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Article

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FEDERAL GOVERNMENT AGRICULTURAL FINANCING AND ECONOMIC GROWTH IN NIGERIA

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Abstract

This paper analyzed the impact of federal government agricultural financing on economic growth in Nigeria. The study utilized the time series data which was extracted from the Central Bank of Nigeria statistical bulletin. The properties of the variables were tested using the Augmented Dickey-Fuller unit root test. A Single equation cointegration test confirmed no cointegration and a short-run vector autoregressive model was used to analyze the data, after which the diagnostic test was carried out to confirm the normality of the series. The study revealed that federal government agricultural financing has a negative contribution to economic growth in Nigeria and was statistically insignificant. Agricultural Credit Guarantee Scheme Funds had a positive but not statistically significant contribution to economic growth and there was no causal relationship among the variables. The study concluded that federal government agricultural financing has no significant impact on economic growth in Nigeria. Therefore, the study recommended that federal government should increase funding to the agricultural sector to be able to impact positively on the economic growth of Nigeria.

Keywords: agricultural sector, agricultural finance, unit root test, economic growth

JEL: N2, Q, E6, C32

1. Introduction

Agriculture primarily provides food for man and raw materials for agro-based industries. It consists of all the productive endeavors of man in

collaboration with natural plants and animals. It involves all aspects of farming, fishing, livestock, rearing of poultry and forestry. Until the discovery of oil in Nigeria, agriculture was the most important sector of the economy accounting for more than two-thirds of colonial Nigeria's export earnings. The agricultural sector has a multiplier effect on any nation's socio-economic development and industrial fabric because of its multifunctional nature (Ogen, 2007).

The significance of agricultural resources in bringing about economic growth and sustainable development of a nation cannot be underestimated. Agriculture contributes to the growth of the economy, provides employment opportunities for the teeming population, revenue earnings through exports and eradicates poverty among the rural households and the economy at large. Oji-Okoro (2011) opined that agricultural resource has been an important sector in the Nigerian economy in the past decades, and is still a major sector despite the oil boom.

Agriculture is estimated to be the largest contributor to the non-oil foreign exchange earnings in Nigeria. It is believed that a strong agricultural sector is essential to economic development as it stimulates and supports the growth of industries.

It occupies the pride of place as the source of livelihood for over 70 percent of the population.

It has been opined and recognized that sustained agricultural development requires striking an appropriate balance between investments that are directly productive in agriculture and

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investment in infrastructure. Thus, poor infrastructural services in developing countries like Nigeria will lead to low productivity. Much of the high productivity in agriculture of developed countries is a result of massive form of investments over the years in both physical and institutional infrastructures (Manyong, 2003).

Finance, in an economy, is based on savings and borrowings. Savings, otherwise regarded as equities, is the basis of a money economy that allows for investments in the production of goods and services and which enhances real economic growth. Savings is that part of the disposable income that is not immediately consumed. Savings (equities) is a direct source of financing in an economy, credit (borrowings) is an indirect source. Finance for agricultural development has an increasing role in our contemporary societies. Finance affects economic growth, and more importantly, a growing concern has developed over time regarding the need for effective access to credit facilities for agricultural purposes. The Nigerian government recognizes that finance is an essential tool for promoting agricultural development and hence, economic development.

Access to finance for agriculture is an incentive for increasing the agricultural sector's performance; it stimulates productive growth, and supports the survival of small and medium scale enterprises. Access to finance increases the average inputs of labor and capital, which has positive effects on production output.

Agricultural finance is all about the acquisition and utilization of capital (i.e., finance), and procurement and management of other factors of production namely, land, labor, capital, and entrepreneur (management) in agriculture, which is not only a lubricant but the lifeblood of the economy. Gross domestic product (GDP) is a measure of the total value of all the goods and services produced by a country within a year, being a proxy for economic growth.

An increase in agricultural sector activities is expected to have a strong relationship with the GDP of the country, which by implication leads to economic development in the long run.

