ANOTHER LOOK AT GOVERNMENT EXPENDITURE AND AGRICULTURAL GROWTH IN NIGERIA

OSUNDINA, OLAWUMI A.

ECONOMICS DEPARTMENT, VASSS, BABCOCK UNIVERSITY

osundinaol@gmail.com

MUSA, DASAUKI C.

Economics Department, VASSS, Babcock University

mdasauki@gmail.com

OLANREWAJU, GIDEON O.

Economics Department, VASSS, Babcock University

olanrewajug@babcock.edu.ng

AND

EBERE, CHIDINMA E.

ECONOMICS DEPARTMENT, VASSS, BABCOCK UNIVERSITY

eberec@babcock.edu.ng

Abstract

Nigeria is a country blessed and characterized by rich natural endowments. It is a country endowed with rich resources ranging from human resources to natural resources. However, about 32% of the total population still live below poverty threshold of 1.90$ per day according the World poverty Clock (2022). Despite the efforts of the government especially in the agricultural sector, the performance of the sector is still rated poor in recent years Hence, this study investigates the effect of government expenditure on economic growth in Nigeria by exploring the impact of commercial bank loans to agricultural sector, government recurrent expenditure on agriculture, interest rate, non-oil net exports on agricultural contribution on GDP in Nigeria giving consideration to the period between year 1985 – 2019. Visual plots reveal the trend of the series investigated and confirms the non-stationarity status of the series at levels. Employing the ADF, PP, ERS and KPSS unit root tests, the series are all revealed stationary, but at different levels. This gave reason for exploring Autoregressive Distributive Lag (ARDL). Empirical revelations reveal that making funds available has positive and significant relationship in the shortrun, but not in the longrun. The study concludes that it is not enough to make funds available. Therefore, the study recommends that funds should rather be made accessible to agricultural sector at lower interest rates and through appropriate channels.

Introduction

About 69,977,160 of the total population of 215,353,968 live in extreme poverty in Nigeria (World Poverty Clock, 2022). This implies that about 32% of the total population live below poverty threshold of 1.90$ per day. On a contrary, this is a country blessed with rich resources ranging from human resources to natural resources. Nigeria is a country blessed and characterized by rich natural endowments. Unfortunately, Nigeria experiences what is called resource curse, a term describing a situation where resource-rich nations are faced with difficulties that hinder them from taking advantage of their natural endowments (Shao & Yang, 2014; Kim & Lin, 2015,).

Land is one of those untapped resources, especially agricultural land which covers water area of 13,000 sq km and 78% of land area.

These are what give agricultural sector the potentials to strive. This is a significant contribution to growth and development of the country. Over the years, agricultural sector witnessed a downtown in its role and contribution to national development (Ogbalubi and Wokocha, 2013). World Bank (2020) shows only about 34.6% of the entire population employed are engaged in the agricultural sector in 2020. Varrella (2020) has it that roughly about 87% of households in rural settings were involved in

agriculture on the small scale in the year 2019. Hence, a call to action is necessary.

The performance of the agricultural sector in Nigeria has been rated poor in recent years. Although this poor performance can be attributed to several factors, the indiscriminate doubt of sectors like the oil and gas appear to be accountable for the predicament in the agricultural sector. The abandonment of agriculture commenced during the oil boom in the 1970s which resulted in a significant increase in the foreign exchange earnings of the economy (Afe, 2019).

According to Morton (2016), another major reason for low agricultural productivity is inadequate of financial support to boost agricultural output. Therefore, scenario indicating the challenges in the agricultural sector includes but not limited to farmers being constricted by issues including pest control, absence of adequate credit facilities from banks, poor infrastructure, and inability to meet the requirements of the financial services of farmers.

Hence, giving consideration to goals 1 and 2 of sustainable development goals (SDGs), tackling poverty in all its forms everywhere, ending hunger and achieving food security as well as improving nutrition and promoting sustainable agriculture, there is need to examine the previous attempts made by the government towards financing the agricultural sector and determine the level of impact it had on promoting the sector's productivity. Positive outcome from this may influence policy makers' decision towards improving overall growth of the economy in Nigeria by means of promoting agricultural growth.

