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IMPACT OF AGRICULTURAL FINANCE ON NIGERIA ECONOMIC GROWTH (1986-2019)

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ABSTRACT

This study examined the impact of agricultural finance on Nigeria's economic growth for the periods 1986-2019. To investigate the study objective a secondary source of data was obtained from the Central Bank of Nigeria Statistical Bulletin various reports, Federal Bureau of Statistics and world economic indicators a publication of World Bank. Both descriptive and inferential statistics of Vector Error Correction Mechanism were used to analyze the data collected for the study and to achieve the study objective. The result of the study revealed that agricultural finance had a substantial impact on economic growth in Nigeria. Also, the p-value of the F-statistics computed for the test of 0.0000 was less than the critical value of 5%. This revealed that there was a significant long-run relationship between agricultural finance and economic growth in Nigeria. The result of the Durbin-Watson statistics obtained of 1.708009 showed that the variables of the model were free from the problem of serial correlation. Thus, agricultural finance and economic growth were related. *The study recommended that a public-private partnership arrangement should be adopted by the government to be able to finance agriculture for consistent economic growth in the country.*

Keywords: Agriculture, Finance, Agricultural Finance, Economic Growth

1.0 INTRODUCTION

Agriculture can be described as an indispensable sector of the Nigerian Economy especially when there is an embargo on the importation of food products from foreign countries. It has been a mainstay or backbone of the national economy since it employs the youth who are agile and strong and ready to work which becomes a major

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source of livelihood of about seventy-five percent of the country's labour force. (Ayodele, 2000; Lukman, 2019) Presently in Nigeria, agriculture also provides the stable food requirements of our teaming, **p**opulation as well as the local raw materials needs for the industrial sector. Before the advent of an oil boom in the late 1970s, agriculture had contributed to the Gross Domestic Product (GDP) of Nigeria and this had reduced from 63% to 299% (Aigbokhan, 2001; Ezenekwe, 2013; Kamil, sevin&Festus, 2007; Lukman, 2019) In the 1960s and 1970s, the agricultural sector constituted over 65% of total export. The Nigerian agricultural sector was renowned for the export of cash crops (crops and products with export value) namely cocoa, rubber, hides and skin, groundnut palm among a host of many others. This sector holds great potential for the survival and growth of economic development in Nigeria.

The continuous slow growth rate of agricultural production has been accompanied by the importation of agricultural commodities, including those food items in which the country has traditionally been self-sufficient.

On the issue of agricultural financing, some past administrations from the military regime to a democratic era have embarked on various forms of rural development and agricultural financing so that the domestic agricultural production can be stimulated. Most of the financial institutions especially the commercial banks always find it difficult to grant loans to the agricultural sector due to the high risk involved in loan repayment. Agriculture in Nigeria is faced with the problem of natural disaster such as flood, drought, fire, deforestation, desert encroachments, herdsmen, Fulani invasion and lots more. Ignorance of banking facilities in the rural areas kept most of the farmers away from requesting such loans and advances and the benefits accrued to it. Ayodele (2000) observed that no efficient and well-organized credit facilities in Nigeria to the farmers. At times the loans granted always go to the wrong hands and because of this inadequacy from the bank, most farmers find it difficult to purchase some of the items needed for their farming seasons such as fertilizer, farm equipment, seedlings, pesticides, and herbicides and lots more. Due to high prices therefore the purpose for which loan is sought is defeated and diverted. And at the long run, most farmers find it difficult to repay such loans. Because of this, the study is expected to access the impact of agricultural finance on the economy from the period of 1986-2019 which covers the military and democratic era to compare whether there is an improvement in the agricultural sector.

The objective of the study is to examine the impact of agricultural financing on the Nigeria economy between 1986 -2019.

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2.0 LITERATURE REVIEW

2.1 Conceptual Review

Agricultural Finance can be described as the acquisition and utilization of capital finance, the factor of production that facilitates procurement and management of other factors of production namely land, labor, capital physical, and entrepreneur. According to Ayodele (2000) agriculture is regarded as the lifeblood of the economy. There are two types of capital namely physical and Finance. Physical capital refers to the physical assets of land, buildings, plants, machinery, and equipment. All these constitute the production of goods and service either for sale for final consumption; on the other hand, finance capital is used for the procurement of physical assets for the smooth operation of agriculture and also to manage the assets on daily basis to ensure continuous production of goods and services. World Bank has affirmed that Gross Domestic Product can be referred to the total value of all the goods and services produced by a country within a given year.