Agriculture finance, therefore, refers to (public or private) resources (in form of equity, gift or loan) for improving social welfare through the development of the agricultural sector (Shreiner

and Yaron, 2001). This study is limited to the effect of federal government agricultural financing on the economic growth of Nigeria. Government expenditure is categorized into capital and recurrent expenditures. Capital expenditures are government expenditures on capital projects such as roads, bridges, dams, electricity, etc. in the agricultural sector while recurrent expenditures include expenditures on administration such as wages, salaries, interest, loans, maintenance etc. (Okoro, 2013).

The contribution and potentials of the agricultural sector by successive governments have over the years been relegated to a secondary level compared to other sectors (oil and gas). Similarly, despite huge sums of money allocated to the agricultural sector, there was little or insignificant improvements in agricultural productivity because the successive governments only used the policies/programs to embezzle public funds to the total neglect of food production (Akintunde, Adesope, and Okoruwa, 2013).

It is a known fact that many researchers have investigated various topics related to the impacts of federal government agricultural financing and economic growth in Nigeria. While some supported the significant effect of federal government agricultural financing on economic growth (Cletus and Sunday, 2018), other scholars like Egbetunde and Fasanya (2013) and Folster and Henrekson (2001) in their studies found no significant relationship between federal government agricultural financing and economic growth.

On this note, this study, therefore, sought to investigate the effect of federal government agricultural financing on economic growth between 1981 and 2017.

In view of the above statement of the problem, the questions in this study are: What is the impact of federal government agricultural financing on Nigeria's economic growth? and What is the causal relationship between agricultural finance and the economic growth of Nigeria?

However, the specific objectives are to examine the impact of agricultural financing on economic growth in Nigeria as well as determine the causal relationship between federal government

agricultural financing and Nigeria's economic growth.

The significance of this study stems from the fact that it would be of benefits to both the government and the society at large in the area of agricultural productivity and as a guide for future governmental policy in the agricultural sector. More so, it would serve as a literature source for researchers or students in the field of agricultural financing and its attendant implications on the economic growth of Nigeria.

2. Literature and empirical review

There have been contributions from various schools of thought such as the classical, neoclassical, Keynesian etc., on whether the government should intervene in short-run fluctuations in economic activity. The classicalists believed that market forces bring the economy to long-run equilibrium through adjustment in the labor market. The classical and neoclassical economists see fiscal policies as ineffective due to the well-known crowding-out effect.

The Keynesians posited that government expenditure does not obstruct economic growth but rather accelerates it through full employment, increased aggregate demand, and so forth. The above schools of thought are therefore briefly enumerated below.

2.1 Musgrave theory of public expenditure growth

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 posited that at low levels of per capita income, demand for public services tends to be very low and such income is devoted to satisfying primary needs.

According to Musgrave, when per capita income starts to rise above the levels of low income, the demand for services supplied by the public sector such as healthcare, education,

transport, and agriculture starts to rise, thereby forcing the government to increase expenditure on them. He observed that at high levels of per capita income, typical of developed economies, the rate of public sector growth tends to fall as the more basic needs are being satisfied.

2.2 The Wagner's Law/ Theory of increasing state activities

Wagner's law (1883) is based on the observation that public expenditure increases as national income rises. It postulates that: (i) the extension of the functions of the states leads to an increase in public expenditure on administration and regulation of the economy; (ii) the development of modern industrial society gives rise to increasing political pressure for social progress and call for increased allowance for social consideration in the conduct of industry; (iii) the rise in public expenditure will be more than proportional increase in the national income.

The above postulations therefore result in a relative expansion of the public sector finance in relation to agricultural sector with a view to increasing economic growth in Nigeria.

2.3 The Keynesian theory

The Keynesian theory was adopted as the framework of this study. Keynes regards public expenditures as an exogenous factor that can be utilized as a policy instrument to enhance output.

According to the Keynesian school of thought, an increase in government spending leads to multiple increases in the output of an economy (Jhingan, 2010). This, according to Keynes, is the multiplier effect of government expenditure.

