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IMPACT OF GOVERNMENT EXPENDITURE ON AGRICULTURAL PRODUCTIVITY IN NIGERIA

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ABSTRACT

The main purpose of this study is to discover the impact of government expenditure on agricultural productivity in Nigerian. The methodology employed in this study was based on the time series data covering from 1985-2018 collected from Central Bank of Nigeria (CBN). The scope of this study spanned from 1985 to 2018, Ordinary least square method of the Keynesian model was used in obtaining the numerical estimates of the coefficients in the model to test the variables most likely to positive impact on economic growth in Nigeria due to Government expenditure. The findings also show that there is a strong relationship between government expenditure and agricultural productivity in Nigerian. From the results obtained, it is clearly seen that adequate funding through provision of credit facilities can significantly increase the productivity and output of the agricultural sector in the economy. Debt financed government expenditure can have hindered growth as it tends to generate inflationary forces in the economy. For government expenditure to exhibit the desired results in the economy, government expenditure needs to be closely monitored.

1. Background to the study

The agricultural sector has the potential to be the industrial and economic springboard from which a country's development can take off. Nigeria, which spans an area of 924,000 kilo meter square, is in West Africa between Latitudes 4 º to 14º North of the Equator and between Longitudes 3º and 15º east of the Greenwich Meridian. To the north the country is bounded by the Niger Republic and Chad; in the west by the Benin Republic, in the East by the Cameroon Republic and to the south by the Atlantic Ocean. Nigeria is generously endowed with abundant natural resources. With its reserves of human and natural resources, Nigeria has the potential to build a prosperous economy and provide for the basic needs of the population. This enormous resource base if well managed could support a vibrant agricultural sector capable of ensuring the supply of raw materials for the industrial sector, provide food security in the country as well as providing gainful employment for the teeming population Ukeje (2002).

In the last decade, its impact may not have been so prominent because of the dominating effect of the oil sector which annually contributed not less than 96% of the nation's total export earnings CBN, (2005). The population involved in farming is between 60 and 70% (Nwajiuba, 2012). The sector contributed an average of 36.6% to the GDP during the years of study 1980-2014, which was highest in 1992, 43.6% and 2002, 43.9% and lowest in 1980, 20.6% The total federal expenditure that was allocated to agriculture between 1980 and 2014 was less than 4% CBN, (2010).

The nature of support given to agriculture by various governments in the country varied over the years. Before independence, the assistance to the sector was generally aimed at developing the export crops required by the overseas industries. After independence

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when the national development plans were prepared, agricultural support took a much formal form, and thus presented a more serious impression of what government intended doing for the sector. However, what most of the efforts later turned out to be as can be inferred from the allocations made in the various national development plans and annual budgets, leave much to be desired. When compared to other sectors like mining, manufacturing, education, and health, agriculture virtually received the least annual allocations that are often inadequate to put the sector on sustainable grounds. This accounts to a large extent for the poor performance of many institutional reforms and strengthening which were over the years undertaken in the sector (Nwajiuba, 2012).

Furthermore, government over the years has embarked on various policies and programmes aimed at strengthening the sector in order to continue performing its roles, as well as measures for combating poverty but virtually, all could not take the sector to a promising land.

Average total annual expenditure on agriculture, has been increasing over the years. Total annual expenditure on agriculture increased on the average from N0.02 billion in the 1981-1986 period through an average of N0.2 billion per annum in 1987-1992 to N1.84 billion in 1993-1998 periods. Total annual expenditure on agriculture increased significantly on the average between 1999 and 2006 to N16.97 billion and further to N37.13 billion between 2007 and 2008, but fell to N36.19 billion between 2011 and 2014 CBN, (2014). Despite these huge sums of money allocated to the sector over the years, the state of agriculture in Nigeria still remains poor and largely underdeveloped. Agricultural sector output has fluctuated widely and productivity has also declined. In terms of contribution to GDP, Available statistics from the CBN shows that the agricultural sector's share of GDP increased from 28% in 1985 to 32% in 1988, dropped to 31% in 1989, rose again to 37% in 1990 but fell significantly to 24% in 1992 and increased to 37% in1994. It was 32% in 1996 and rose to 40% in 1998, dropped again to 27% in 2000, increased to 37% and fell to 31% in 2002 and 2006 respectively. The percentage contribution of the agricultural sector to GDP fell persistently from 0.37 in 2009 to 0.22 in 2012 and to 0.20 in 2014 (CBN, 2014).