Therefore, this work is designed to study the effect of expenditure government spends on agricultural growth in Nigeria. This study will reveal the trends and patterns of government spending on agricultural growth in Nigeria, the effect that interest rate has on agricultural growth in Nigeria, what effect the commercial bank loans to agricultural sector has on agricultural growth, and check the nature of that relationship existing between expenditure of government and growth of agricultural in Nigeria.

Nigeria and Agriculture

Agriculture accounted for around 24% of Gross Domestic Products (GDP) of Nigeria economy in the first quarter of the year 2021, and by third quarter of the same year, agriculture contributed to about 30% of the GDP (Varrella, 2021). Nigeria possesses arable land of around 34 million hectares, 28.6 million hectares of which are for meadows and pastures, and 6.5 million of permanent crops.

Nigeria can be considered a country that leads in various types of agricultural production. Considering the ten best performing export categories where we have seeds, nuts, fruits and oil. Nigeria is the leader in these types of agricultural production as she ranks 5th in cocoa beans and palm oil production, and after United States, Nigeria ranks the largest producer of sorghum in the world.

Agricultural sector is one of the sources of growth in the economy which will pave the way for economic development in Nigeria as it is capable of relieving food insecurity, generating employment opportunities among others (Akinboyo, 2008; Onoja et al., 2012 and Cletus & Sunday, 2018). While Adenomom and Oyejola (2013) Agboola et al., (2020), Osundina et al., (2019), Bekun et al., 2018, discussed the fall in contribution of agriculture to the Nigerian economy after oil was discovered in 1956, Varrella (2021) has it that livelihood for many Nigerians are provided for by agricultural activities while only restricted number of people are reached by the wealth generated from oil. An average of 55.8% was contributed by the agricultural sector to the overall GDP from 1960 to 1970 but fell significantly to 28.4% from 1971 to 1980.

It was suggested that the decline must have occurred as a result of the abandonment of the agricultural sector during the oil boom. The percentage contribution of agriculture, forestry, and fishery to GDP in Nigeria managed to be only 12.24% in 1981 and peaked at 36.965% in 2002. Since then, the efforts to resuscitate this sector have been of little significance as the GDP from 2009 to 2019 has been fluctuating between 25% and 19.99% (World Bank, 2019).

Based on the data obtained from the world bank, Nigeria was once identified as an agrarian economy with agriculture contributing more than half of the country's total GDP until the '70s and 80's when the exploration of oil in commercial quantities began. According to Daoui (2019), Africa was once known to

be the agrarian hub of the entire world and Nigeria was part of those countries that specialized in agriculture.

The country was able to feed its population easily and had an excess of rubber, cocoa, groundnuts, and palm oil for export. Ogen (2007) is of the opinion that there is presence of what is called multiplier effect on the industrial and socio-economic structure of any nation caused by the agricultural sector due to the multidimensional nature of agriculture. Upon the realization of the importance of the agricultural sector in Nigeria which was neglected, the federal government has embarked on a mission to renew this sector in the attempt to diversify the Nigerian economy. The government has been dedicating a lot of energy in the past five years to strengthen agriculture through the ban of importation of some agricultural products, agricultural mechanization, and research, among others (Okojie, 2020).

Agriculture is recognized worldwide as a major source of livelihood of individuals in rural societies. In that direction agricultural growth is also known through history as that instigator of broad economic growth and development because that connection which exists between farm and non-farm sectors generates income, employment, and growth on a broad scale (Singh et al., 2002). The Nigerian government in recent years has seen the need to diversify the economy due to the realization of the reliance of the whole economy on the petroleum sector. During the previous recession that occurred, the agricultural sector displayed steady growth throughout and helped in achieving overall stability in the economy against the inconsistency in the global oil market (Oxford Business Group, 2019). World Bank data (2019) indicated the growth of agriculture in Nigeria from 1989 to 2019 which was low but relatively stable between 6.7% and 2.4%, except for 2002 where the growth peaked at 55.578% and agriculture contribution to GDP at 36.965%. Hence it can be concluded that the agricultural sector is growing but at a crawling pace and more has to be done by the government to achieve its goal of reviving the agricultural sector.

Theoretical Review

There have been many deductions from various schools of thought about government activities, their relevance, and their impact on the economy. Amongst these are classicalist economists who believe that the economy is brought to equilibrium by the market forces with very little or no help from the government. The Keynesians argue that the importance of government activities, in term of expenditure, cannot be overemphasized in an economy.