2.4 Empirical review on the study

Aina and Omojola (2017) carried out a study on the assessment of the effect of government expenditure on agricultural output in Nigeria. The Ordinary Least Square (OLS) and Error Correction Mechanism (ECM) methods were employed to analyze the data.

The short-run analysis showed that there was a significant and positive relationship between government expenditure on agriculture and agricultural output. The study concludes that government spending contributes positively to the agricultural sector performance in Nigeria.

Agbonkhese and Asekhome (2014) examined the impact of public expenditure on the growth of the Nigerian economy from 1981 to 2011 using the OLS method of analysis.

The results found that there was a positive relationship between dependent and independent variables of interest. Similarly, Aina (2015) focused on government spending and the performance of the agricultural sector in Nigeria. It was found that the expenditure on infrastructure and productive activities contributed positively to growth.

Loto (2011), in his investigation of the growth effect of sectoral expenditures on economic growth, discovered that expenditures on national security, transportation, and communication were positively related but not statistically significant to economic growth. He also found that expenditures on agriculture were negatively related to economic growth.

Ewubare and Eyitope (2015) examined the effects of government spending on the agricultural sector in Nigeria. The OLS of multiple regression, the Johansson co-integration techniques, and the error correction model were used for the analysis.

The results showed that the coefficient of determination was 0.9468 and the coefficient of ECM appeared with a negative sign and was statistically significant. Based on the above findings, the study recommended an increase in funding of the agricultural sector in Nigeria.

Itodo, Apeh and Adeshina (2012) examined the impact of government expenditure on agriculture and agricultural output in Nigeria from 1975 to 2010, using the Cobb-Douglas production function and OLS econometric techniques to estimate agricultural output against some variables. The results revealed a positive but insignificant relationship between government expenditure on the agricultural sector and agricultural output.

Kormain and Bratimasrene (2000) studied the economy of Thailand and made use of the Granger causality tests. Their findings revealed that government expenditure and economic growth were not cointegrated but indicated a unidirectional relationship. This is because, according to them, causality runs from government expenditure to growth. They also detected a significant positive effect of government spending on economic growth.

The study carried out by Yusuf, Adesope and Okoruwa (2013) examined the effectiveness of government annual budgetary allocation to agriculture and the role of monetary policy instruments in the growth of agricultural GDP in Nigeria using the OLS technique. The results showed that Agricultural Credit Guarantee Scheme Funds, previous year GDP and Consumer Price Index contributed positively to the growth of agricultural GDP. The study therefore recommended that government should increase its spending on agricultural sector, monitor the funds allocated, and provide the necessary infrastructural facilities such as good road network, electricity, healthcare, and water for the rural populace.

Olawunmi and Adesanmi (2018) empirically evaluated the nexus between public spending on agriculture and Nigerian output growth. Meanwhile, the relationship between growth rate of real GDP and public spending on agriculture was analyzed using the OLS method. The findings revealed that agricultural development in Nigeria has positive impact on the economic growth in Nigeria and that all the variables in the model proved significant. This result therefore shows that agricultural sector output has positively impacted on the economic growth in Nigeria.

A study by Cheminqui (2005) opined that an increase in government expenditure devoted to the three priority areas such as agriculture, education and healthcare would affect the economy through increase in sectoral productivity and the total factor productivity (TFP). He pointed out that good education and healthcare help the poor, enhance more productive lives and increase the returns on investments.

3. Research methodology

3.1 Sources of data

Secondary data was used for the study taking real GDP (RGDP) as a proxy for economic growth. The data was collected through the extraction from the publications of the Central Bank of Nigeria's (CBN, 2017) annual statistical bulletin.

Historical time series data on government expenditure on agriculture and the GDP of Nigeria over the period 1981-2017 was used. The purpose of choosing this period was to empirically test the significance the agricultural sector financing had within the period or the extent to which this financing contributed to the economic growth of Nigeria as against the previous studies that ended in 2016.

3.2 Method of data analysis

For the purpose of this study, the data was analyzed quantitatively with the aid of special econometric software called E-Views 10 Student Version, using inferential statistics (i.e. the OLS models of regression analysis) to ascertain the impact of independent variables on the dependent variable. A unit root test was conducted before carrying out the regression analysis to ascertain the stationarity of the variables (Dang, 2013).