Objective of the study

The aim of this study is to examine the impact of Government expenditure on agriculture productivity in Nigeria. To achieve this, aim the following objectives are formulated:

I. To ascertain the level of government investment in the Nigerian agricultural sector from 1985 to 2018.
II. To analyze the Nigerian agricultural output from 1985 to 2018.
III. To examine the ways, in which governmental agricultural credits scheme had encouraged private and public participants in the sector.
IV. To suggest ways in which government expenditure on agriculture can be made effective to increase its output and contribution to GDP

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2. Conceptual frame work

Conceptually, agriculture is the production of food, feed, fiber and other goods by the systematic growing and harvesting of plants and animals. It is the science of making use of the land to raise plants and animals. It is the simplification of nature's food webs and the rechanneling of energy for human planting and animal consumption (Akinboyo 2008). Until the exploitation of oil reserves began in the 1980s, Nigeria's economy was largely dependent on agriculture. Nigeria's wide range of climate variations allows it to produce a variety of food and cash crops. The stable food crops include cassava, yams corn, coco-yams, cow-peas, beans, sweet potato, Millet, plantains, bananas, rice, sorghum, and a variety of fruits and vegetables. The leading cash crops are cocoa, citrus, cotton, groundnut, (peanuts) palm oil, palm kernel, benniseed, and rubber. They were also Nigeria's major exports in the 1960s and early 1970s. Chief among the export destinations for Nigerian agricultural exports are Britain, the United States, Canada, France, and Germany (Emeka 2007). Prior to the attainment of independent, agriculture was identified as a potential factor, capable of catapulting Nigeria's economic development. The colonial administration in realizing this set up marketing boards for the major cash crops. Heilleiner (1966) stressed that export production accounted for about 57 percent of Nigeria's Gross Domestic product (GDP) in1929. The contributions of the sector to the GDP continued to increase. For example, agriculture became the leading sector of the economy in 1950s and 1960s. For these periods, agricultural output accounted for 63 and 54 percents of GDP (Aigbokhan 2001). However, with the advent of oil in the 1970s, this dropped to 33.2 percent. This marked an epoch in Nigeria's economic history through the 1973/1974 (crude oil price shocks). It further went down to 30.2 percent for the period 1975-79. On annual average, its contribution to GDP form 1997-2006 is 4.1 percent (CBN 2006). Over the years, government has almost been the sole provider of financial and other capital resources to support agriculture.

Government has attempted to increase her expenditure on agriculture through budgetary allocation and through the provision of cheap and readily available credit facilities (Nwosu 2004). Nwosu (1995) found that over the years, the government budgeting allocation has become an important determinant of agricultural output in Nigeria. FAO (2008) reported that in terms of capital allocation to agriculture in Nigeria, it was an average of 4.74 percent from 1970-1980. But, from 1980-2000, it rose to 7.00 percent and 10 percent from 2001-2007, though revealing an increase, but still falls short of Food and Agricultural organization (FAO) recommendation that 25 percent of government capital budget be assigned to the agricultural development capital budget. Nwosu (1993) in their study stressed that government allocation to agriculture is relatively low and that actual expenditure falls short of budgeting expenditure and the rate of under spending is usually higher for agriculture than for other economic sectors. Omanukwue (2005) reported that a large

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proportion of the funds allocated to agriculture do not go directly to farmers. DFID (2005) reported that the largest category of private investors in Nigerian agriculture consists of the multitude of small holder farmers, scattered across the country. Thus, agricultural production in Nigeria is dominated by small-scale farms characterized by small, uneconomic and often fragmented holdings, the use of simple implements (hoes and knives) and unimproved planting and storage materials. The results have been a viscous web of low productivity, low income and low capital investment. According to Akande. (2009), National budgets play a prominent role in modern economic management. They are used for allocating resources and planning as well as Forecasting revenue inflow and expenditure. Increasingly, national budgets are becoming a pivot instrument of economic management. ‟ The importance of National budgets is not only in its presentation to the populace but rather in the structure, patterns, inter-sectoral links as well as the allocation to sectors in accordance to national priority of the government.