2.2 Agricultural Programmes from 1986 – 2019

1. Back to Land (BTL) 1983 – 1985 The policy was implemented by Buhari/Idiagbon to be self-sufficient in food production and the aim is to quickly revive the agricultural sector and to produce sufficient food for all
2. Directorate for Food Roads and Rural Infrastructure (DFRRI) 1985 – 1993. The program was designed to improve the quality of life and standard of living of the rural dwellers through the use of many resources that exist in the rural areas and the mass participation of the rural people. Between 1986 and 1992 various forms of programs have emerged such as Structural Adjustment Programme (SAP), Better Life for Rural Women (BLRW), National Fadama Development Project, and National Agricultural Land Development Authority
3. Family Support Programme (FSP) Family Economic Advancement Programme (FEAP) 1993-1998. The program greatly focused on health, education, women in development, agriculture, child welfare and youth development, disability destitution, income generation as well as facilitating the provision of shelter for the less privileged
4. National Economic Empowerment and Development Strategy (NEEDS) 1999- 2007. The brain behind this program is to eradicate poverty, generate employment, create wealth, and value reorientation

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5. Seven-Point Agenda (SPA) 2007- 2010. It focused on agricultural production for mass food production for local consumption and export. SPA is geared towards energized agric businesses with the support of mechanism land tenure, changes in aggressive development, and supply of new land.
6. Agricultural Transformation Agenda (ATA) 2010- 2015 . The main focus is to assure food security reduce the expenditure of foreign exchange on food imports, diversify the economy, create jobs for the youth, and generate foreign exchange.
7. Growth Enhancement Support Scheme (GESS) 2015- 2016 This was initiated to complement the effort of the Agricultural Transformation Agenda (ATA). The continuation focused on developing domestic value chains for commodities such as rice, wheat, maize, and soya beans. Also to increase the strength of agricultural export products which include cocoa, cassava, palm oil, rubber, etc. in an attempt to strengthen the agriculture sector another program was launched by this current administration tagged Anchor Borrowers Programme to generate job opportunities for the unemployed Nigerians Youth and to diversify the economy and make use of the earning from the oil to expand the agriculture products of local levels.

Over the years, the inability of this sector to expand and as well contribute meaningfully to the growth of the Nigerian economy was due to inadequate financing to improve on the situation that is, facilitating agricultural credit. Also, the problem of rapid agricultural development in Nigeria indicates that efforts directed at achieving an expanded economic base of the rural farmers were frustrated by the scarcity of and restrictive access to the loanable fund. One of the reasons for the decline in the contribution of agriculture to the economy is the lack of formal National credit policy and paucity of credit institutions that can assist farmers (CBN, 2010).

According to the Federal Ministry of Agriculture, there are some major traditional roles expected to play in national economic development, and this include

Provision of food inadequate for a population that is increasing every day, supply adequate raw materials to an expanding industrial sector especially the local ones, provision of employment for the enabling youth and young minds, provision of markets for the products of the industrial sector and constitute a major source of foreign exchange earnings. With all these, the continuous slow growth rate of agricultural production has been accompanied by the importation of agricultural commodities, including those food items in which the country has been traditionally been self-sufficient.

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. Financing agriculture can be in cash or kind which ranges from the family or savings and gifts of an individual, it can also be money from the lenders, daily contributions, cooperative thrift association or societies, produce buyers, state agricultural credit corporation, and agencies.

The main objective of agricultural financing is to deliver credit to the agricultural sector of the Nigerian economy also they can perform some of these purposes; promote agricultural production and rural development, assist the improvement of the income and quality of life of the Nigerian rural population and contribute immensely to the overall growth and development of the Nigerian economy

2.3 Sources of Agricultural Financing in Nigeria

According to Ayodele (2019) there are various ways where agriculture can be finance in Nigeria and this includes: agricultural banks, Commercial Banks, Self-financing, and Government sources (Federal, State, and Local). Also, the aims of the Nigerian Agricultural and financial Bank are (i) to stimulate interest in Agricultural production (ii) improvement of agricultural techniques (iii) improve storage capacity and marketing of agricultural produce, and (iv) grant loans on fairly easy terms to finance agricultural projects. Most of the time, commercial banks do grant loans to farmers on a short, medium, and long-term basis where farmers can venture into annual and biennial crops and quickly maturing livestock projects such as piggery, fishing, and poultry. At times some farmers do grow crops which have three years of maturity stage such as cassava, citrus, oil palm, and some that have more than three years like cocoa, kola, and rubber.

2.4 Theoretical Review

Various theories have been propounded by various authors on the concept of agricultural financing which includes: The Financial Intermediary theory, The Pecking order theory, the Trade-off theory of capital structure, Risk and Uncertainty theory, Demand and Supply theory, and Agency theory. For this study, the financial intermediary theory will be examined.

The Financial Intermediary Theory is described as a relationship that exists between financial intermediation and increases in production according to Jeremy, Greenwood, Boyan, and Jovanovich (2010) observed that financial development can greatly lead to rapid production when there is a development of banks and efficient financial intermediation which will contribute to production growth and this will challenge savings that can enhance high productive activities and total reduction of liquidity risks. It is on this summation that Valeria, Bencivenga, Bruce, and Smith (2011) agreed that financial intermediation leads to production growth. Therefore, production

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growth can be regarded as an increase in the number of goods and services produced by an economy through the help of farmers over some time. Individual farmer productivity increment truly feeds into the productivity growth of their respective cooperatives.

This study adopted the financial intermediary theory proposed by Adelakun (2015) cited in Omoruyi (2016). The financial intermediary theory tried to look at how agriculture was being financed from various sources starting from the government and its agencies to the private sector and the impact of this on economic growth. Therefore, the combination of the financing options available to agriculture was suggested by Adelakun (2015) to be used as a proxy for agricultural financing. Moreover, other variables affecting economic growth according to Omoruyi (2016) were; inflation, exchange rate, trade openness, and investment. These variables may produce the same effect as agricultural finance on economic growth.