The Wagner's Law of state

Afzal and Abbas (2009) referred to this as Wagner's hypothesis or the law of increasing public expenditures which was established by Adolph Wagner (1835 – 1917) in 1893. He noted three main components for increased public expenditure in an economy. The first of which is that the development of an economy would cause an increase in the protective and administrative part of the government. Secondly, the enlargement of the economy will give rise to government spending on welfare especially on health and education. Lastly, private sectors may not be able to take on certain economic services required for the technological advancement of developed economies (Khan, 1990).

This theory suggests that as economic development takes place, the portion of public expenditure in national income is likely going to increase. Kuckuck (2012) speculated that law of increasing state activity by Wagner shows that the activity of the government and growth in the economy in the long run are positively correlated.

Musgrave Theory of Public Expenditure Growth

Richard Abel Musgrave initiated this theory in 1969 based on his explanations concerning the need to increase public expenditure to provide social amenities needed for growth and development (Edame and Fonta, 2014). According to Ewubare and Eyitope (2018), Musgrave found that altercations in the income elasticity of demand vary based on three sizes of per capita income. He also denoted that when per capita income is at a low level, demand for public goods is usually very low because the little amount of income the people have is used to satisfy their primary needs. But as the per capita income level increases, people's demand to acquire more

goods and services, such as transport, health, etc, provided by the public sector starts to increase therefore compelling the government to expand the public expenditure on those areas. However, at high levels of per capita income which is usually evident in advanced countries, the percentage of public expenditure incurred may reduce as the citizens can afford more of their wants.

The Keynesian Theory

Ewubare & Eyitope (2015) postulated that the Keynesian school implies that government spending contributes positively to sector growth in the economy. Jahan et al., (2014) explained that the changes in any element of spending (that is household consumption, business firm investment, or government expenditures) would cause output to also be altered. A multiplier effect is also included in the Keynesian models of economic activity which means that output is altered by the multiple of the increase or decrease of spending that caused the alteration. For example, if the multiplier is more than one, an increase in government expenditure by one naira would cause an increase in output which is more than one naira (Hayes, 2020).

The Keynesian school of thought is being used as the supporting structure of this study. Government expenditure was viewed by John Maynard Keynes as an independent variable that could be used as a fiscal policy tool to increase output produced. The multiple increases in total output of the economy caused by a rise in government spending while holding all other components constant are the viewpoint of the Keynesian school of thought (Jahan et al., 2014). This is known as the multiplier effect of public expenditure.

$$Y = C + I + G + (X - M)$$

(2.1)

These notations specified as;

Y = Output (GDP)
C = Household consumption,
I = Business firms investment
G = Government expenditure,
$(X - M)$ =

Net export (exports minus imports)
A change in output equals government expenditure times the multiplier

$$\Delta Y = \frac{1\,(\Delta G)}{1-b}$$

(2.2)

Where

the multiplier is = $\frac{1}{1-b}$ = K

$$\Delta Y = K\Delta G$$

(2.3)

Therefore, it can be said that multiplier (K) equals the change in output divided by the change in government expenditure.

Hence, $K = \frac{\Delta Y}{\Delta G}$

(2.4)

Thus, fiscal policy (expansionary) could be used to alter the functioning of an economy as well as cause a rise in the growth of output. The theory also implies that government expenditure can positively affect growth in sectors, for instance agricultural sector, in an economy.

It is, therefore, safe to assume that the agricultural sector is a function of household consumption of agricultural products (C_A), business firm's investments on agriculture (I_A), government expenditure on agriculture (G_A), exports of agricultural products (X_A), imports of agricultural products (M_A) and net exports of agricultural products as (N_A).

$$Y_A = C_A + I_A + G_A + (X_A - M_A)$$

(2.5)

Equation 2.5 can then be written as;

$$Y_A = C_A + I_A + G_A + N_A$$

(2.6)

Therefore, a rise in G_A should result to greater increase (by the multiplier) in agricultural output. This model gives an insight on how decision-makers of a state can induce agricultural sector growth by increasing the expenditure channeled to this sector.