Basically Agricultural allocation has a way of bringing desired effect in other sectors such as industry through inter-sectoral linkage. The underdeveloped state of many markets in developing countries like Nigeria makes government involvement in agricultural investment necessary. Spending on agriculture in Nigeria is exceedingly low. Less than 4% of total federal expenditure was allotted to agriculture during 1980 to 2011, far lower than spending in other key sectors such as education, health, and water. According to Mogues. (2008) in 2000, Nigeria's agricultural public spending expressed as a share of total public spending was lower than that of all other African countries for which data were available, and it was also substantially lower than the regional averages for Asia and Latin America. In prior decades, Nigeria's ranking was only somewhat better. This spending contrasts dramatically with the sector's importance in the Nigerian economy and the policy emphasis on diversifying away from oil, and falls well below the 10% goal set by African leaders in the 2003 Maputo agreement. Nigeria also falls far behind in agricultural expenditure by international standards (FAO Percent Recommendation is 25%) even when accounting for the relationship between agricultural expenditures and national income. The expenditure on agriculture was highest in 1983 (12.6%) and lowest in 1992 (1%).

As earlier mentioned, some of the agricultural financing policies integrated rural infrastructure development. This stems from the realization that food production cannot be isolated from improvement in living conditions within the rural food producing areas. It is not difficult to infer that the domestic food supply situation would have been precarious if roads leading to and way from food centers were to be left unattended. Food prices would have soared uncontrollably due to damage and disrepair to vehicles conveying farm produce along these roads. This in turn, would result in inflation. According to Olayiwola and Adeleye (2005), the RBDAs constructed 11,

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246 km of feeder roads, 1,319 boreholes, 29 wells and 130 dams under the integrated rural development programme in the period 1980-83. They further stated that between 1986 and 1988, the post-Fourth National Development mostly using DFRRI, of a targeted 60,000km. A recent study shows that agricultural finance impacted positively on farm income. Total average farm income generated by the government's rural farmer's programmes beneficiaries is larger than that generated by non-beneficiaries (CBN, 2007). This higher income may be because of the leveraging associated with borrowing which are a major form of agricultural financing and a constituent of most agricultural policies. Increased income should translate into higher demand for goods produced by other sectors of the economy. This is a boost to consumption expenditure and, ultimately, the national income. Other findings of the study are that the agricultural policies had a discernible positive impact on employment in all the states; in seven of the thirteen states studied, the technical impact on beneficiaries in terms of enterprise expansion and land use are greater than for non-beneficiaries; positive impact on institutions service delivery,

Theoretical Framework

Musgrave Theory of Public Expenditure Growth (1997)

Musgrave (1997) argued that what matters most for government spending is how effective it is. If the so called "productive" category of government spending is not effective, it can have a negative impact on growth. This theory was propounded by Musgrave as he found changes in the income elasticity of demand for public services in three ranges of per capita income. He posits that at low levels of per capita income, demand for public services tends to be very low, this is so because according to him such income is devoted to satisfying primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health, education, transport and agriculture starts to rise, thereby forcing government to increase expenditure on them. He observes that at the high levels of per capita income, typical of developed economics, the rate of public sector growth tends to fall as the more basic wants are being satisfied.

Empirical Studies on Macroeconomic Policies and Agricultural Output

Several authors have reported the influence of macroeconomic variables fluctuations on agricultural productivity. Jose [2008] investigating food security and agricultural spending in Bolivia adopted a supply-side approach that analyzes the role of agricultural spending on vulnerability to food insecurity. Econometric analysis indicates that levels of public agricultural spending are positively associated with high or very high vulnerability, especially investments in infrastructure, research and extension. The authors interpret this to indicate that agricultural spending allocation is driven by high or very high vulnerability levels, but has small effects on reducing high vulnerability.