2.5 Empirical Review

Ademola (2020) discovered that Nigeria's Gross Domestic Product (GDP) at the basic constant price (real GDP) grew by 2.27 percent year-on-year from ₦69.80 trillion in 2018 to ₦71.39 trillion in 2019 compared to 1.91 percent in 2018. The result was largely achieved through the contribution of the agricultural sector which accounted for ₦10.50 trillion only. In nominal terms the aggregate 2019 GDP grew by 12.90 percent to ₦144.21 trillion from ₦127.74 trillion in 2018 a major contribution from the agricultural sector accounted for was ₦31.90 trillion. Lukman (2019) examined the role, problems, and prospects of agricultural finance in Nigeria. The study revealed that there is no impact of credit to output growth in the agricultural sector (positive and negative changes) in the short run but a different equilibrium relationship exists in the long run. It also reveals that aggregate agricultural output growth is greatly attracted by the impact of the positive changes attracted in credit to agriculture with a lag of four quarters of the prediction horizon and this calls for the need for a policy on a moratorium on credit administration to the agricultural sector. Based on this, available evidence indicates that late approval and disbursement of loans is one of the major factors militating against effective utilization of loans given to the farmers thereby hampering their repayment ability. According to a historical overview on Agricultural programs and food insecurity in Nigeria from 1960- 2016 by Yusuf and Francis (2019) discovered that agriculture is greatly Important to the survival and sustenance of every society which serves as the backbone of economic growth and development especially in the area of adequate provision of nutritional food for human consumption and development and raw materials for local industry. They concluded that Agriculture is critical to achieving national poverty reduction and remains the

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most important productive sector in Nigeria aside from oil. The agricultural sector often has a share of Gross Domestic Product and almost has several people it employs Nwankwo (2013) examined the agricultural financing in Nigeria between 1990- 2010 and its implication on the growth of Nigeria's economy using the ordinary least square method and quantitative research.

The result revealed that the level of relationship between agricultural financing and the growth of Nigeria's economy is significantly high and the system of loan repayment rate over the years has indeed negatively impacted significantly the growth of Nigeria's Economy. He, therefore, recommends that an increase in the level and size of NACRDB agricultural loan through the reduction of interest rate to allow for more economic development in the country

3.0 METHODOLOGY

In an attempt to achieve the stated objective, this study makes use of pure secondary data to carry out the research. The data covered the period of 1986 to 2019 to compare whether there is a significant impact on finance on agriculture from the period of the military even till the fourth republic of the democratic era in Nigeria. Central Bank of Nigeria statistical bulletin (2019) with online database served as a major source. The study is empirically in nature which critically examines the impact of agricultural financing on Nigeria's economic growth within the stipulated period. Descriptive statistics and regression analysis of Vector Error Correction Mechanism were employed in carrying out the research analysis.

3.1 Model Specification

The functional model to be used for the study was adopted from the work of Adelakun (2015) but with slight modification. Functionally, the model is stated as;

$$\mathbf{Y= f (X_1, X_2, X_3, X_4, X_5, X_6)} \qquad \mathbf{3.1}$$

Where,

Y= Economic Growth measured as Real Gross Domestic Product (RGDP)

X_1= Agricultural Finance proxy as Total financing options available to agriculture

X_2= Investment proxy as Gross Fixed Capital Formation (GFCF)

X_3= Government Size proxy as the ratio of Government Expenditure to GDP

X_4= Trade Openness

X_5= exchange Rate

X_6= Inflation

Explicitly, the model is stated in equation form as;

$$RGDP= \beta_0+\beta_1 AF+\beta_2 INV+\beta_3 GSZR+\beta_4 TOP+\beta_5 EXR+\beta_6 INF+\mu \qquad 3.2$$

Where, β0 = intercept or constant and β1-β6= Regression parameters to be estimated.

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Moreover, in order to avoid spurious values, the regression equation 3.2 was converted to log form as;

$LogRGDP=\beta_0+\beta 1LogAF+\beta_2LogINV+\beta_3LogGSZR+\beta_4LogTOP+\beta_{5LogEXR}+\beta_6$ Log INF+μ 3.3

A priori expectation for the regression parameters; β1>0, β2>0, β3<0, β4>0, β5<0 and β6<0

3.2 Estimation Method

Both descriptive and inferential statistics of Vector Error Correction Mechanism were used to analyse the data collected for the study. More so, the diagnostics test of unit root and Johansen co-integration were used to assert the validity of data used for the study.