Empirical Review

Relevant extant works in the literature were reviewed so as to make reasonable deductions for this work on the effect expenditure of government has on agriculture in the country. Muhammed-Lawal and Atte (2006) concentrated on examining the advancement of the agricultural sector in the Nigerian economy and, based on their findings, recommended

the establishment of procedures by the government to boost the subsectors of the agricultural sector, and innovation and technology should be improved on to grow the per capita productivity of the citizens. Oji-Okoro (2011) recommended the allocation of funds for research to agricultural higher institutions as well as the establishment of stable policy instructions for money deposit banks to grant low-interest loans to farmers.

Onoja et al., (2012) examined exchange rate, interest rate, loans granted by the ACGSF[1] and price deflator for agricultural commodities and revealed a rising pattern in agricultural credit supply after the reform began, thereby suggested a deeper investigation into the supply of finance to the agricultural sector. Okezie et al. (2013) investigated the empirical relationship between Nigeria's expenditure on the agricultural sector and agricultural contribution to GDP, and with application of Engle-Granger two-step modeling procedure was the discovery that there exists a long-run relationship and also discovered through causality tests a negative association between the expenditure of government and agricultural contribution to GDP. They recommended that more attention by the government expenditure dedicated to agricultural sector be channeled properly. Shuaib et al., (2015), in their analysis, revealed a direct relationship connecting government agricultural expenditure and economic growth. Their result resonates with existing studies that inflation and interest rates are responsible for the slow rate of growth in the agrarian sector and therefore economic growth. Government should ensure the availability of credit with the low-interest rate to farmers, and that efforts of the government to curb inflation should be intensified, and budget allocation of 25% to the so-called sector as recommended by the agricultural development capital budget should be maintained are their recommendations.

In the inspection of Abula and Ben (2016), Ewubare and Eyitope (2015) and Mbutor et al., (2013), vector error correction method was employed and it was showed that a positive relationship between the finance for agriculture and agricultural

output. While the former revealed that a large portion of agricultural productivity is hinged on elements like weather conditions and natural resources, the latter recommended an increase in expenditure to help grow agricultural sector in terms of employment creation.

The study of Okoh (2015) on fiscal policy and agricultural growth employed Johansen cointegration test, stationarity tests, together with VAR Granger test and disclosed the positively significant relationship existing among the variables and suggested that future fiscal policies concerning the agricultural sector should be reviewed and executed accurately. Omodero (2016) revealed that government expenditure allocated to key areas like health, agriculture, and education reveals a positive but insignificant effect on economic growth. Therefore, there came the recommendation that government funds should be redirected to agriculture to boost the production of food to feed the country's citizens.

Obasikene (2017) in the scrutiny of the effect of government expenditure on the Nigeria economy showed a positive linear relationship between government expenditure and money supply and economic growth in Nigeria. Osunkwo (2017), in their study, employed OLS multiple regression and Granger causality tests, and disclosed that their variables relate positively, and recommended government should encourage youths to join the agricultural sector by increasing expenditure on agriculture and providing mechanized farm equipment. Olaniyi (2017) in his analysis checked what effect available financing for agriculture has on agricultural sector in Nigeria through the use of ARDL bounds testing approach on the variables.

The study showed that access to finance has an insignificant effect on the agricultural sector in Nigeria, suggesting that proper usage of such funds is more important for boosting agricultural productivity rather than mere accessibility. The transformation of the existing microcredit model that uses information about borrowers to determine creditworthiness as a way to increase financial Inclusion was recommended by the author for the government to

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[1] Agricultural Credit Guarantee Scheme

pursue. Cletus and Sunday (2018) explored OLS and Johansen co-integration test technique. While the result obtained signifies that public agricultural expenditure has a significantly positive relationship with economic growth in Nigeria. It also revealed the existence of a long-run relationship.

This study found domestic savings to be unimportant as it does not contribute to economic growth but it should be encouraged so small-scale farmers to prevent difficulty in accessing soft financing and purchasing mechanized farming equipment. Ogboru et al., (2018) investigated public expenditure on agriculture and its effect on reducing unemployment in Nigeria. The hypothesis of this research was tested using OLS and the result obtained showed an insignificant impact of government expenditure on unemployment. However, this study recommended the establishment of a development model that includes the proper combination of government intervention and involvement of private individuals in the economy. In the work of Abbas et al., (2016) on Pakistan economy, there is an existence of long-run and significant relationship among their variables considered. Musaba et al., (2013) also came to a similar conclusion for the Malawi economy that the relationship in the short run is of no significance. Kareem et al., (2015) also denoted that government expenditure on agriculture poses a notable impact on economic growth but identified a weak correlation between these variables. Udoh (2011) and Mapfumo et al., (2012) arrived at a similar conclusion of a significant and positive influence on the Nigerian and Zimbabwean economy respectively.

