.822240	Mean dependent var		143213.2
Adjusted R-squared	0.677809	S.D. dependent var		2627099.
Durbin-Watson stat	2.492753			

Source: Field Work, 2026.

The coefficient for D(NONGDP(-1)) is -1.118873, with a t-statistic of -3.183863 and a p-value of 0.0058, which is significant at 5%. This suggests that lagging non-oil GDP lowers current GDP in the short term. A 1-unit rise in lagged non-oil GDP decreases current non-oil GDP by 1.118873, indicating a correction from earlier periods.

Log(MAEXP) coefficient is 1,964,368, t-statistic 1.894944, p-value 0.0763, marginally significant at 10%. This shows manufacturing expenditure boosts non-oil GDP in the short term.

A 1% rise in manufacturing spending boosts non-oil GDP by 1,964,368; yet, the marginal importance suggests caution.

The coefficient for LOG(AGEXP) is 1,228,376, with a t-statistic of 1.610320 and a p-value of 0.1269, demonstrating that government agricultural spending is not statistically significant at 10%. This shows agriculture expenditure has little short-term effect on non-oil GDP. The coefficient for LOG(AGEXP(-1)) is 2,359,153, with a t-statistic of 2.559677 and a p-value of 0.0210, which is significant at 5%. Lagged farm expenditure boosts non-oil GDP in the short term. Past fiscal measures affect short-term economic performance by increasing agriculture spending by 1% and non-oil GDP by 2,359,153.

The coefficient for EXCHR is -21,168.73, with a t-statistic of -2.936883 and a p-value of 0.0097, which is significant at 1%. A 1-unit exchange rate depreciation decreases non-oil GDP by 21,168.73 in the near run, likely due to higher import costs or disruptions in non-oil industries that need foreign inputs.The coefficient for EXCHR(-1) is 21,998.85, with a t-statistic of 2.573735 and a p-value of 0.0204, which is significant at 5%. This suggests the lagging exchange rate boosts non-oil GDP in the short term. A 1-unit increase in the lagged exchange rate increases non-oil GDP by 21,998.85, demonstrating that prior exchange rate fluctuations may benefit the economy later.

At 10%, inflation is marginally negligible with a coefficient of 53,238.42, a t-statistic of 1.716485, and a p-value of 0.1054. This shows that inflation does not affect non-oil GDP in the near run, but it may indirectly affect the economy.The cointegrating equation coefficient (CointEq(-1)) is -2.118873, with a t-statistic of -8.098437 and a p-value of 0.0000, which is extremely significant. This shows that the model has a robust error correcting mechanism that adjusts the economy to long-run equilibrium. Due to the negative coefficient, any divergence from long-run equilibrium is rectified over time at a fast rate.

Post-Diagnostic Tests

Table 4.6 Post Estimation Diagnostic Tests Output

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.154268	Prob. F(2,14)	0.3436
Obs*R-squared	4.246617	Prob. Chi-Square(2)	0.1196
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.708482	Prob. F(5,27)	0.1666
Obs*R-squared	7.931357	Prob. Chi-Square(5)	0.1601
Scaled explained SS	6.816033	Prob. Chi-Square(5)	0.2347

Source: Field Work, 2026.

There is no substantial autocorrelation in model residuals according to the Breusch-Godfrey Serial Correlation LM Test. We cannot reject the null hypothesis of no serial connection due to the F-statistic of 1.154268 and p-value of 0.3436. The residuals have no substantial autocorrelation up to the second lag, proving the model is not affected. The Obs*R-squared statistic of 4.246617, with a p-value of 0.1196, supports this conclusion because it above the significance level, confirming no serial connection.

The Breusch-Pagan-Godfrey Heteroskedasticity Test suggests the model is heteroskedasticity-free. The F-statistic of 1.708482 and p-value of 0.1666 fail to reject the null hypothesis of homoskedasticity, implying residual variance is constant across data. By displaying no heteroskedasticity, the Obs*R-squared statistic of 7.931357 with a p-value of 0.1601 confirms this. The residuals lack heteroskedasticity, as shown by the scaled explained sum of squares (6.816033) with a p-value of 0.2347.

Both tests indicate that the regression model fits the conditions of no autocorrelation and constant residual variance, making its findings robust and interpretable.