4.0 RESULT AND DISCUSSION

4.1 Descriptive statistics

The result of the descriptive statistics computed for the variables of the study was presented in table

Table 1 Descriptive Result

Statistics	**LORGDP**	**LOGAF**	**LOGINV**	**LOGGSZR**	**LOGTOP**	**LOGEXR**	**LOGINF**
Mean	5.961233	5.253723	1.197472	-0.078197	1.152349	2.050547	3.700856
Median	5.989738	5.577566	1.597329	-0.303725	1.107197	1.918179	3.721050
Maximum	7.973797	7.276492	2.081599	1.403120	1.862131	3.703493	4.766955
Minimum	3.722724	2.897385	-0.262489	-1.639490	0.544068	0.806180	2.019532
Std. Dev.	1.309447	1.364495	0.913747	1.009557	0.307233	0.989497	0.692331
Skewness	-0.067387	-0.141406	-0.568898	-0.016199	0.599065	0.368650	-0.539938
Kurtosis	1.735351	1.746933	1.660236	1.515535	2.820390	1.650622	3.024388
Jarque-Bera	1.100211	2.162805	1.921632	1.225649	1.813234	0.531828	2.036228
Probability	0.2345214	0.0534231	0.0785643	0.1234208	0.0893421	0.765322	0.0621343
Sum	274.2167	241.6713	55.08371	-3.597040	53.00804	94.32516	170.2394
Sum Sq. Dev.	77.15934	83.78309	37.57199	45.86420	4.247653	44.05968	21.56949
Observations	34	34	34	34	34	34	34

Source: Researcher's computation, 2020

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The results in table 1 revealed that all the independent and dependent variables of the study were normal. This assertion was based on the fact that the p-values of the Jarque-Bera statistics computed for the test parameters were greater than the critical value of 5%. It was found that the independent variables of the study, in particular, could exert a great influence on the dependent variable which was economic growth. This inferred was premised on the fact that the p-value of the Jarque-Bera statistics computed for the test variables was all less than the critical value of 5%.

4.2 Diagnostics Test

Time series analysis required that the data used for the study must be diagnosed before it could be useful for economic and business decisions. Thus, this section focused on the analysis of unit root and Johansen co-integration test adopted to remove the existence of spurious values (unit root) and test for the long-run relationship among the variables of the study.

4.3 Unit Root Test

To estimate Vector Error Correction Model, the variables must be free from unit root problems, meaning that they have to be stationary at the same order of integration. Therefore, the result of the Augmented Dickey-Fuller (ADF) and Philip –Perron (PP) are presented in Tables 2 and 3 respectively.

Table 2 Unit Root Result

Variables	Level		1st Difference		Order of integration
	ADF	P-value	ADF	P-value	
LOGRGDP	-0.892008	0.7818	-6.806013	0.0000	I(1)
LOGAF	-0.906779	0.7771	-6.503390	0.0000	I(1)
LOGINV	-1.64756	0.4505	-6.359392	0.0000	I(1)
LOGGSZR	-0.164524	0.7670	-7.269204	0.0000	I(1)
LOGTOP	-0.784768	0.9958	-7.257468	0.0000	I(1)
LOGEXR	-2.323750	0.1693	-9.034994	0.0000	I(1)
LOGINF	-0.645558	0.9895	-5.362812	0.0001	I(1)

Test critical values:	1% level	-3.577723
	5% level	-2.925169
	10% level	-2.600658

*MacKinnon (1996) one-sided p-values.

Source: Researcher's computation, 2020

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The result in table 2 indicated that the variables of the study were not free from the unit root problem at the level. This implied that total agricultural financing option, government size (GSZR), investment (GFCF), trade openness (TOP), agricultural real gross domestic product growth (AGR) were not stationary at level. This inferred was based on the fact that the p-values of the ADF statistics computed at a level were less than the critical value of 5%. Looking further at the result, it was discovered that all the parameters of the study were free from the unit root problem at their 1st difference. This showed that economic growth, total agricultural financing option, size of government, investment, trade openness, and agricultural growth were stationary at their 1st difference. The stationary status of these variables confirmed that Vector Error Correction Mechanism might be used to achieve the objective of the study.

Table 3 Unit Root Result (Philip- Perron Test)

Variables	**Level**		**1st Difference**		**Order of Integration**
	PP-Stat	**P-value**	**PP-Stat**	**P-value**	
LOGRGDP	-4.93780	0.0000	-	-	**I(0)**
LOGAF	0.96431	0.8326	-5.02702	0.0000	**I(1)**
LOGINV	-0.64314	0.2601	-3.36678	0.0004	**I(1)**
LOGGSZR	-1.67780	0.0645	-9.78341	0.0000	**I(1)**
LOGTOP	-0.00767	0.4969	-8.59162	0.0000	**I(1)**
LOGEXR	-0.06753	0.4567	-9.98857	0.0000	I(1)
LOGINF	-1.04533	0.0854	-7.89452	0.0000	I(1)

Source: Researcher's computation, 2020

Table 3 presented the result of the Philip –Perron unit root test. Looking at the result from the table, it was found that LOGRGDP, LOGAF, LOGINV, LOGGSZR, LOGTOP, LOGEXR, and LOGINF were not free from the unit root problem at level except LOGRGDP. This indicated agricultural finance, investment, government size, trade openness, exchange rate, and inflation were not stationary at the level. The result further showed that LOGAF, LOGINV, LOGGSZR, LOGTOP, LOGEXR, and LOGINF were stationary at their first difference (free from unit root problem). It was discovered that LOGRGDP used as proxies for economic growth was stationary at level. Thus, the stationary status of the variables based on PP- test

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confirmed that both the short-run and long-run regression estimates were necessary for the achievement of the study objective.