Methodology

This study analyzed the impact of expenditure of government on Nigeria agricultural growth from the year 1985 to year 2019. The Time-series data employed covers the period of 35 years (1985-2019). For this study are the data acquired from World Development Indicator (WDI) and 2019 edition of the Central Bank of Nigeria (CBN) Statistical Bulletin. Various variables of interest are government expenditure on agriculture, agricultural output in Nigeria, interest rate and commercial bank loans to the agricultural sector. The model will be

estimated using various analytical instruments and descriptive statistics will be revealed, stationarity test employing Augmented Dickey-Fuller (ADF) test, Kwiatkowski-Phillips-Schmidt-Shin (KPSS), Dickey-Fuller (DF) test, Co-integration test, Error Correction model.

Model Specification

The assumption derived from the Keynesian theory by Abula and Ben (2016) provided a theoretical framework on which the model for this research is anchored.

Recall:

$$Y_A = C_A + I_A + G_A + (X_A - M_A)$$
$$(2.5)$$
$$Y_A = C_A + I_A + G_A + N_A$$
$$(2.6)$$

The modification of the variables in the above equation is required to extract the appropriate variables necessary to specify the model adopted in this research. The growth of the agricultural sector is indicated by the level of output it produces annually which is specified as Y_A, the lending interest rate of money markets determine the spending (consumption) level of households which is denoted as C_A, loans granted by non-governmental institutions (commercial banks) is a form of investment by business firms which is indicated by I_A, overseas income from non-oil products (export of agricultural products) is denoted as X_A, importation of non-oil products from abroad (import of agricultural products) is specified as M_A and the net exports obtained from non-oil commodities is denoted as N_A.

Therefore, output from agricultural sector (Y_A) = Agricultural Output (AO), household consumption of agricultural products (C_A) = Interest Rate (IR), government expenditure on agriculture (G_A) = Government Recurrent Expenditure on Agriculture (GREA), business firm's investment in agriculture (I_A) = Commercial Banks loans to the Agricultural sector (CBLTAS). For the foreign trade aspect, export of Agricultural products (X_A) = Non-Oil Export (NOE), import of agricultural products (M_A) = Non-Oil Import (NOI), net export of agricultural products (N_A) = Non-Oil Net Exports (NONE).

Therefore, the model in its functional form is specified thus:

$$AO = f(GREA, IR, CBLTAS, NONE)$$
$$\text{(3.1)}$$

Hence, the econometrics form specified thus:

$$AO = \beta_0 + \beta_1 GREA + \beta_2 IR + \beta_3 CBLTAS + \beta_4 NONE + \mu \qquad \text{(3.2)}$$

Where

AO = Agricultural Output, $GREA$ = Government Recurrent Expenditure on Agriculture, IR = Interest Rate, $CBLTAS$ = Commercial Bank Loans to the Agricultural Sector, $NONE$ = Non-Oil Net Exports, β_0 = Average value of AO when $GREA, IR,$ $CBLTAS$ and $NONE$ = 0 (the intercept); $\beta_1, \beta_2, \beta_3, \beta_4$ = coefficients of $GREA, IR, CBLTAS$

and $NONE$ respectively; μ = Error term to signify the variables not represented in the model that has an effect on AO.