We also used the Augmented Dickey-Fuller (ADF) unit root test (Gujarat and Peter 2009) before performing the OLS test. The series were observed to be integrated of Order One, that is, they were I (1) series, which prompted the use of single-equation cointegration test to determine if there was cointegration among the series. It was found that there was no cointegration.

This led to the use of short-run regression estimation and this assisted in determining the impact of federal government agricultural financing on economic growth. To test the fitness of the model, a diagnostic test was carried out to ascertain that the model does not suffer from heteroskedasticity.

The pairwise Granger causality test was adopted to ascertain the causal relationship between federal government agricultural financing and the economic growth of Nigeria.

3.3 Model specification

To analyze the impacts of agricultural financing on economic growth, the model is expressed implicitly as stated below, following Aina (2015); Ewubare and Eyitope (2015) and Aina and Omojola (2017):

$$Y = f(\text{AgF}) \quad (1)$$

While explicit form is stated as,

$$\text{RGDP}_t = \Phi_0 + \beta_1 \text{AgF}_t + u_i \quad (2)$$

Equation (2) can be further re-stated as indicated below with other conditional variables that may influence economic growth.

$$\text{RGDP} = f(\text{gaexp}, \text{agcsf}) \quad (3)$$

Equation 3 is now explicitly written in a logarithm form as:

$$\text{RGDP}_{t-1} = \alpha_0 + \beta_1 \text{Lngaexp}_{t-1} + \alpha_2 \text{Lnacgsf}_{t-1} + \varepsilon_{it} \quad (4)$$

Below are the granger causal model specifications of the study (Zeillner, 1979);

$$\text{RGDP}_t = \phi_0 + \sum_{h=1}^n \phi_h \text{RGDP}_{t-h} + \sum_{j=1}^n \phi_j \text{GAEXP}_{t-j} + \sum_{j=1}^n \phi_j \text{ACGSF}_{t-j} + \mu_{t1} \quad (5)$$

$$\text{GAEXP}_t = \alpha_0 + \sum_{j=1}^n \alpha_j \text{GAEXP}_{t-j} + \sum_{j=1}^n \alpha_j \text{ACGSF}_{t-j} + \sum_{j=1}^n \alpha_j \text{RGDP}_{t-j} + \mu_{t2} \dots \quad (6)$$

$$\text{ACGSF}_t = \beta_0 + \sum_{j=1}^n \beta_j \text{ACGSF}_{t-j} + \sum_{j=1}^n \beta_j \text{RGDP}_{t-j} + \sum_{j=1}^n \beta_j \text{GAEXP}_{t-j} + \mu_{t3} \quad (7)$$

Where; Y: Real Gross Domestic Product (GDP) proxy for economic growth,

4. Results

4.1 Unit root test

The results of the unit root test are presented below (Table 1). The results indicated that all the series (i.e., Real GDP, GAExp, Acgsf) were not stationary at level but at first difference, which implies that they were I(1) series.

4.2 Cointegration test

Since all the series were confirmed to be I (1) series, cointegration test had to be carried out to determine the long-run relationship between the dependent and independent variables. However, when series are integrated of order one or at a level, it means they have a stochastic trend (Johansen, 1991). This test was used to check if the independent variable(s) can predict both present (short-run) and future (long-run). The cointegration of two or more time series suggests that there is a long run or equilibrium relationship between them (Gujarati and Porter, 2009).

This study, therefore, adopted the Johansen cointegration test as shown below (Table 2). The results from Table 2 revealed that there was no cointegrating equation among the series and this prompted the need to run the short run vector autoregressive (VAR) model for the series, where the lag of the series was included for the model to be better off.

Table 3 specified the lag length that will fit for the model as indicated by the recognized criteria which showed one year lag length.