Zepeda (2003), examining agricultural investment and productivity in the context of developing countries using econometrics

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models to measure the changes in output and relative contribution of various outputs. His study reveals that there is a strong relationship between investment in technology and human capital compared to that of physical capital and growth that was found to be weak. Other factors that were found to have positive relationship with growth in agricultural output were good policy environment and political stability. Using econometric approach to estimate total factor productivity for the United States dairy industry between (1972-1992), Lachaal (2000) examines how protectionist policies in the form of direct subsidies to agriculture reduced productivity growth in the United States dairy industry. He found that government subsidies encouraged using materials at the expense of feed and raised the cost of production by 1.8% for each 10% increase in subsidy. In a related study on the impact of trade restrictions on agricultural productivity, Fan (2012) found that import restrictions result into inefficient use of limited resources. They further opine that oil export in Nigeria has led to increased inflow of foreign currency. This does not only have depreciating effects on the value of Naira but also reduced the competitiveness of the country's domestic produced agricultural goods in comparison with low-priced imported goods, leading to a reduction in agricultural output and exposing the teeming population to food insecurity.

In Nigeria, a study by Yaqub (2010) on the sectoral analysis of the impact of exchange rate on output in Nigeria, using seemingly unrelated regression estimation technique found that exchange rate had a significant contractionary effect on Agricultural output, hence existing structures do not support an expansionary depreciation argument. In a related study by Adetoun (2002), using the descriptive statistical analysis, his result reveals that change in monetary policy instruments cause changes in agricultural output with a long-run equilibrium relationship between the monetary policy variables and growth in output. The study further recommended that enlightening the farmers on how monetary policy changes affect agricultural output is the first step in making farmers and agro-businesses become active players in the policy making process. Looking at the impact of agricultural finance on output in Nigeria, using a cross sectional data, Egbuwalo (2008) observes that agricultural finance remained a thing of interest in the effort to raise agricultural output. The above is in line with Enoma (2010) who examines the impact of agricultural credit on the growth of GDP in Nigeria. In his study, measures aimed at increasing agricultural production were discussed and the relationship between agricultural development and economic growth were highlighted. The author concludes that agricultural credit, interest rate and exchange rates were all important in affecting aggregate output in Nigeria. In the same measure, Sunday (2014) investigating the short-run and long-run elasticity of agricultural productivity with respect to some key macro-economic variables, using the techniques of co-integration and error correction models. Their result revealed that in the short and long-run periods, the coefficients of real total exports, external

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reserves, inflation rate and external debt have significant negative relationship with agricultural productivity in the country, whereas industry's capacity utilization rate and nominal exchange rate have positive association with agricultural productivity in both periods.

METHODOLOGY

The research design for this paper is quantitative. The aim of a quantitative research is to evaluate the relationship between the independent variables – government agricultural expenditure, agricultural credit and agricultural output, and the dependent variable - economic growth in Nigeria. The data utilized in this study are annual time series covering 1985 to 2018 collected from secondary sources. It is sourced from the Central Bank of Nigeria (CBN) Statistical Bulletins.

Method of data analysis and model specification Ordinary Least Squares Method, OLS minimizes the squared difference between observed and predicted parameters from the model. The differences are called error terms. This statistical method aims to observe how the dependent variable reacts to changes in the values of one or more independent variables. Error term, ei, includes all the independent variables which are not defined in the regression because of the data unavailability or measurement error (Ergun & Göksu, 2013).

Augmented Dickey-Fuller (ADF) unit root test, A unit root is a feature of methods that change through time that can cause problems in statistical inference involving time series models. The ADF is a test for a unit root in a time series sample. It is an augmented version of the Dickey– Fuller test for a larger and more complicated set of time series models.

Johansen Co-integration test

The Johansen test is used to estimate the cointegrating relationships between the dependent variable and the independent variables. This approach is more widely used than the other techniques for cointegration testing such as the Engle and Granger, Cointegrating Regression Durbin-Watson (CRDW) and Autoregressive Distributed Lag (ARDL) techniques. The reason is because it is a test for cointegration that allows more than one cointegrating relationship, unlike the Engle–Granger method (Ergun & Göksu, 2013).

Granger Causality Test

Granger causality test is a statistical hypothesis test used for determining whether one-time series is useful in forecasting another (Chen & Hsiao, 2010). It utilizes data sets to find sequences of correlation.