4.4 Johansen Co-integration Test

Johansen Co-integration test was carried out to determine the long-run relationship among the variables in the model. The trace statistics and the maximum Eigenvalue were compared with Mackinson's critical value at a 5% level of significance to determine the number of co-integrating vector equations in the model and the test considers lag interval of 1 with intercept and no trend in CE and test variable. The result of the Johansen co-integration Test was presented in Table 4.

Table 4 Co-integration Test Result

Hypothesized No of CE(s)	Trace Statistics	Critical 5%	p-value	Max-Eigen	Critical 5%	p-value
At none*	244.7656	159.5297	0.0000	84.03115	52.36261	0.0000
At most 1*	160.7345	125.6154	0.0001	48.85420	46.23142	0.0381
At most 2*	116.8803	95.75366	0.0008	42.4084	40.07757	0.0252
At most 3*	74.23942	69.81889	0.0012	37.366019	33.87687	0.0346
At most 4	46.87923	47.85613	0.0616	25.57671	27.58434	0.0884
At most 5	21.30251	29.79707	0.3390	11.18875	21.13162	0.6304
At most 6	10.13377	15.49471	0.2706	9.978119	14.26460	0.2134
At most 7	0.155647	3.841466	0.2706	0.155647	3.841466	0.6932

Source: Researcher's computation, 2020

**** Trace test and Max-Eigen Statistics indicate the existence of four co-integration equations**

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The result in table three presented the Johansen Co-integration Test computed for the variables of the study. Looking at the result in the table, it was discovered that for co-integration equations among the variables of the study when the trace test and Max-Eigen statistics were considered. This implied that there was a long-run dynamic relationship among the parameters of the study running from economic growth, agricultural finance, government size, investment, trade openness, exchange rate, and inflation.

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4.5 Estimation of Vector Error Correction Mechanism (VECM)

Table 5 presented the results of the Vector Error correction Mechanism use to achieve the first and second objectives of the study.

Table 5 VECM (Vector Error Correction Mechanism)

Variable	**Coefficient**	**Standard Error**	**T-Statistics**	**P-value**
C	0.004771	0.03616	0.13194	0.5201
D(LOGRGDP(-1))	0.83446	0.08678	9.61591	0.0005
D(LOGRGDP(-2))	0.931652	0.03468	26.86424	0.0000
D(LOGAF(-1))	0.521359	0.08085	6.44847	0.0010
D(LOGAF(-2))	0.061718	0.08367	0.73762	0.4617
D(LOGINV(-1))	0.838670	0.04501	18.63297	0.0000
D(LOGINV(-2))	0.247821	0.04445	5.50591	0.0034
D(LOGGSZR(-1))	-0.645022	0.03322	-19.41668	0.0000
D(LOG(GSZR(-2))	-0.919719	0.02020	-45.33064	0.0000
D(LOGTOP(-1))	0.897698	0.09071	2.57945	0.0328
D(LOGTOP(-2))	0.383216	0.06340	6.04442	0.0059
D(LOGEXR(-1))	-0.53384	0.04738	-11.36243	0.0002
D(LOGEXR(-2))	-0.865243	0.04737	-18.26563	0.0000
D(LOGINF(-1))	-0.220449	0.07916	-2.78485	0.0200
D(LOGINF(-2))	-0.982484	0.19137	-5.13395	0.0019
ECM(-1)	-0.031227	0.00200	-15.6135	0.0001
R-squared	0.951326			
Adj. R-squared	0.942062		Mean dependent	0.095749
F-statistic	104.063168		Prob (F-Stat)	0.000000

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Log likelihood	54.66670		Durbin-Watson Sta	1.614103
Akaike AIC	71.798451			
Schwarz SC	81.143121			
Mean dependent	0.095749			
S.D. dependent	0.086603			

Source: Researcher's computation, 2020

Table 4: presented the result of the VECM obtained for the investigation of the objective of the study. The regression coefficient computed for economic growth was 0.83 and 0.93 in the lagged one and two years and positive with significant t-statistics of 9.62 and 26.86 respectively in the previous years. The economic interpretation of this was that there was a positive relationship between economic growth in the previous one and two years and economic growth in the current year. Thus, a 1% increase in economic growth in the previous year's might lead to a 0.83% and 0.93% increase in economic growth in the current year. Looking at the result from the table, it was discovered that the p-value of the t-statistics computed for economic growth in the lagged period (-1) of 0.0005 was less than the critical value of 5% with a significant p-value of 0.000 in the previous two years that was less than the critical value of 5%. This indicated that economic growth in the previous year was significant in economic growth in the current year. The implication of this was that government policy on agricultural finance in the previous one and two years might help in improving economic growth in the current year. This further revealed that economic effort in diversifying the economy through intensifying land cultivation, planting of economic trees, rearing of animals and livestock including poultry for local consumption and export, and giving of soft loans to farmers in the previous year's might improve economic growth in the current year. The sign of this variable was in tandem with a priori expectation and hence, economic growth in the previous year might be a determinant of economic growth in the current year.