Table 4 shows the short run VAR estimate since there was no long run relationship among the variables; a short run model was estimated using one lag as selected by Akaike information criterion (AIC). In the short run, the coefficients for the past period for GAEXP, and ACGSF were positive but they were statistically insignificant at the 5% level, which implies that in the past period both government agricultural expenditure or financing and Agricultural Credit Guarantee Scheme fund had no significant impact on economic growth. The short-run coefficient for GAExp was negative (-2.64287) which implies that a percentage increase in federal agricultural expenditure/financing would bring about a percentage decrease of 2.64287 in RGDP, while ACGSF's coefficient was positive with a value of 0.0225 which implies that a percentage increase in Agricultural Credit Guarantee Scheme Funds would bring about 2.25 percent increase in RGDP. However, both independent variables were statistically insignificant at 5% probability level.

The R-Square value of about 38 percent (0.37801) shows that the total variation in the dependent variable (RGDP) was jointly explained by independent variables while the remaining 60 percent could be linked to white noise, which is usually captured by other variables not present in the model.

The F-statistic measures the fitness of the whole model, which showed a significant probability value of 0.01303. The Durbin Watson statistic was used to detect the presence of autocorrelation. Thus, a value of 2.03607 showed that there was no serial correlation in the model.

4.3 Diagnostic test

Table 5 shows the results of the check on the model against heteroskedasticity. The p-value (0.9828) of Obs*R-squared showed that the model does not have heteroskedasticity problem. So, the residuals had constant variance, which is desirable and indicates that the residuals were not heteroscedastic.

Table 6 shows the results of the serial correlation test of the model where the null hypothesis states that there is 'no serial correlation in the residuals (u)' and the alternative hypothesis states that 'there is serial correlation in the residuals.

Since the p-value (0.05552) of Obs*R-square was more than 5 percent (i.e., $P > 0.05$), we cannot reject the null hypothesis and it therefore implies that the residuals (u) were not serially correlated.

4.4 Stability test

This test is useful in testing the stability of the long run relationship among the parameters in the model or testing the presence of structural changes in the data and stability of the regression model.

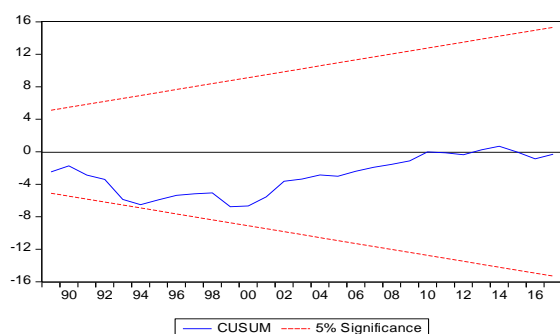


Figure 1. *CUSUM test on the model*

Source: Authors' computation

The above graph shows the results of the diagnostic test on the model under CUSUM (accumulated residuals) and this implies that the series structure stability was normal since it still fell within the range of 5% level of significance, which is desirable.

It can be concluded that the collected data are stable and the results are reliable. In an attempt to test the causal relationship between federal government agricultural financing and economic growth in Nigeria (RGDP), the above table shows the results of the test using pairwise Granger causality test model.

The results from the table of Granger causality test (Table 7) show that DLGAEXP does not Granger cause LRGDP as the probability associated with the null hypothesis (DLGAEXP does not Granger cause DLRGDP) was not significant ($0.5111 > 0.05$). We then accept the null hypothesis. Also, DLRGDP does not Granger cause DLGAEXP as indicated in the probability value of $0.7848 (P > 0.05)$. Therefore, the null hypothesis is accepted and this shows that there was no causal relationship among the variables.

In the same vein the tests showed that DLACGSF does not Granger cause DLRGDP as the probability associated with it was also not significant (i.e., $0.1216 > 0.05$). We then accepted the null hypothesis.

Also, DLRGDP does not granger cause DLACGSF as indicated in the probability value of $0.3186 (P > 0.05)$ and the null hypothesis is accepted as well, which also indicated that there was no directional relationship between the variables.

Hence, the results revealed that there was no causal relationship between federal government agricultural financing, Agricultural Credit Guarantee Scheme and Nigeria economic growth.

