IMPACT OF AGRICULTURE AND MANUFACTURING SECTORS ON ECONOMIC GROWTH IN NIGERIA (1981-2017)

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Abstract
    This study investigates impact of agriculture and manufacturing sectors on economic growth in Nigeria from 1981-2017. It examines the causal relationship between agriculture, manufacturing sectors and economic growth in Nigeria which most previous studies have ignored. In achieving this, ordinary least square methods were adopted. The unit root test results show that some of the variables were not integrated at level. The Engle-Granger cointegration test validated by Johansen cointegration test confirmed the existence of long run relationship among the variables. Thus, all the variables tend to move together in the long run. The results revealed that the impact of agriculture and manufacturing sectors on economic growth in Nigeria is significant but not enough to take the country to an enviable level within the period covered. It also indicates that all variables considered possess inherent capacity to contribute to the growth of agriculture and manufacturing if effectively, efficiently and adequately managed. The following recommendations become imperative: there is need for government to create a healthy productive environment by providing security, steady power supply and good road network that will attract and sustain investments in manufacturing sector; the current embargo on the importation of rice and other locally produce goods should be sustained by the federal government in order to increase productivity in agriculture; there is need for government to review the current trade policies to make trade become more inclusive & sustainable to SMEs via access to finance, financial literacy & technological adoption etc.
Keywords: Agriculture, Manufacturing, Economic Growth and Nigeria.

1. Introduction

Every nation strives for development. Economic progress is merely a component of development but development itself goes beyond pure economics. In fact, it encompasses more than the material and financial side of people's lives. It is a multidimensional process involving the reorganization and reorientation of the entire political, economic and social systems. This implies that in addition to improvements in incomes and output, it typically involves radical changes in institutional, social and administrative structures, as well as in popular attitudes and in many cases even customs and beliefs (Olurankinse and Fatukasi; 2012).

The Nigerian nation has been struggling with the realities of developmental process not only politically and socially but also economically. The economic aspirations of the country have remained that of altering the structure of production and consumption patterns, diversifying the economic base and reducing dependence on oil, with the aim of putting the economy on a part of sustainable, all-inclusive and non-inflationary growth. The implication of this is that while rapid growth in output, as measured by the real gross domestic product (RGDP), is important, the transformation of the various sectors of the economy is even more critical. This is consistent with the growth aspirations of most developing countries, as the structure of the economy is expected to change as growth progresses (Sanusi, 2010: Omojolaibi, Mesagan and Adeyemi, 2015).

Structurally, the Nigerian economy can be classified into three major sectors namely: primary, secondary and tertiary sectors. Agricultural and natural resources exist under the primary sector while processing and manufacturing exist under the secondary sector and services sectors exist under the tertiary sector. During the years after Independence, agriculture was the mainstay of the economy and the greatest foreign exchange earner. But, this prime position occupied by agriculture was overtaken by the oil sector by the mid 1970's (Ude and Agodi, 2012). This was during the period of oil boom. This era led to fundamental changes in the Nigerian Economy. As such, Nigeria became a mono product economy exporting more of oil related products which invariably rendered agricultural sector less competitive. Although other factors like low yield, inconsistent production pattern, disease incidence, pest attack and use of simple farm tools contributed to the dwelling fortune of the agricultural sector.

Consequently, government revenue has declined following declining oil prices, slower economic activity and hence lower corporate taxes, declining consumption and hence lower value added taxes, exchange rates adjustments and lower trade related tariff revenues, as well as slower portfolio and foreign direct investment accretion. All these are as a result of

many factors prominent among which is Nigeria's over-dependence on the oil sector. Nigeria wasted the opportunity it has during the oil boom. Now another good opportunity is offered by the present economic crisis. The prevailing economic situation has prompted Nigeria to work harder to further diversify our economy as well as government revenue. Yes, our economy is relatively diversified. This is against this background that this research is been carried out.