Furthermore, the regression coefficient obtained for agricultural finance (LOGAF) in the previous one and two years were 0.52 and 0.06 respectively and positive with significant t-statistics values of 6.45 in the lagged period (-1) and insignificant t-statistics of 0.74 in the lagged (-2) respectively. This indicated that a 1% increase in agricultural finance might lead to a 0.52% and 0.06% respectively increase in economic growth in the current year. The sign of this variable was in tandem with a priori expectation and hence, agricultural finance might be one of the factors that influenced economic growth positively in Nigeria. Also, it was found that the p-value

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of the t-statistics computed for agricultural finance were 0.0000 and 0.4617 respectively in the lagged (-1) and (-2) was less than the critical value of 5% in the previous year only. This indicated that agricultural finance was significant on economic growth in Nigeria in the period under review. The implication of this was that government policy and programs on agricultural finance could improve economic growth. For instance, government policy on farmers' loans, farming implement initiative, and the establishment of the agricultural bank could enhance the contribution of agriculture to economic growth.

The regression coefficient computed for investment (LOGINV) in the lagged (-1) and (-2) were 0.84 and 0.25 respectively and positive. The economic interpretation of this was that there was a positive and significant relationship between investment and economic growth. Therefore, a 1% increase in investment in agriculture in the previous one and two years might lead to a 0.84% and 0.25% increase in economic growth in the current year. The result revealed that there was a significant relationship between investment and economic growth in Nigeria in the previous one and two years respectively. This inferred was based on the fact that the p-value of the t-statistics computed for investment in the previous one and two years of 0.0000 and 0.0034 was less than the critical value of 5%. Thus, government investment in agriculture which might come in form of agricultural loans, extension facilities to farmers, and provision of better farming implement might enhance the contribution of the agricultural sector to economic growth in Nigeria. The sign of this variable confirmed with a priori expectation.

The result in the table further revealed that the relationship between government size and economic growth was negative. This inferred was based on the fact that the regression coefficients computed for LOGGSZR of -0.65 and -0.92 in the lagged (-1) and (-2) were negative with significant t-statistics values of -19.42 and -45.33 in the previous one and two years. The economic interpretation of this was that a 1% increase in government size might lead to a 0.65% and 0.92% reduction in economic growth in the current year. It was discovered that there was a significant relationship between government size and economic growth in Nigeria in the lagged (-1) and (-2) respectively. This assertion was premised on the fact that the p-values of the t-statistics computed for government size in the previous one and two years of 0.0000 and 0.0000 were less than the critical value of 5% and hence, government size and economic growth were negatively related. The impact of government size on the growth of Nigeria's economy could not be underestimated. The over-bloated government size in the country had continued to affect not only important sectors of the economy but had contributed to the neglect of both infrastructural development and citizen well-being. Aliyu (2018) argued that the over-bloated and uncontrolled appetite of the government

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for redundancy retinue of aides had continued to be a drag on Nigeria's economic growth and development. The sign of this variable was in tandem with a priori expectation and hence, government size might be a determinant of economic growth in Nigeria.

Looking critically at the result in table 5, the regression coefficients obtained for trade openness (LOGTOP) in the lagged (-1) and (-2) were 0.90 and 0.38 respectively and positive with significant t-statistics values of 2.57 and 6.04 respectively. This revealed that there was a significant positive relationship between trade openness and economic growth in Nigeria. The economic interpretation of this was that a 1% increase in trade openness in the previous year's might lead to a 0.90% and 0.38% increase in economic growth in the current year. Also, it was found that there was a substantial and significant relationship between trade openness and economic growth in Nigeria. This inferred was based on the fact that the p-values of the t-statistics calculated for the variable in the previous one and two years (-1) and (-2) of 0.0300 and 0.0059 were less than the critical value of 5%. The relevance of trade openness on the economic growth of a nation could not be underestimated. Appropriate trade openness through bilateral and multilateral trade agreement could enhance the inflow of goods, services, and resources not readily available in the local market to come in. trade openness had been found by Emmanuel (2010), Comfort (2016), and Oladejo (2018) to enhance employment generation and increase foreign exchange earnings. . The sign of this parameter is confirmed with a priori expectation.

The result in the table showed that there was a significant negative relationship between the exchange rate in the previous years and economic growth in Nigeria. This inferred was based on the fact that the regression coefficient obtained for the test variable of -0.53 and -0.87 in the lagged (-1) and (-2) were negative with significant t-statistics of -11.36 and -18.27 respectively in the previous years. The implication of this was that there was a negative relationship between the exchange rate and economic growth in Nigeria. Thus, a 1% increase in the exchange rate in the previous year's might cause a 0.53% and 0.87% reduction in economic growth. Thus, the persistent rise in the exchange rate had been the bane of economic growth in Nigeria. This exchange rate fluctuation was a result of the existence of multiple exchange rate windows and other unscrupulous activities of the monetary authority which had made Nigeria's economy remain stagnant. The sign of this variable confirmed with a priori expectation and hence, the exchange rate could be a determinant of economic growth. The regression coefficients obtained for inflation (LOGINF) were -0.22 and -0.98 respectively in the lagged (-1) and (-2) respectively and negative with significant t-statistics of -2.78 and –5.13 in the previous years. This showed that there was a negative relationship between inflation and economic growth. Thus, a 1% increase in