5. Discussion of findings

The findings of the study clearly showed that federal government agricultural financing (GAExp) has no significant impact on RGDP in Nigeria.

This is confirmed by the results of the statistical analysis which revealed the value of the coefficient obtained (-2.64287) with a probability of 0.9976, which was greater than the level of significance of 5% specified in the analysis.

Similarly, it was also found that the ACGS fund had a positive contribution to RGDP in Nigeria, with a coefficient of 0.0225. However, it was not statistically significant, which can be seen from the probability value of 0.1356 (Table 4).

This is in line with the findings of previous scholars like Egbetunde and Fasanya (2013), Folster and Henrekson (2001) as well as Itodo, Apeh and Adeshina (2012), who found out that there was no significant relationship between federal government agricultural financing and economic growth in Nigeria.

However, this can be expatiated based on the fact that most of the funds allocated by the federal government to finance agriculture are not totally available to the main targeted users (i.e., agribusiness men and women).

However, the findings of this study were not in conformity with the studies of Aina and Omojola (2017) who found a significant and positive relationship between government expenditure on agriculture and agricultural production output while Aigbonkhese and Asekhome (2014) concluded on the positive relationship between public expenditure (agricultural sector inclusive) on the growth of Nigeria.

Table 1. *Unit root test results*

| Series | Critical | t-statistics | Probability | Remark | Order of integration |
|-----------------------|-----------|--------------|-------------|----------------|----------------------|
| LRGDP:level | -2.945842 | -0.789839 | 0.8100 | Not stationary | |
| 1 st Diff | -2.948404 | -3.942336 | 0.0205 | Stationary | I (1) |
| LGAExp:level | -2.951125 | -1.979912 | 0.2939 | Non stationary | |
| 1 st Diff | -2.948404 | -8.209570 | 0.0000 | Stationary | I(1) |
| LACGSF: level | -2.948004 | -1.123764 | 0.6953 | Non stationary | |
| 1 st Diff. | -2.948404 | -4.141295 | 0.0027 | Stationary | I(1) |

Source: Authors' computation

Table 2. *Single-Equation cointegration test*

| | | | | |
|---|---------------|---------|-------------|---------|
| Series: LRGDP LGAEXP LACGSF | | | | |
| Sample:1981-2017 | | | | |
| Included observations:37 | | | | |
| Null Hypothesis: Series are not cointegrated | | | | |
| Cointegrating equation deterministic: C | | | | |
| Automatic lags specification base on Schwarz criterion (maxlag=8) | | | | |
| Dependent | tau-statistic | Prob.* | z-statistic | Prob.* |
| LRGDP | -0.86033 | 0.97515 | -3.18563 | 0.95808 |

Source: Authors' computation

Table 3: *Optimal Lag Length result*

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|-----|-----------|-----------|-----------|------------|-----------|------------|
| 0 | -104.9409 | NA | 0.114852 | 6.349465 | 6.484144 | 6.395395 |
| 1 | 39.34182 | 254.6166* | 4.03e-05* | -1.608343* | -1.069627 | -1.424625* |

Source: Authors' computation

Table 4. *Short Run Var Estimate*

| Variable | Coefficient | Std. error | t-Statistic | Prob. |
|----------------------|-------------|--------------------------|-------------|----------|
| C | 0.01661 | 0.009891 | 1.679675 | 0.1038 |
| D(LRGDP(-1)) | 0.40234 | 0.152930 | 2.63084 | 0.0135 |
| D(LGREXP) | -2.64287 | 0.008739 | -0.00302 | 0.9976 |
| D(LGREXP(-1)) | 0.00195 | 0.008793 | 0.221692 | 0.8261 |
| D(LACGSF) | 0.0225 | 0.022120 | 1.021150 | 0.3156 |
| D(LACGSF(-1)) | 0.03763 | 0.023068 | 1.631589 | 0.1136 |
| R-squared | 0.37801 | Mean dependent var | | 0.04342 |
| Adjusted R-squared | 0.27078 | S.D. dependent var | | 0.04215 |
| S.E.of regression | 0.03599 | Akaike info criterion | | -3.65623 |
| Sum squared residual | 0.0375 | Schwarz criterion | | -3.38960 |
| Log likelihood | 69.9840 | Hannan-Quinn criteria. | | -3.56419 |
| F-statistics | 3.52497 | Durbin-Watson statistics | | 2.03607 |
| Prob(F-statistics) | 0.01303 | | | |