Jarque Bera Normality Test

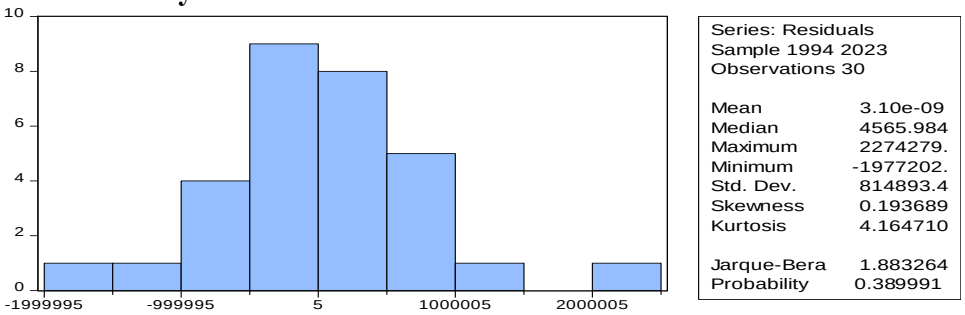

Figure 4.2 Normality Distribution
Source: Field Work, 2026.

Figure 4.2 shows that the Jarque Bera test of Normality is in conformity with expectations as the J.B probability value of 0.389991 is above the 5% significance level.

Stability Tests
The result of these tests is displayed in Figure 4.3.

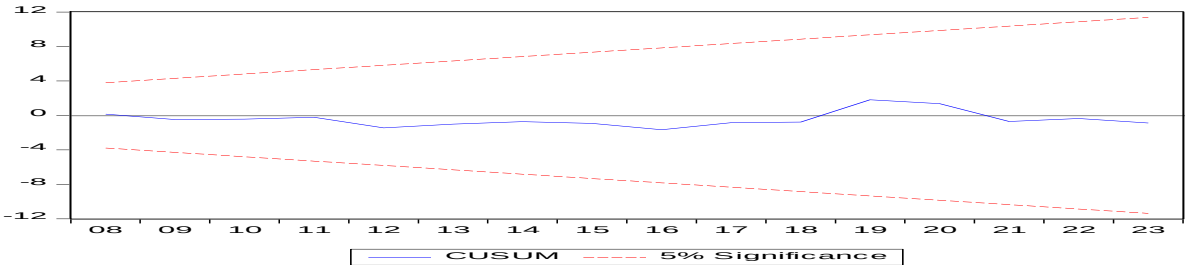

Figure 4.3 Parameter Stability Tests
Source: Field Work, 2026.

Figure 4.3 indicates that the CUSUM Squares are located within the 5% critical values which means no structure breaks in the regression model and the parameters of the model are stable over time.

This analysis found that government agricultural spending (AGEXP) boosts non-oil GDP in the short and long term. This finding supports Alabi and Abu (2020), who showed that public agriculture spending boosts agricultural production and economic diversification in Nigeria. The analysis shows that agricultural investment is vital to decrease oil reliance (Alabi & Abu, 2020). Lawal et al. (2018) showed a substantial correlation between fiscal policy and agricultural output, supporting the assumption that government expenditure on agriculture enhances non-oil GDP.

However, government spending on manufacturing (MAEXP) has a small short-term effect. This supports Uzodinma (2023), who suggested that fiscal policy can boost industrial production but not as much as agriculture. Uzodinma's analysis implies that fiscal actions may take longer to affect the manufacturing sector or be impacted by external variables (Uzodinma, 2023). To boost industrial growth, new initiatives may need to be more customised or substantial.

The study also finds a negative short-run impact of exchange rate (EXCHR) on non-oil GDP, consistent with Dalyop et al. (2023), who found that exchange rate depreciation higher import and input material costs, hurting manufacturing and agriculture. Abang et al. (2024) found that exchange rate swings impair non-oil export development, which is crucial for Nigeria's economic diversification. Interestingly, the inflation rate (INFLR) had a positive short-run effect on non-oil GDP, which is consistent with Gyang et al. (2024), who found that moderate inflation can boost economic activity, particularly in agriculture and small-scale manufacturing.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study shows how fiscal policy drives economic diversification in Nigeria, notably through agriculture and manufacturing spending. Government expenditure on agriculture boosts non-oil GDP in the short and long term, highlighting agriculture's importance in reducing oil reliance. Currency volatility hurts the non-oil economy, while manufacturing expenditure has a little beneficial effect. Moderate inflation may also boost short-term growth in some industries. The research emphasises the relevance of agriculture investment and macroeconomic variables like inflation and currency rates for Nigeria's long-term economic diversification.

Recommendations

This study recommends that:

The government should prioritise increasing agricultural investment to promote productivity, infrastructure, and technology adoption, promoting non-oil GDP development and lowering oil reliance.

To diversify the economy, policies should prioritise tax incentives, finance availability, and public-private partnerships to boost industrial growth.

To reduce exchange rate volatility, the government should implement measures for stable exchange rates and predictable costs for import-dependent industries.

To protect buying power and investment, the government should maintain moderate inflation levels while balancing short-term growth stimulus with long-term economic stability.

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