Model Specification

The model is therefore specified in a functional form below:

$RGDP = f(GAE, AGO, AGC)$ --- --- --- (3.1)

The model can be expressed in equation as:

$RGDP_t = \beta_0 + \beta_1 gae_t + \beta_2 ago_t + \beta_3 agc_t + \mu_t$ --- --- --- (3.2)

Where,

RGDP = Real gross domestic product (economic growth)

GEA = Government agricultural expenditure

AGO = Agricultural Output

AGC = Agricultural Credit

μ = Error term

β_0 = Constant term

β_1 = Coefficient of GAE

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β_2 = Coefficient of AGO
β_3 = Coefficient of AGC

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

The objective of this chapter is to present the data analysis. This is achieved by dividing the chapter into seven sections. Section one covers this introduction, section two illustrates the descriptive statistics, section three shows the unit root test, section four presents the co integration test, section five covers the OLS regression, section six is the granger causality test, section seven covers the discussion of findings.

Descriptive Statistics

Table 4.1 presents the descriptive statistics on the variables and figure 4.1 illustrates the trends of the variables over the study period.

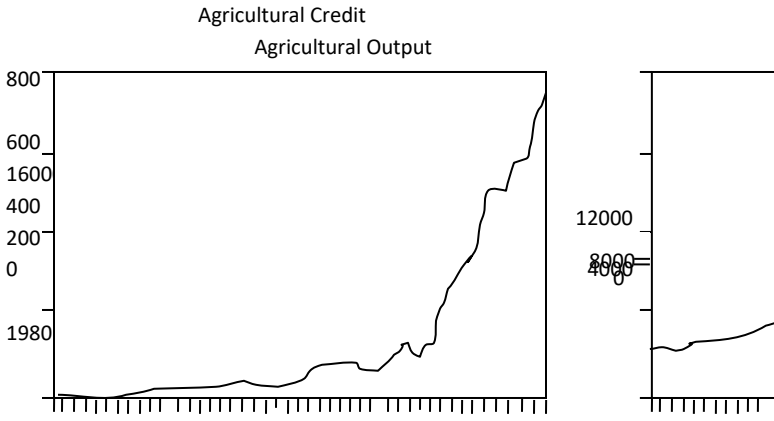
Table 4.1: Descriptive Statistics

	AGC	AGO	GAE	RGDP
Mean	138.1966	7956.731	17.93219	34690.67
Median	41.02890	4840.970	7.064546	23688.28
Maximum	772.3754	17958.58	70.27454	71387.83
Minimum	0.590600	2303.510	0.012770	13779.26
Std. Dev.	204.5053	5349.728	21.58298	20237.78
Skewness	1.617619	0.571710	0.954658	0.673787
Kurtosis	4.455420	1.783473	2.628447	1.880848
Jarque-Bera	20.45065	4.529439	6.148251	4.986242
Probability	0.000036	0.103859	0.046230	0.082652
Sum	5389.667	310312.5	699.3555	1352936.
Sum Sq. Dev.	1589252.	1.09E+09	17701.35	1.56E+10
Observations X39	Observations 39	39	39	39

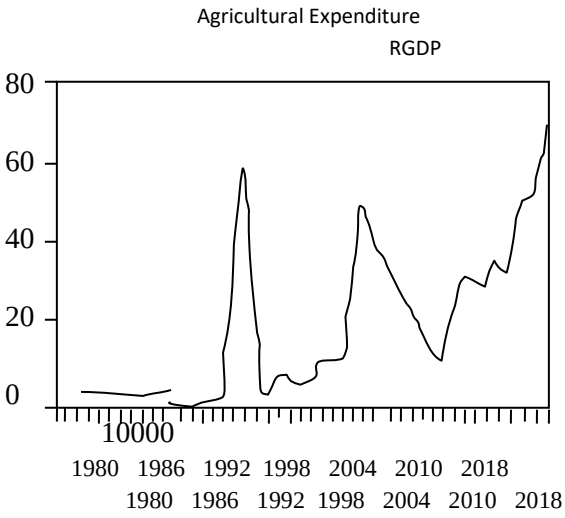
Source: Author's Computation with E-views 9