The fluctuation in oil price has led to a shock in the economy. Also the negative impact of inadequate power supply has increased the production cost of goods and services. Indeed, the high cost of generating energy for effective functioning of the manufacturing sector is one of the major problems facing the country. The situation whereby there is constant taking of electricity light which has made manufacturing companies to depend so much on generators and other sources of energy for their power generation has increased the cost of producing goods and services in the country thereby increasing the prices of these goods and services. This situation is seen by most manufacturers as more devastating than other factors thereby discouraging investors from investing in the country *(Adenugba and Dipo, 2013;* Adesoji and Sotubo, 2013).

Poverty level has increased worsening the condition of average Nigerian making it difficult for people to survive. Even, the level of corruption in the country is very high posing serious problems. The government, private investors and even foreign investors find it difficult to invest. Resources that are meant to improve agriculture, manufacturing are most times end up in private pockets. All these dubious and unjust practices are negatively affecting our economy, hence there is need to determine the impact of agriculture and manufacturing sectors on economic growth in Nigeria and equally to examine the causality relationship between agriculture and manufacturing sectors and economic growth in Nigeria. This will assist in answering the questions (i) What is the impact of agriculture and manufacturing sectors on economic growth in Nigeria? (ii) What is the causality relationship between agriculture and manufacturing sectors and economic growth in Nigeria? This study having used a longer time period of 1981 – 2017 considered inflation and trade openness which to the knowledge of the researcher has been embarked upon by any other researcher apart from contributing to knowledge, is expected to assist policy makers in coming up with policies that will benefit Nigeria in the face of shifting economic activities from fossil oil to other forms of energy as Nigeria's economy depends up to 95% on fossil fuel exports.

2. Literature Review

2.1 Conceptual Literature

According Samuelson et al (2001), economic growth is an increase in the total output of a nation over time. It is usually measured as the annual rate of increase in a nation's real GDP (or real potential GDP). Economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. Gross National Product is one of the main measures of national economic activity and economic well being. It is also the best indicator of economic wealth of any society. Gross National Product (GNP) is therefore defined as the total measure of all goods and services at market value from current production during a year in a country plus net income from abroad.Inflation is defined as a generalized increase in the level of price sustained over a long period in an economy. It is a positive rate of growth of the general level of prices of goods and services in an economy (Lipsey and Chrystal, 2011).

2.2 Theoretical Literature

For this study, the view of Prof. W.A. Lewis is adopted. To him, all sectors of the economy should be growing simultaneously so as to keep a proper balanced between industry and agriculture and between production for home (domestic) consumption and production for exports. This promotes equality in comparative prices in all the sectors which will enhance growth in all sectors of the economy that will also increase income, as well as demand and supply for goods whose income elasticity of demand is more. Thereby, chances of bottleneck in different sectors will be quite remote (Pettinger, and Pragyandeepa, 2012).

This theory sees every sector as having productive potentials to enhance the economy.   It thereby seeks to accelerate the process of growth through simultaneous investment across all sectors of the economy. This theory is very critical because it emphasizes on the need for investment in all the sectors of the economy simultaneously for rapid and sustainable development. So it is a long period strategy of growth.

This theory was propounded by Adam Smith in his 1776 publication, An Inquiry into the Nature and Causes of the Wealth of Nations. This theory uses a two by two by two model, i.e. there are two countries involved in the trading of two commodities and using only two factors of production; labour and capital. The theory says that a country should export products in which it is more productive than other countries: that is, goods for which it can produce more output per unit of input than others can (i.e. in which it has an absolute advantage) while importing those goods where it is less productive than other countries (i.e. in which it has an absolute disadvantage) (Jhingan, 2011 and Lipsey, et al 2011).

Absolute advantage means the ability of a country to produce a larger quantity of a good with the same amount of resources as another country. The country's absolute advantage may be due to the nature of its resources or to its production skills.

This theory was put forward by David Ricardo in 1817 because he was dissatisfied with the looseness in Smith's theory. According to Ricardo's theory of comparative advantage, even if a nation has an absolute cost disadvantage in the production of both goods, there still exists a basis for mutually beneficial trade. The less efficient nation should specialize in the production and exportation of the good in which it is relatively less inefficient (where its absolute disadvantage is least) while the more efficient nation should specialize in the production and exportation of the good in which it is relatively more efficient (where its absolute advantage is greatest) (Mankiw, 2009 and McCombie, et al 1993).