Data Presentation

The variables used in this analysis are Agricultural Contribution to GDP (LACG), Government Recurrent Expenditure on Agriculture (GREOA), Commercial Bank Loans to Agricultural Sector (CBLTAS), Interest Rate (IR), Non-Oil Net Exports (NONE). The plots in figure 4.1 revealing the trend of series under investigation confirms the non-stationarity form of the series. And descriptive statistics presented in table 4.2 produces the general outlook of the time series data.
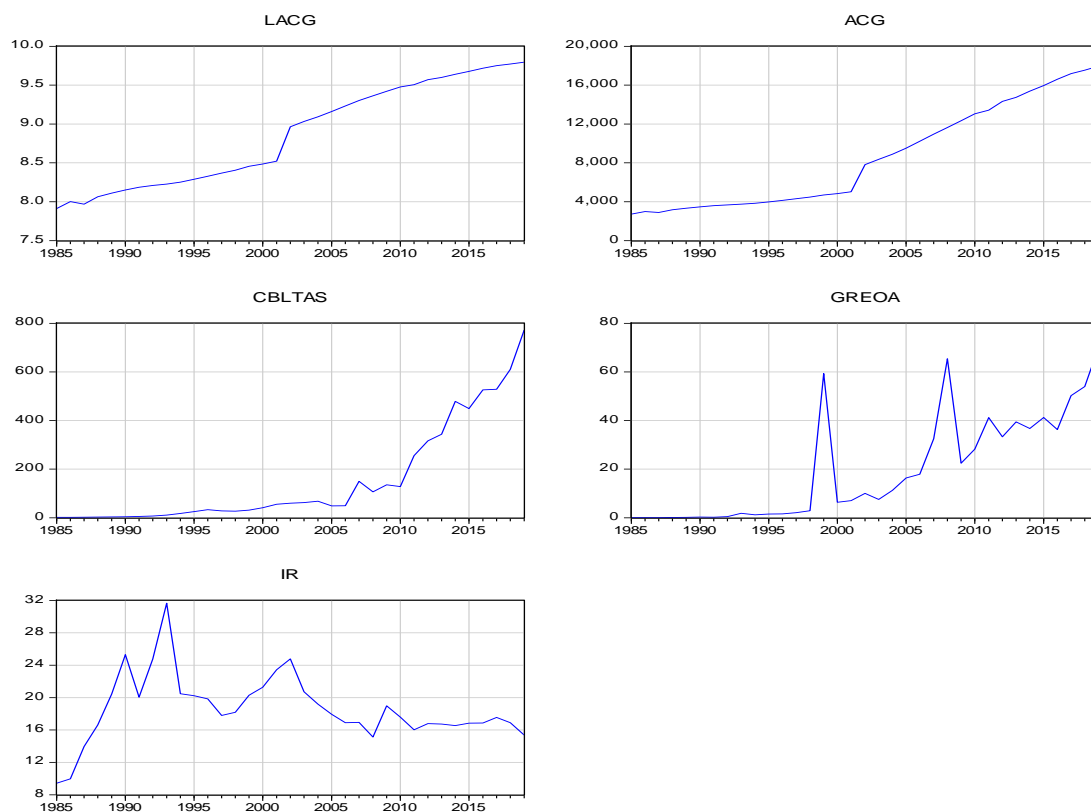

Figure 4.1: Visual plots of series under investigation

Table 4.2: Descriptive Statistics

Code	LACG	CBLTAS	GREOA	IR	NONE
Source	CBN Statistical Bulletin	CBN Statistical Bulletin	CBN Statistical Bulletin	World Bank Indicator	CBN Statistical Bulletin
Mean	8.857365	153.8942	19.97997	18.61398	-2865.19
Median	8.964067	49.3934	9.9936	17.795	-1093.07

Maximum	9.795823	772.3754	70.2745	31.65	-4.5176
Minimum	7.912446	1.3102	0.0204	9.4333	-13707.4
Std. Dev.	0.657522	210.4031	21.87554	4.147838	3424.28
Skewness	0.059515	1.468301	0.806083	0.61547	-1.25606
Kurtosis	1.383022	3.95671	2.377085	4.908278	3.987258

Source: Author's Computation

Table 4.3 Stationarity Tests

Variables	ADF	PP	ERS	KPSS
LACG	-0.339221	-2.951125	0.952718	0.676670**
ΔLACG	-5.576190**	-2.954021**	-5.557179**	0.126757
CBLTAS	1.589957	-2.951125	2.809426**	0.572270**
ΔCBLTAS	-6.966878**	-2.954021**	-4.896651**	0.722486**
GREOA	-3.548490**	-2.951125	-1.910519**	0.764660**
ΔGREOA	-6.515611**	-2.954021**	-6.584650**	0.234921
IR	-2.976263	-2.951125**	-0.982214	0.167926
ΔIR	-2.954021**	-2.954021**	-6.537076**	0.228165
NONE	-3.587527	-2.951125	0.215916	0.640176**
ΔNONE	-3.587527**	-2.59035	-1.414124	0.473782**

Δ is used to represent the test at first difference. ** is used to denote variables that are stationary at 5% level of significance. I(1) and I(0) are the order of integration at 1st difference and levels respectively.
Source: Author's computation

To determine the stationary status of the series, the widely accepted ADF, PP, ERS and KPSS tests were adopted. From table 4.3, the result of the test shows that the LACG, CBLTAS, IR, GREOA and NONE are all stationary, but at different order of integration. Hence, Autoregressive Distribution Lag Model (ARDL) is explored.