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inflation in the previous year might lead to a 0.22% and 0.98% reduction in economic growth in the current year. Also, it was discovered that the p-values of t-statistics computed for inflation in the previous one and two years were 0.0200 and 0.0019 respectively, and less than the critical value of 5%. This indicated that inflation was significant only to economic growth in the previous two years. The implication of this was that inflation might exert a great influence on economic growth in Nigeria. With the persistent rise in the general price level economic growth might reduce. This was because inflation could affect the production capacity of industries. After all, an increase in the general price level particularly the price of intermediate products used in production might affect the industry capacity utilization. Furthermore, the purchasing power of fixed-income earners might be eroded during the period of the uncontrollable inflation rate. This could reduce the contribution of these sets of people to economic activities. The sign of this variable confirmed with a priori expectation.

The result also indicated that the speed of adjustment of ECM was -0.031 and significant because the p-value of t-statistics computed for the variable of 0.0001 was less than the critical value of 5% with the significant t-value of -15.61. This implied that at every interval, the recovery of economic growth back to equilibrium once affected by shock in the economy, which could be partly due to sudden increase in inflation, exchange rate, government size, and a sharp reduction in agricultural finance, trade openness, and investment was adjusted relatively by 0.031%. The economic interpretation of this was that there was a long-run relationship running from Agricultural Finance (AF), Investment (INV), Trade Openness (TOP), Government Size (GSZR), to economic growth in Nigeria.

The results of the other test statistics computed for the test item revealed that agricultural finance was substantially impactful on economic growth in Nigeria. For instance, the coefficient of determination (R2) computed for the test of 0.95 showed that approximately 95% of economic growth in Nigeria was explained by agricultural finance and other exogenous variables. Therefore, agricultural finance was a good predictor of economic growth in Nigeria. Moreover, the p-value of the F-statistics computed of 0.0000 was less than the critical value of 5%. This revealed that the joint null hypothesis which stated that agricultural finance was not significant on economic growth in Nigeria was rejected. The result of the Durbin-Watson statistics computed for the test of 1.614103 indicated the existence of no autocorrelation among the variables of the study and hence, agricultural finance could best predict economic growth in Nigeria.

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Table 6 Long Run OLS Result

Dependent variable= Economic Growth (EG)

Variable	**Coefficient**	**Standard Error**	**T-calculated**	**P-value**
C	-0.969092	1.278176	-0.758184	0.4495
LOGAF	0.983082	0.267393	3.676539	0.0003
LOGINV	4.655083	0.595770	7.813557	0.0000
LOGGSZR	-0.962669	0.231964	-4.150079	0.0000
LOGTOP	0.893931	0.752464	1.188005	0.2367
LOGEXR	-3.140286	0.750503	-4.184240	0.0000
LOGINF	-3.235681	0.743807	-4.350164	0.0000
	OTHER	**TEST**	**STATISTICS**	
R-squared	0.893423		Mean dependent var	4.485125
Adjusted R-squared	0.881260		S.D. dependent var	4.006819
S.E. of regression	7.098767		Akaike info criterion	5.466528
Sum squared resid	214.895		Schwarz criterion	5.581847
Log likelihood	-31.34216		Hannan-Quinn criter.	5.513355
F-statistic	77.428828		Durbin-Watson stat	1.708009
Prob(F-statistic)	0.000000			

Source: Researcher's Computation, 2020 (E-view 9)

Table 6 presented the long-run regression results computed for the variables of the study. Looking at the result in the table, it was found that the relationship between agricultural finance and economic growth was positive in the long run. This inferred was as a result of the fact that the regression coefficient obtained for LOGAF of 0.98 was positive with significant t-statistics of 3.68. The economic interpretation of this was that a 1% increase in agricultural finance might lead to a 0.98% improvement in

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economic growth. The policy implication of this was that as the government focused its attention and resources to finance agriculture economic growth might be enhanced. It was confirmed that there was a significant relationship between agricultural finance and economic growth since the p-value of the t-statistics computed for LOGAF of 0.0000 was less than the critical value of 5%. The sign of the variable was in tandem with a priori expectation.

The result showed that the relationship between investment (LOGINV) and economic growth was positive and significant. This was confirmed as a result of the fact that the regression coefficient obtained for LOGINV of 4.66 was positive with significant t-statistics of 7.81. The implication of this was that there was a significant positive relationship between investment and economic growth in Nigeria. Thus, a 1% increase in investment might cause a 4.66% increase in economic growth. This further showed that government investment in agriculture through the provision of soft loans to farmers, highly subsidize farm implement, agricultural research, and effective private-public partnership investment might enhance the contribution of the agricultural sector to economic growth in Nigeria. The long-term economic effect of this was that increasing activities in the agricultural sector that improved growth and development might have ensued. The variable was found to be significant on economic growth and hence, the investment might be a determinant of economic growth in Nigeria. The sign of the variable conforms to a priori expectation.