2.3. Empirical literature

There are a lot empirical studies in the literature on the impact of agriculture and manufacturing sectors on economic growth. Ude and Agodi (2012) investigated the time series role of non-oil revenue variables on economic growth in Nigeria from 1980 to 2013. This study employs cointegration methodology alongside error correction mechanism in analyzing agricultural revenue, manufacturing revenue and interest rate. Results show that agricultural revenue, manufacturing revenue and interest rate have significant impact on economic growth in Nigeria. Also there is the existence of long-run equilibrium relationship and short run dynamic adjustment with speed of about 52% to restore equilibrium. The study concludes that non-oil revenue has the potential to unlock Nigeria's economic morass and policy recommendations are provided.

Raheem and Busari (2013) examined the linkage between economic growth and agriculture, manufacturing using time series data for Nigeria over a period of 1970-2010. Employing both Simultaneous Equation Model (SEM) and a single equation model, results of SEM refute the hypothesis while that of the single equation validates the hypothesis. Specifically, the growth equation in the SEM shows that agriculture, manufacturing and agricultural performance are negatively associated with growth, though in other equations, this was not the case. It was also found that that the industrial sector performance and population growth are good determinant of economic growth. An interesting finding is the revelation that the adoption of Structural Adjustment Program was a bad omen for the agricultural sector.

Adenugba, and Dipo (2013) examined the impact of non-oil exports on economic growth in Nigeria: a study of agricultural and mineral, using descriptive and inferential

statistic tools to analyse the data gathered. Frequency distribution and simple percentages were used for the descriptive analysis and ordinary least squares (LS) regression was used for the inferential statistics. Findings from the study revealed that non – oil exports have performed below expectations giving reason to doubt the effectiveness of the export promotion strategies that have been adopted in the Nigerian Economy. The study also revealed that the Nigerian Economy is still far from diversifying from crude oil export and as such the crude oil sub – sector continues to be the single most important sector of the economy. Variables used are gross domestic product, Non-oil Exports and Exchange Rate.

Igwe, Edeh and Ukpere (2015) adopted the export-led growth hypothesis to examined the impact of agriculture, manufacturing to economic growth in Nigeria for the period 1981-2012. The model specified economic growth as a function of capital stock, labor and non-oil export. The econometric techniques of Johansen cointegration and the vector error correction model were chosen to ascertain the impact and the long run relationship between the dependent and the explanatory variables also, the Granger causality technique was analysed. Findings from the VEC analysis revealed that in both the short and long runs, agriculture, manufacturing determines economic growth. Also, the cointegration analysis indicated a long run relationship between agriculture, manufacturing and economic growth over the period under study. These two findings agreed with the theory of export-led growth hypothesis. However, the Granger causality analysis indicated no causality relationship between agriculture, manufacturing and economic growth. A uni-directional causality relationship runs from capital stock to economic growth. Also, a uni-directional causality relationship runs from economic growth to labor force.

Oyetade & Applanaidu (2013) Effect of Agricultural, Manufacturing And Services Sectors Performance In Nigeria, 1980-2011. In this study, the dependent variables were agricultural, manufacturing and services sector whereas the independent variable is the gross domestic product (GDP). The model was tested using unit root test, ordinary least square (OLS), serial correlation LM test and heteroskedasticity test to analyze the significant contribution between the dependent and independent variables. The result shows that agricultural and services sector of non-oil export component contributed significantly to the economic growth (GDP) of Nigeria. Also the result presents that there is no correlation and heteroskedasticity problem.