Table 4.4: Bounds Co-Integration Test Result

Test Statistic	Value	K
F-statistic	4.585939	4

	Critical Value Bounds	
Significance	I(0) Bound	I(1) Bound
10%	3.03	4.06
5%	3.47	4.57
1%	4.4	5.72

Source: Author's computation

This test is performed in order to determine if there is a long run relationship among the variables. The F-statistic from table 4.4, which is 4.585939, is greater than the upper and lower bounds of 5% level of significance. Therefore, we do not reject the null hypothesis of no long run relationship among the variables.

ARDL Test and Short Run model Estimation

Variables	Coefficient	Standard Error	T-Statistics
		Shortrun	
CBLTAS	0.0009*	0.0004	2.2501

GREOA	-0.0066***	0.0020	-7.0524
IR	-0.0061	0.0042	1.4522
NONE	-0.0009***	0.0003	3.1002
CointEq (-1)	0.2937**	0.1115	2.6351
Longrun			
CBLTAS	-0.0028	0.0017	-1.6987
GREOA	-0.0349*	0.0176	-1.9834
IR	-0.0481*	0.0251	1.9168
NONE	-0.0006***	0.0001	-3.6154

*** is used to denote statistical significance at 1% level of significance ** is used to denote statistical significance at 5% level of significance, * is used to denote statistical significance at 10% level of significance.
Source: Author's computation

Positive relationship exists between CBLTAS and LACG as one unit increase in the former causes a 0.09% rise in the latter. CBLTAS variable is statistically significant at 10% level of significance in the short run, but is not in the long run. Negative relationship exists between GREOA and LACG as a unit increase in GREOA causes a 0.66% reduction in the LACG. GREOA is statistically significant in the long run at 10% level of significance and also statistically significant at 1% level of significance in the short run.

A unit increase in interest rate causes decrease in the agricultural contribution to GDP both in the long run and short run, and are statistically significant. Hence, an inverse relationship exists between the variables. Considering both long run and short run, NONE is statistically significant. A unit increase in NONE causes decrease in the LACG. The relationship that exists between these variables is negative. The value of the intercept is -0.2937. The error correction value captures the speed of adjustment.

Diagnostic Test Results

Diagnostic test	F-stat	P-value
White	2.019006	0.1718
Serial	2.458171	0.1805
Ramsey RESET	2.910239	0.1389
ARCH	2.5882	0.6440

Source: Author's computation

Table 4.10 reveals that error term has a constant variance, no serial correlation exists in the model, there is normality and linearity in the model. The model is stable (figure 3).
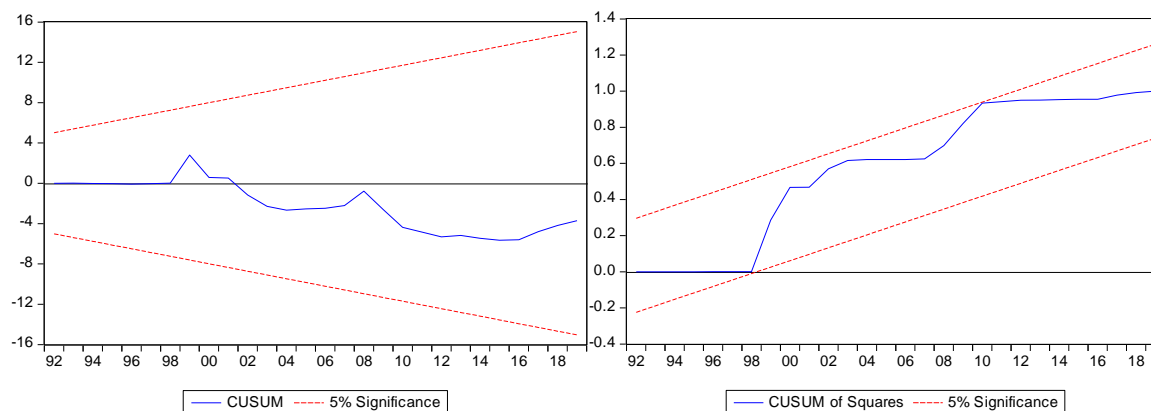