Moreover, it was discovered that the relationship between government size (LOGGGSZR) and economic growth was negative with a coefficient of -0.96 and significant with the t-statistics value of -4.15. This indicated that there was a significant negative relationship between government size and economic growth in Nigeria. The economic interpretation of this was that a 1% increase in government size might lead to a 0.96% reduction in economic growth. The long-term import of this was that the over-bloated government size in Nigeria might impede meaningfully economic growth. This was because increasing government size might affect economic welfare in a country since government resources and revenue might be concentrated in satisfying the growing size of the government. It was observed that the relationship between government size and economic growth was significant since the p-value of the t-statistics computed for the LOGGSZR of 0.0000 was less than the critical value of 5% and hence, government size might influence greatly economic growth in Nigeria. The sign of the variable was in tandem with a priori expectation.

It was found that the relationship between trade openness (LOGTOP) and economic growth was positive since the regression coefficient obtained for the variable of 0.89 was positive with an insignificant t-statistics value of 1.19. The economic interpretation of this was that a 1% increase in TOP might lead to a 0.89% increase in

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economic growth. Thus, the desire of the government to open up the economy through a balanced trade agreement with other countries might see the inflow of capital goods, knowledge, and technology that enhanced local industries and improved the Nigerian economy meaningfully. The result further indicated that there was no significant relationship between TOP and economic growth in Nigeria. This inferred was based on the fact that the p-value of the t-statistics computed for LOGTOP of 0.2367 was greater than the critical value of 5%. The policy implication of this was that TOP had not to be used effectively to enhance economic growth in Nigeria. The sign of the regression coefficient for the variable was in tandem with a priori expectation and hence, TOP might be one of the variables that influenced economic growth in Nigeria.

Furthermore, it was observed from the result in table 6, that the relationship between exchange rate and economic growth was negative with a regression coefficient of -3.14 and significant with t-statistics of -4.18. This indicated that there was a significant negative relationship between the exchange rate and economic growth in Nigeria. The economic meaning of this was that a 1% increase in exchange rate might lead to a 3.14% reduction in economic growth. The increasing or decreasing in economic activities might be a result of exchange rate fluctuation in Nigeria. The exchange rate to a large extent could influence price level and caused a serious inflationary gap that could erode the purchasing power of fixed-income earners thereby reducing the desire of the set of people to contribute meaningfully to economic activities. The long-run spiral effect of this was that decreasing economic activity from a sector of the economy. The relationship between exchange rate (LOGEXR) and economic growth was found to be significant with a p-value of 0.0000 that was less than the critical value of 5%.

The result in the table revealed that the relationship between inflation and economic growth was negative with coefficient -3.23 and significant with the t-statistics value of -4.35. The economic interpretation of this was that there was a significant negative relationship between inflation and economic growth in Nigeria. Thus, a 1% increase in inflation might lead to a 3.23% reduction in economic growth.

A persistent increase in the general price levels might reduce economic growth. Figuratively economic growth would be affected if inflation was not put in check. Critical sectors of the economy might find it difficult to continue to interact seriously with an economic variable during a period of serious inflation. Manufacturers, households, and the government might be forced to adjust spending if inflation persisted. Their adjustment of spending might affect economic activities that added meaningfully to growth in a country. The result indicated further that there was a significant relationship between inflation and economic growth since the p-value of

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the t-statistics computed for the test variable of 0.0000 was less than the critical value of 5%. The sign of the variable was in tandem with a priori expectation.

The result of the other statistics computed indicated that agricultural finance might enhance economic growth in Nigeria. For instance, the coefficient of determination obtained for the test of 0.89 showed that approximately 89% of economic growth in Nigeria might be a result of agricultural finance. Also, the p-value of the F-statistics computed for the test of 0.0000 was less than the critical value of 5%. This revealed that there was a significant long-run relationship between agricultural finance and economic growth in Nigeria. The result of the Durbin-Watson statistics obtained of 1.708009 showed that the variables of the model were free from the problem of serial correlation. Thus, agricultural finance and economic growth were related.

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study had shown that appropriate spending on agriculture could enhance economic growth in Nigeria. The study concluded that agricultural finance was substantially significant on economic growth in Nigeria. This indicated that the financing of agriculture in the country could accelerate the expected economic growth. Thus, agricultural finance and economic growth were positively related. This further revealed that government intervention through agricultural loan, agricultural credits scheme, public-private investment, grant to local farmers, and agricultural implements initiative might enhance economic growth in Nigeria.

It might be concluded further that there was a long-run relationship between agricultural finance and economic growth in Nigeria. The imperative of this was that continuous government intervention in agriculture through appropriate finance might increase economic growth.

5.3 Recommendation

The following recommendations are made.

- There is a need for the government to look at the existing agricultural finance structures to redesign them for efficiency and effectiveness. This is because the existing structures such as; agricultural credit scheme, agricultural loan initiative, Central Bank Agricultural credit intervention, and Agricultural credit initiative by Bank of Industry are full of complaints of unscrupulous activities and under dealing. Thus, there is a need for the government to look in this direction.
- There is a need for the government to ensure that the various agricultural financing initiative and program get to the actual beneficiaries

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