The study by Okafor, Akandu and Ike (2016) was aimed at devising a viable non-oil export-led growth policy. The study covered the period 1980 to 2014. The study revealed a preferred choice for a more robust factor analytic model to isolate potent factors influencing nonoil export–growth nexus in Nigeria. Results indicate that there was positive significant relationship between nonoil export and growth in Nigeria which was solely attributable to the

influence of foreign direct investment and trade liberalization. Moreover, the study revealed that the active variables in the constellation of foreign direct investment and trade liberalization provided the theoretical constructs for a new nonoil export-led growth policy. It was concluded that a viable nonoil export-led growth policy should comprise of such policy instruments as budgetary policy, exchange rate policy, human resource development policy, credit policy, and import substitution/export promotion policy.

Oburota & Okoi (2017) investigated manufacturing subsector and economic growth in Nigeria using time series data from the period of 1981-2013. To quantify the relationship between manufacturing output and economic growth, an eclectic model consisting of both the Kaldor's first law of growth and the endogenous growth model was estimated. the variable used were real gross domestic product, contract intensive money, manufacturing output, capital and labour force.Findings from the study showed that manufacturing output, capital and technology were the major determinants of economic growth. Results also confirm that quality of institutions and labour force does not exert any impact on economic growth

Ududechinyere, Eze & Nweke (2018) madean analysis of the effect of manufacturing sector on the growth of the Nigerian economy from 1981 to 2016. Autoregressive Distributed Lag (ARDL) model and Granger causality technique were utilized. Variable used were RGDP, manufacturing capacity utilization, manufacturing output, government investment expenditure, money supply and interest rate. The results showed that MCU has positive influence on RGDP while LMO affects RGDP positively. It also showed that GINVEXP has negative effect on RGDP whereas LM2 influenced RGDP positively. More so, evidence of unidirectional causalityis established between RGDP and MCU, LMO and LM2.

Kamil, Ugural, & Bekun (2017) The Contribution of Agricultural Sector on Economic Growth of Nigeria using time series data from 1981 to 2013. Vector error correction model was used to analyze real gross domestic product per capita, agricultural output, oil rent. Findings revealed that real gross domestic product, agricultural output and oil rents have a long-run equilibrium relationship. The speed of adjustment of the variables towards their long run equilibrium path was low, though agricultural output had a positive impact on economic growth.

Emeh (2017) examined the impact of agricultural sector on economic growth of Nigeria from 1984- 2015 . The study employed the ordinary least square technique to examine the relationship between the Real Gross Domestic Products (RGDP), Agricultural output (AGOUT), Deposit Money Bank Loans to Agriculture (DMBLA), inflation rate (INFLR) and interest rate on agricultural credit (INFRA) in Nigeria The estimated result

shows that agricultural output and inflation rate did not significantly impact real gross domestic product while Interest rate on agricultural credit and deposit money bank loans to agriculture have significant impact on real gross domestic product.

Lnusa, Daniel and Chiya (2017) researched on Nigerian economic growth and recovery: role of agriculture from 1981 – 2017. They used **normality test (**Philips-Perron test) and Johansen procedures for co-integration test. The variables used were economic development, agricultural sector and industrial sector andit was discovered that exchange rate has positively and significantly impacted on agricultural output. Loans and advances, and total savings were also discovered to have significantly impacted agricultural output as a component of GDP.

2.4. Knowledge Gap

After reviewing literature, some of the gaps that have driven this study include; Firstly, only few literature exist on the impact of agriculture and manufacturing sectors joint together on economic growth.Most research conducted previously in Nigeria wasmainly either on agricultural sector or on manufacturing sector alone on economic growth.Secondly, none of the aforementioned studies used employed inflation and trade openness as oneof the variables for analyses.Thirdly, this research work however employed the use of Engle-Granger cointegration test validated by Johansen cointegration test to validate the data used in the analysis, in which none of the scholars above made used of.Finally, only few works exist on the causality relationship between agriculture, manufacturing and economic growth.Thus, this established the premise for this research.

3. Methodology:

3.1. Research Design

Since this study involves determination of the impact of some variables on the other, the appropriate research design is Ex post facto research.

3.2 Model Specification

In line with the linear model employed by Adesoji and Sotubo (2013) and Nwankwo (2015) in analyzing the relationship between agriculture, manufacturing and economic growth, this study utilized a growth model which specified economic growth as a function of agriculture, manufacturing, exchange rate, inflation and trade openness.