Figure 3: Plot of Cusum and Cusum of squares indicating stability

Discussion of Findings

The stationary status of the series, although of different order of integration, was confirmed with the use of widely accepted ADF, PP, ERS and KPSS tests (see table 4.3). Hence, Autoregressive Distribution Lag Model (ARDL) was explored. Results reveal that relationship between CBLTAS and LACG has a positive and significant relationship in the short-run, but not in the long-run. The relationship in the short-run is in conformity with the a-priori expectation, indicating that an increase in commercial bank loan to the agricultural sector causes an increase in the agricultural contribution to GDP. Unlike GREOA which has negative, but significant relationship with LACG, both in the short run and long run.

This can be attributed to the existence of high level of corruption within the Nigerian government (Tornell, 1999; Judge, 2011; Judge et al, 2011). While in the short run, interest rate is revealed to have a negative and significant relationship with agricultural contribution to GDP, but in the long run, there is positive and significant relationship. The negative relationship is consistent with the apriori expectation, indicating that a rise in IR causes a decrease in the LACG. A positive and significant relationship exists between non-oil net exports and agricultural contribution to GDP in the short run, but in the long run, there exists a negative and significant relationship. The positive relationship resonates with the stated apriori expectation, indicating that a rise in non-oil net exports will cause an increase in the agricultural contribution to GDP.

With F-test, joint significance existing among the variables indicates an overall statistical significance of the model. None existence of serial correlation is revealed by the Breusch- Godfrey Serial correlation test. The Jarque-Bera normality test shows a normally distributed model. Linearity exists in the model, this revealed by Ramsey Reset Test linearity test, and the Breusch-Pagan-Godfrey heteroscedasticity test discloses none existence of heteroscedasticity.

Conclusion and Policy Recommendations

This paper examines the effect of the expenditure of government on economic growth in Nigeria. The study examines commercial bank loans to agricultural sector, government recurrent expenditure on agriculture, interest rate, non-oil net exports on agricultural contribution to GDP in Nigeria from 1985 – 2019. Employing the ADF, PP, ERS and KPSS tests, the series are all stationary, but at different levels. This gave reason for exploring ARDL. Results from this study validate the apriori expectations and establish the statistical significance of both the individual and joint effects of the explanatory variables on the growth of agriculture. This study concludes, in agreement with work of Olaniyi (2017), that making funds available has neither positive nor significant relationship in the longrun. This is true in connection to the fact that corruption makes increase in government allocation to the agricultural sector yield negative results.

A better result can feature where funds are rather channeled through and to appropriate sectors and for appropriate use. The Nigerian government over the years adopted various policies and programmes with the aim of boosting growth in the agricultural sector, but the reality is that the agricultural sector in Nigeria is still lacking and exhibiting little or no progress. Therefore, for the agricultural sector to grow fast and remain steady food supply for the population, and as both domestic and foreign source of revenue for the economy, this study recommends that credit to farmers should rather be made available at lower interest rate as affordable loans from financial institutions to the agricultural sector would increase the funds available for farmers to purchase, and make use of, fertilizers and appropriate storage facilities and transportation facilities.

The ripple effect of this will be increase in productivity and growth in the agricultural sector in Nigeria. It is hereby recommended in this study that all channels by which government expenditure are being allocated to the agricultural sector should be monitored by trusted agencies to curb corruption. Infrastructural facilities in rural areas to aid farmer's productivity should be among the targets. In addition, provision for research and development for agricultural-based Universities should be made available in the national budget in other to cater for mechanized tools and equipment. With favorable policies put in place, private investors, foreign

investment and investors will be encouraged and attracted.

Implication of the Findings and Contribution to Knowledge

This study contributed to the body of knowledge in the field of fiscal policies in Nigeria by recommending that Nigerian government should develop and adopt strategic policies that would increase the productivity in the agricultural sector which will directly and indirectly improve the welfare of the citizens and whole economy.

Reference

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