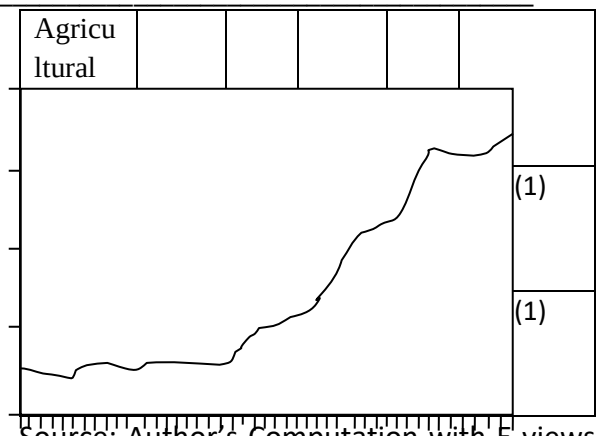
Table 4.1 presents the descriptive statistics of the variables. The mean and standard deviation of RGDP are 34690.67 and 20237.78 respectively. The mean and standard deviation of Agricultural Credit, Agricultural Output and Government Agricultural Expenditure are (138.1966, 204.5053), (7956.731, 5349.728) and (17.93219, 21.58298) respectively.

The mean shows the average values of the variables during the specified study period, while the standard deviation takes into account the deviation of the minimum and maximum variable values of the mean. Other statistics on the data can be seen in Table 4.1.



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Source: Author's Computation with E-views 9

Figure 4.1: Trends on the variables

4.3 Unit Root Test

Table 4.2 shows the stationarity of the variables which were tested using Augmented
Dickey-Fuller (ADF) unit root test to ascertain whether or not the variables were stationary or
nonstationary at levels and 1st difference.

Table 4.2: Unit Root Test Results

VARIABLES	ADF UNIT ROOT TEST				ORDER OF INTEGRATION
	LEVEL		DIFFERENCE		
	t-stats	Prob	t-stats	prob	
Real GDP	-1.486042	0.81589	-3.351682	0.07378	I(1)
Government	-2.179616	0.4868	-6.531926	0.0000	I(1)

All the variables are nonstationary at levels. However, the variables are stationary at 1st difference at 10% level of significance. The null hypothesis is therefore rejected, which implies that the variables do not have a unit root.

Table 4.3: Co-integration Test Result

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.480856	42.76646	47.85613	0.1384
At most 1	0.294349	18.51018	29.79707	0.5285
At most 2	0.088725	5.610719	15.49471	0.7410
At most 3	0.057039	2.173038	3.841466	0.1404

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized	Max-Eigen	0.05

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No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.480856	24.25627	27.58434	0.1260
At most 1	0.294349	12.89947	21.13162	0.4615
At most 2	0.088725	3.437681	14.26460	0.9134
At most 3	0.057039	2.173038	3.841466	0.1404

Source: Author's Computation with E-views 9

Table 4.3 shows the results of the Johansen co-integration test. The null hypothesis is not rejected because there is no cointegration at the 0.05 level. This implies that there is no long-run equilibrium relationship between the selected variables in the study, this means that there is no existence of long-run relationship between RGDP, GAE, AGO and AGC in Nigeria from 1981- 2019.

Table 4.4: OLS Regression results

Dependent Variable: LRGDP
Method: Least Squares
Date: 09/11/20 Time: 12:49
Sample: 1981 2019
Included observations: 39

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGAE	-0.034397	0.012440	-2.765024	0.0090
LAGO	0.787073	0.049807	15.80238	0.0000
LAGC	0.051291	0.024192	2.120168	0.0412
C	3.265261	0.381346	8.562472	0.0000

R-squared	0.988183	Mean dependent var	10.29219
Adjusted R-squared	0.987170	S.D. dependent var	0.572482
S.E. of regression	0.064844	Akaike info criterion	-2.536751
Sum squared resid	0.147166	Schwarz criterion	-2.366130
Log likelihood	53.46665	Hannan-Quinn criter.	-2.475534
F-statistic	975.6278	Durbin-Watson stat	0.721140
Prob(F-statistic)	0.000000		

Source: Author's Computation with E-views 9

Table 4.4 presents the result derived from the OLS test. The value of the R-squared is 0.99, meaning that 99% of the dependent variable, RGDP is explained by the independent variables in the model. All the variables have positive relationship with RGDP except government agricultural expenditure (GAE). R-squared is 99%, indicating good fit of the model.

For a unit increase in government agricultural expenditure, RGDP will decrease or change by -0.034% in Nigeria. For a unit increase in agricultural output, RGDP will increase or change by 0.787%. For a unit increase in agricultural credit, RGDP will increase or change by 0.051%.