3.3. Model Estimation

We specify the following model:

RGDP = f(AG, MAN,EXR, INF,TOP)   -   -   -   -   -   1.1

The explicit form of the model is given as follows:

$_{log}RGDP = b_0 + b_{1log}AG_t + b_{2log}MAN_t + b_{3log}EXR_t + b_4INF_t + b_{5log}TOP_t + \mu_t$ -   - 1.2

Where: RGDP = Real Gross Domestic Product as a proxy for economic growth:

AG = Agriculture Output,

MAN = Manufacturing output

EXR   =   Exchange Rate

INF = Inflation

TOP   = Trade Openness: *Import + Export*

RGDP

b_0, b_1, b_2, b_3, b_4,=Parameters, μ_t =Disturbance term

Apriori expectations

$f^l b_1$, $f^l b_2$ and $f^l b_5 > 0$ and $f^l b_3$ and $f^l b_4 < 0$

Where:$f^l b_1$=Agriculture, $f^l b_2$=Manufacture,$f^l b_3$=Exchange Rate, $f^l b_4$=Inflation, $f^l b_5$=Trade Openness.

4. Results and discussion

4.1 Unit root tests results

The result of the unit root tests using the Augmented Dickey-Fuller (ADF) statistic are summarizedbelow:

Table1: Unit root test results of yearly data on variables with Trend 1981-2017

Variables	ADF t-statistic	5% Critical Value	Probability value	Order of Integration
LOG(RGDP)	-3.381084	-2.954021	0.0190	I(1)
LOG(AG)	-4.355173	-2.954021	0.0016	I(1)
LOG(MAN)	-5.821445	-2.954021	0.0000	I(1)
LOG(EXR)	-3.719606	-2.954021	0.0083	I(1)
INF	-3.445297	-2.951125	0.0161	I(0)
LOG(TOP)	-3.879709	-2.954021	0.0056	I(1)

Source: Extraction from estimation output using E-views 9

The result in table 1 of the Augmented Dickey Fuller unit test indicates that only INF was stationary at level while RGDP, AG, MAN, EXR and TOP are stationary at first difference. Therefore, there is need to check if all these variables can relate together in the long run. To do this, we employ Engel-Granger and Johansen cointegration test as presented in Table 2 below:

Table2: Engle Granger Result

Null Hypothesis: ECM has a unit root				
Exogenous: None				
Lag Length: 1 (Automatic - based on SIC, maxlag=9)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-5.547919	0.0000
Test critical values:	1% level		-2.634731	
	5% level		-1.951000	
	10% level		-1.610907	
*MacKinnon (1996) one-sided p-values.				

Source: Extraction from estimation output using E-views 9

The Engle-Granger cointegration test result shows that since the value of the ADF-statistic is greater than the Mackinnon critical value,(--5.547919 >-1.951000) in absolute terms at 5% levels of significance, this shows that there is long-run relationship among the variables. Moreover, was validated by Johansen cointegration test as presented in table 3 below:

Table 3: Result of Johansen Cointegration Analysis (Trace Test)

Hypotheses	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
r=0	0.865724	190.7293	95.75366	0.0000
r≤ 1 $r > 1$	0.749391	126.4779	69.81889	0.0000
r≤ 2 $r > 2$	0.660525	82.19432	47.85613	0.0000
r≤ 3 $r > 3$	0.561396	47.62293	29.79707	0.0002
r≤ 4 $r > 4$	0.340046	21.24984	15.49471	0.0061
r≤ 5 $r > 5$	0.220009	7.951135	3.841466	0.0048
Trace test indicates 6 cointegratingeqn(s) at the 0.05 level				

Source: Extraction from estimation output using E-views 9

The trace test for cointegration indicates that there are six cointegrating equations at those null hypotheses where the value of the Trace Statistic exceeds the 5% critical value. To further confirm this result, we employ the maximum eigenvalue criteria as presented in Table 4 below:

Table 4: Result of Johansen Cointegration Analysis (Eigenvalue Test)