Source: Authors' computation

Table 5. *Heteroskedasticity Test: Breusch-Pagan-Godfrey*

| | | | |
|--|---------|--------------------|--------|
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | |
| F-statistic | 0.11891 | Prob.F(5,29) | 0.9871 |
| Obs*R-squared | 0.70319 | Prob.Chi-Square(5) | 0.9828 |
| Scaled explained SS | 0.62811 | Prob.Chi-Square(5) | 0.9867 |

Source: Authors' computation

Table 6. *Breusch-Godfrey Serial Correlation LM Test*

| Breusch-Godfrey Serial Correlation LM Test: | | | |
|---|----------|--------------------|---------|
| F-statistic | 2. 23970 | Prob.F(2,27) | 0.09344 |
| Obs*R-squared | 9. 23350 | Prob.Chi-Square(2) | 0.05552 |

Source: Authors' computation

Table 7. *Granger Causality Test*

| Null Hypothesis: | Obs | F-Statistic | Prob. |
|--|-----|-------------|--------|
| DLGAEXP does not Granger Cause DLRGDP | 34 | 0.68691 | 0.5111 |
| DLRGDP does not Granger Cause DLGAEXP | | 0.24437 | 0.7848 |
| DLACGSF does not Granger Cause DLRGDP | 34 | 2.26756 | 0.1216 |
| DLRGDP does not Granger Cause DLACGSF | | 1.19004 | 0.3186 |
| DLACGSF does not Granger DLRGDP | 34 | 0.53762 | 0.5898 |
| DLGAEXP does not Granger Cause DLACGSF | | 1.21697 | 0.3108 |

Source: Authors' computation

6. Conclusion

Based on the findings, the study found that federal government agricultural financing had an insignificant impact on RGDP although there was a positive relationship between ACGS and RGDP. Hence, it can be stated that federal government agricultural financing has no significant impact on economic growth in Nigeria.

However, one the strengths of this research findings is that, for Nigeria to be sustainable in agricultural productivity, particularly in the agricultural value chain (input sub-sector, production output, storage, efficient processing and packaging, transportation/trade and efficient marketing system), agricultural financing should be encouraged in all its ramifications.

Also, in view of the empirical findings on the positive relationship between ACGS funds and, RGDP, there is a strong pointer to a possible increase in RGDP, which hitherto would translate into more job opportunities for both rural and urban households and ultimately enhance food security of the country.

The study, therefore, recommends that the federal government should consider increasing agricultural sector funding so as to impact positively on the economic growth of Nigeria. In addition to this, the federal government should ensure proper monitoring of the funds

such that the target beneficiaries reap the impact through increased agricultural output.

References

- 1) Adesope, A. A. A & Okoruwa, V. O. (2013). An Analysis of Federal Government Expenditure and Monetary Policy on Agricultural Output in Nigeria, *International Journal of Economics, Finance and Management Sciences*. 1(6), pp. 310-317.
- 2) Agbonkhese, A. O. & Asekhome, M. O. (2014). Impact of Public Expenditure on the Growth of Nigerian Economy. *European Scientific Journal*, 10(28), pp. 219-227.
- 3) Aina, G. O. & Omojola, J.T.(2017). Assessment of the Effect of Government Expenditure on Agricultural Output in Nigeria (1980-2013). *International Journal of Innovative Agriculture and Biology Research* 5(4), pp.1-7.
- 4) Aina, G. O. (2015). *Government Spending and Agricultural Output in Nigeria (1980-2013)*. An unpublished M.Sc Thesis. Department of Economics, University of Port Harcourt, Nigeria.
- 5) Akintunde, W. A, Adesope, A. A & Okoruwa, V.O (2013). An analysis of Federal Government Expenditure and Monetary Policy on Agricultural Output in Nigeria. *International Journal of Economics, Finance and Management Sciences*, 1(6), pp. 310-337.
- 6) Central Bank of Nigeria Statistical Bulletin; (2017). Available at: <http://statistics.cbn>.