The value of the constant is 3.265. Therefore, when the independent variables are held at constant, RGDP will increase or change by 3.265%. At a 5% level of significance, government agricultural expenditure, agricultural output, agricultural credit and the intercept (C) are statistically significant as their p-values (0.0090, 0.0000, 0.0412 and 0.0000 respectively) are all less than 0.05. This concludes that all the independent

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variables have a significant effect on the Nigerian economy.

Table 4.5: Causality test result

Pairwise Granger Causality Tests
Date: 09/11/20 Time: 12:51
Sample: 1981 2019
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LGAE does not Granger Cause LRGDP	37	1.95559	0.1580
LRGDP does not Granger Cause LGAE		0.05279	0.9487
LAGO does not Granger Cause LRGDP	37	5.64308	0.0080
LRGDP does not Granger Cause LAGO		2.21061	0.1261
LAGC does not Granger Cause LRGDP	37	1.38347	0.2653
LRGDP does not Granger Cause LAGC		0.76895	0.4719
LAGO does not Granger Cause LGAE	37	0.22152	0.8025
LGAE does not Granger Cause LAGO		1.08177	0.3511
LAGC does not Granger Cause LGAE	37	0.80317	0.4567
LGAE does not Granger Cause LAGC		0.93224	0.4041
LAGC does not Granger Cause LAGO	37	1.21952	0.3087
LAGO does not Granger Cause LAGC		0.60677	0.5513

Source: Author's Computation with E-views 9

Table 4.5 presents the result from the granger causality test. The result is as follows: there is no causal relationship between GAE and RGDP, there is a unidirectional relationship from AGO and RGDP and not vice-versa, there is no causal relationship between AGC and RGDP, there is no causal relationship between AGO and GAE, there is no causal relationship between AGC and GAE, there is no causal relationship between AGC and AGO.

Discussion of Findings

This study was focused on the impact of government agricultural expenditure on economic growth. From the regression analysis carried out, the results show that both agricultural output and agricultural credit have positive relationship with RGDP, whereas only government agricultural expenditure has a negative relationship with RGDP. However, all the variables are statistically significant in the model. The unit root test showed that the variables are non-stationary at level, and stationary at 1st difference at 10% level of significance. The co-integration results showed the nonexistence of cointegrating equations, implying that there is no long-run relationship between the variables and RGDP. The granger causality test showed a causal relationship only between agricultural output and RGDP.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS.

Summary of findings

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This study aimed at examining the impact of government agricultural expenditure on the Nigerian economy and how it can lead to growth and stability through the use of unit root test, co-integration test, ordinary least square method and granger causality test with time series covering the periods from 1985 to 2018.

The findings revealed that agricultural credit has a significant positive relationship with RGDP. This shows that financial institutions can play a positive role in financing the development in the agricultural sector.

Agricultural output also has a significant positive relationship with RGDP which could be attributable to farmers' increased access to credit facilities.

Government agricultural expenditure however, has a significant negative relationship with RGDP. This indicates that debt-financed increase in government expenditure retards economic growth.

Conclusion

From the results obtained, it is clearly seen that adequate funding through provision of credit facilities can significantly increase the productivity and output of the agricultural sector in the economy. Debt-financed government expenditure can hinder growth as it tends to generate inflationary forces in the economy.

Recommendations

Based on the findings of the study, the following recommendations have been made:

1 The fear of collateral security and heavy interest rates has discouraged most farmers from obtaining loans from financial institutions. Therefore, it is recommended that government should put forth policies that promote good lending environment for agricultural related investments. Financial institutions should be made more available in rural areas where most farmers reside. In addition, agricultural related banks such as Agricultural Development Banks (ADBs) and others in those categories should be allocated sizable budget with the directive to promote farming activities.

2 For government expenditure to exhibit the desired results in the economy, government expenditure needs to be closely monitored. This will help ensure that budget allocations are channeled into the required targets that will help improve the economy.

3 For local farmers to thrive there must be protection against external competition. Government should ensure stern regulation on importation of agricultural products.

4 Government should open farm settlements across the nation. Vast hectares of land can be acquired by the government and allocated to farmers. This will reduce the barrier of access to farmland. Farming equipment such as machinery, tractors and inputs such as improved seeds, improved breeds of animals, fertilizers and modern storage facilities among others should be provided at subsidized rates.

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