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.865724	64.25142	40.07757	0.0000
At most 1 *	0.749391	44.28357	33.87687	0.0020
At most 2 *	0.660525	34.57139	27.58434	0.0054
At most 3	0.561396	26.37309	21.13162	0.0083
At most 4	0.340046	13.29871	14.26460	0.0706
At most 5	0.220009	7.951135	3.841466	0.0048
Max-eigenvalue test indicates 4 cointegratingeqn(s) at the 0.05 level				

Source: Extraction from estimation output using E-views 9

In deciding the existence of cointegration, the eigenvalues should lie between 0.5 and 1.0. in table D above, this was achieved at the first three null hypotheses (0.86, 0.74, 0.66 and 0.56). This implies a long run equilibrium relationship among all the time series variables. The table 3 and 4 exhibits the result of Johansen cointegration test. The results collaborate with the Engle-Granger test to confirm the present of long run or equilibrium relationship among the variables. This leads to ECM test.

Table 5: Result of Error Correction Model Analysis

Dependent Variable: D(RGDP)				
Method: Least Squares				
Date: 06/27/18 Time: 04:45				
Sample (adjusted): 1982 2016				
Included observations: 35 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	160.5696	273.6993	0.586664	0.5621
D(AG)	1.462785	0.329500	4.439412	0.0001
D(MAN)	3.127004	0.573716	5.450434	0.0000
D(EXR)	-4.577917	7.341409	-0.623575	0.5380

INF	4.658801	9.739606	0.478336	0.6361
D(TOP)	32160.39	4939.294	6.511130	0.0000
ECM(-1)	-0.814152	0.203132	-4.007992	0.0004
R-squared	0.801928	Mean dependent var		1486.580
Adjusted R-squared	0.759484	S.D. dependent var		1827.384
S.E. of regression	896.1929	Akaike info criterion		16.61104
Sum squared resid	22488526	Schwarz criterion		16.92211
Log likelihood	-283.6933	Hannan-Quinn criter.		16.71843
F-statistic	18.89383	Durbin-Watson stat		1.869423
Prob(F-statistic)	0.000000			

Source: Extraction from estimation output using E-views 9

The ECM value of -0.814152 possesses correct negative sign and fractional and statistically significant. Its speed of adjustment of about 81.4% is very high which implies that it will take a shorter time to recover from or adjust to any shock or disequilibrium in the system.

A Priori Test Result

The above table F shows that while AG, MAN, INF and TOP have positive relationship only EXR was negatively related to RGDP.

4.2 Short Run Result

Based on the 2t rule of the thumb, the t-statistic for AG, MAN and TOP were all above 2.0 with only EXR and INF below 2.0. Therefore, all the explanatory variables were statistically significant in determining economic growth at individual level except EXR and INF that is statistically insignificant. However, as a group, the entire regression plane was statistically significant since the F-statistic (with probability value at 0.0000000) was found to be significant at 5%. The model was adequate since the coefficient of determination (R^2) indicated that 99.5% of economic growth can be explained by changes in agriculture, manufacturing, exchange rate, inflation and trade openness. The Error correction coefficient indicates that speed by which economic growth is restored back to equilibrium after a shock is 81.4%. The speed is adjudged high as was shown by the significant value of the t-statistic for the ECM term. This present study confirms the findings by Ude and Agodi (2012), Osoji (2013), Okafor, Akandu and Ike (2016), Oyetade, Shri and NorAzam (2016) and Chude and Chude (2016) that both at the short and long runs, agriculture and manufacturing output determine economic growth. However, this finding contrasts with the finding of Ogunjimi,

Aderinto and Ogunro (2015) and Raheem and Busari (2013) that agriculture and manufacturing outputs has no significant impact on economic growth in Nigeria.

4.3 Long Run Result

Based on the Engle-Granger and Johansen cointegration test, AG, MAN, TOP, EXR and INF were significant at 5% critical value.Thus, all the explanatory variables were positive and statistically significant in determining economic growth in the long run.These indicate that 1% increase in each of the explanatory variable will lead to increase in economic growth. This finding contrasts with the finding ofKamil, Ugural, & Bekun (2017) on the contribution of agricultural sector on economic growth of Nigeria is low.