- gov.ng/cbnonlinestats (Accessed: December 31, 2018)
- 7) Cheminqui, M. A. (2005). "Harnessing Public Spending for Poverty Reduction in Yemen" Available at: www.worldbank.org/poverty/strategies (Accessed: December 31, 2018)
- 8) Cletus, UsmanIdoko & Sunday Mary Jatto (2018). Government Expenditure on the Agriculture and Economic Growth In Nigeria (1985-2015). *International Journal of Academic Research and Reflection*. 6(4). pp. 24-39.
- 9) Dang, V. A (2013). Testing capital structure theories using error correction models: Evidence from the UK, France. *Applied Economics*, 45(1-3). pp. 171-190.
- 10) Egbetunde, T. & Fasanya, I. O. (2013). Public Expenditure and Economic Growth in Nigeria: Evidence from Auto Regressive Distributed Lag Specification. *Zagreb International Review of Economics & Business*. 16(1), pp. 79-92.
- 11) Ewubare, D. B. & Eyitope, J. A. (2015). The Effects of Public Expenditure on Agricultural Production Output in Nigeria. *Journal of Research in Humanities and Social Science*, 11(3), pp. 7-23.
- 12) Folster, S & Henrekson, M (2001). Growth Effects of Government Expenditure and Taxation in Rich Countries. *European Economic Review*, (48), pp.1-19.
- 13) Gujarati, D. N. & Porters, F., (2009). *Basic Econometrics*. McGraw-Hill International, Singapore.
- 14) Itodo, A.I., Apeh S., & Adeshina S. (2012). Government Expenditure on Agricultural Sector and Economic Growth in Nigeria. *Journal of Humanities and Social Science*, 8(4), pp. 62-67.
- 15) Jhingan, M. L. (2010). *Macroeconomic theory* (12th ed.). New Delhi: Vrinda publications Ltd.
- 16) Johansen, S. (1991). Estimation and Hypothesis testing of Co-integration vectors' in Gaussian Vector Autoregressive Model's, *Econometrical Review*. 59, pp. 16-22
- 17) Kormain, J. & Bratimasrene, I. (2000). The Relationship between Government Expenditure and Economic Growth in Thailand. *Journal of Economics and Economic Education Research*. 8(4), pp. 223-230
- 18) Loto, M. A. (2011). Impact of Government Sectoral Expenditure on Economic Growth, *Journal of Economics and International Finance*, 3(11), pp. 646 – 652.
- 19) MacKinnon, J. A.(1991). "Critical Values for Cointegration Tests" in R. F. Engle and C. W. Granger (eds.) *Longrun Economic Relationships Readings in Cointegration Advanced text in econometric*, Oxford University Press. pp. 362-389.
- 20) Manyong, V. M. (2003). "Agriculture in Nigeria: Identifying Opportunities for Increased Commercialization and Investment", USAID, pp. 66-68
- 21) Musgrave, R. (1997). *Public Finance in Theory and Practice*. USA: Mc-Graw Hill International Company.
- 22) Ogen, O. (2007). The agricultural sector and Nigeria's development: comparative building perspectives from the Brazilian agro-industrial economy, 1960-1995. *Nebula*, March 2007 @Noble World Archives .4(1), pp. 184-194.
- 23) Oji-Okoro, I. (2011). Analysis of the contribution of agricultural sector on the Nigerianeconomic development. *World Review of Business Research*, 1(1), pp. 91-200.
- 24) Okoro, A. S. (2015). Government Spending and Economic Growth in Nigeria (1980-2011). *Global Journal of Management and Business Economics and Commerce*. 13(5) version 1.0
- 25) Olawumi, O. R. & Adesanmi O. (2018). Public Expenditure on Agriculture and output growth in Nigeria: *International Journal of Arts and Commerce*. 7(4), pp. 60-68.