Table 6: Granger Causality Test Result

Pairwise Granger Causality Tests			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
LOG(AG) does not Granger Cause LOG(RGDP)	34	8.78575	0.0010
LOG(RGDP) does not Granger Cause LOG(AG)		0.55111	0.5822
LOG(MAN) does not Granger Cause LOG(RGDP)	34	5.14388	0.0122
LOG(RGDP) does not Granger Cause LOG(MAN)		7.09001	0.0031
LOG(EXR) does not Granger Cause LOG(RGDP)	34	3.30975	0.0507
LOG(RGDP) does not Granger Cause LOG(EXR)		0.09221	0.9122
INF does not Granger Cause LOG(RGDP)	34	0.38278	0.6854
LOG(RGDP) does not Granger Cause INF		1.67001	0.2058
LOG(TOP) does not Granger Cause LOG(RGDP)	34	1.47435	0.2456
LOG(RGDP) does not Granger Cause LOG(TOP)		0.64024	0.5345

Source: Extraction from estimation output using E-views 9

Table 6 above presents the Granger causality test result. In the AG-RGDP model, the probability of F-Statistic for the first null hypotheses was below 0.05. Therefore a uni-directional causality runs from Agriculture to RGDP. In the MAN- RGDP model, a bi-directional causality relationship runs between manufacturing sector and RGDP. Both sectors Granger-cause each other. In the EXR- RGDP model, a uni-directional causality runs from exchange rate to RGDP. In the INF-RGDP model, no causality relationship exists between RGDP and inflation. Both do not Granger-cause each other. In the TOP- RGDP model, no causality relationship exists between trade openness and RGDP. Both do not Granger-cause each other. These findings coincide with the result of Mohsen (2015) that there is a causality relationship between agriculture, manufacturing and economic growth in Nigeria. This contradicts with the findings of Igwe, Edeh and Ukpere (2015) that there is no causality relationship between agriculture, manufacturing and economic growth in Nigeria.

5. Conclusion

This study was set out to determine the impact of agriculture and manufacturing on economic growth in Nigeria for the period 1981 – 2017. After a review of related literature, the Ordinary least square model was adopted in measuring the relationship between the dependent and explanatory variables. The variables were tested for stationarity using the Augmented Dickey-Fuller Unit Root Test. The cointegration technique was employed to confirm the claim of co-movement among the time series where- since some of them were found not stationary at levels. The regression result indicates that agriculture is positive and has significant impact on RGDP. Manufacturing is positive and also has significant impact on RGDP. Exchange rate is negative but has significant impact on RGDP. Inflation is also negative but has no significant impact on RGDP. Trade openness is positive and has significant impact on RGDP. On the whole, all the variables are statistically significant in determining economic growth in Nigeria over the period under study, since it contributes 99% of changes in national output. A uni-directional causality relationship runs from Agriculture to RGDP. A bi-directional causality relationship runs between manufacturing sector and RGDP. Both sectors Granger-cause each other. A uni-directional causality relationship runs from exchange rate to RGDP. No causality relationship exists between Inflation and RGDP and Trade opening and RGDP. The regression result meets the apriori criterion, statistically significant, thereby confirming the existence of a long run relationship between agriculture, manufacturing and real gross national product.

Based on the findings of this study, the following recommendations become imperative: there is need for government to create a healthy productive environment by providing security, steady power supply and good road network that willattract and sustain investments in manufacturing sector since both in the short and long run, it has positive and

significant relationship with economic growth; the current embargo on the importation of rice and other locally produce goods should be sustained by the federal government in order to increase productivity in agriculture since increase in agriculture will lead to increase in economic growth; there is need for government to review the current trade policies to make trade become more inclusive & sustainable to SMEs via access to finance, financial literacy & technological adoption, since both in the short run and lung run relationship, trade openness haspositive and statistically significant with economic growth;The central bank of Nigeria should continue to pursue the full deregulation of the exchange rate.

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