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INSTITUTIONAL FUNDING OF AGRICUCTURAL SECTOR AND ECONOMIC GROWTH IN NIGERIA.

(1981-2021)

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Abstract : **The study examined the effect of institutional funding of agricultural sector on economic growth in Nigeria. Secondary data extracted from the Central Bank of Nigeria statistical bulletin which spanned from 1981-2021 was adopted. The study adopted the unrestricted Vector Autoregressive technique to examine the relationship between the variables. . The findings showed that there is no long run relationship between institutional funding of agricultural sector and economic growth within the period under study in Nigeria. However, funds from Agricultural Credit Guarantee Scheme has significant effect on economic growth while the commercial banks' loan to agriculture sector and Federal government expenditure to agriculture sector were insignificant to economic growth in Nigeria within the period under study.The study concluded that economic growth is influenced significantly by institutional funding of agriculture sector in Nigeria. The study therefore suggested that concerted efforts should be made by policy makers to make funds available to farmers through the farmers' union/associations in other to make commercial farming more productive and stimulate economic growth in Nigeria.**

1.0 Introduction

Institutional funding is the mechanism adopted by the government to induce the formal sector of the economy (financial institutions) to fund or invest in other economic units of the economy so as to achieve certain macro economic objectives. In an attempt to enhance the agriculture sector, efforts have been made by present and past governments in formulating policies and reforms to facilitates agricultural funding which led to the establishment of financial bodies and development banks to help boost the agriculture sector among which are Nigerian Agriculture, Co-operative and Rural Development bank (NACRDB) established in 1972 with an aim of solely lending to agricultural endeavours on short, medium and long-term basis, the Rural Banking Scheme (RBS) was introduced to enhance banking habit among rural dwellers and the Agriculture Credit Guarantee Scheme established in

the 1971 designed to encourage banks to increase lending to agriculture sector by providing guarantee against the risk default, likewise, Commercial agricultural Credit Scheme (CACS) was introduced in 2009 to provide close service like that of ACGS, but to a large-scale commercial agriculture in Nigeria. Other strategies include the Agricultural Transformation Agenda (ATA) implemented in 2010, targeted at rebuilding the sector and the Agricultural Promotion Policy (APP) aimed at building an agribusiness ecosystems. All of these policies, reforms and efforts by the government were out in place to develop and grow agriculture in order to reduce the over dependence on oil and hence diversification of the Nigerian economy (Daneji, 2011).

There is also the existence of vision 2020 and the NEEDS programmes when the country returned to civil rule in 1999,the Maputo declaration of 2003 and the Economic Recovery Growth Plan (ERGP) of the present administration which is aimed to diversify the economy with the mantra of agricultural economy (Okunola and Oke 2018). All of these policies, reforms and efforts by the government were out in place to develop and grow agriculture in order to reduce the over dependence on oil and hence diversification of the Nigerian economy

Nigeria's agriculture output comes from peasant farmers who reside in the rural areas and provides the means of livelihood for over 70 percent of the population, also a major of raw material to agro-allied industries and a potent source of the much needed foreign exchange (Von and Kennedy 1994). Small holder farmers are the major producers of food in Nigeria. They produce about 85% of total agricultural production and reside mainly in the rural areas (Okuneye, 1995). However, adequate financial services are often rendered to them by formal financial institutions due to stringent conditions attached to funds availability and other impediments to accessing funds available (Ahiaba, 2018). This is due to location of most financial institutions in the urban areas far from the settlements of the farmers who live on the rural areas. These peasant farmers depend essentially on the informal financial setups in their areas. Abu and Soom (2016) affirmed that the problem of low access to credit facilities by rural farmers, among others has remained the fundamental key challenge to modernization and expansion of their activities. The procedure for obtaining loans entails a plethora of paperwork and many administrative procedures that lead to extra transaction cost. The formal financial institutions are less motivated to lend farmers. These institutions show a preference for large scale over small-scale transaction and non-agriculture over agriculture loans. Only 5% of the farmers had access to formal credit in Africa. (Mamudu 2016) which deserves the government improvement in measures to increase finances in agriculture for through their developmental and financial institutions to stimulate economic growth. Besides, to the best of my knowledge, there are little or existing studies that have specifically examined institutions funding on agriculture sector and economic growth.

On the other hand, economic growth is sustained rise in national output couples with provision of wide range economic goods, presence of improved technology and formal institutional sector, attitudinal and ideological adjustment. The significance of financial capital as a factor of production to enhance economic growth and development and as well as the need to appropriately channel credit to rural areas for economic development of the poor rural farmers cannot be over emphasized.

In conclusion, the institutional funding of the agricultural sector in Nigeria stands as a pivotal catalyst for fostering economic growth and development. As economic growth is intricately tied to the provision of economic goods, technological advancement, and the enhancement of formal institutional frameworks, the role of financial capital in this equation cannot be overstated. By channeling credit and financial resources effectively to rural areas and, in particular, to the impoverished rural farmers, Nigeria can unlock the true potential of its agricultural sector. This strategic investment not only ensures food security but also stimulates economic growth by creating employment opportunities, boosting agricultural productivity, and generating income for rural communities. The symbiotic relationship between institutional funding, agricultural development, and economic growth holds the key to a more prosperous and sustainable future for Nigeria, where the nation's agricultural sector flourishes as an engine of economic progress, benefitting both the rural population and the broader economy

1.2 Statement of problem

Various policies and reforms have been put in place to expand agricultural funding in Nigeria, among is establishment of developmental banks and financial institutions which are targeted to plays the pivotal role in the area of funding through provision of credits. Hence, the facts remains that the financial institutions have not grappled with the problem as much has not been felt in the area of credit to the agriculture sector and its contributions to the nation total GDP is still very low. The accusation was that these development banks prefer granting credit to commerce or trading to agriculture and where the credit was allowed, the interest payable seems outrageous with some tight securities, which place restriction and scared many prospective farmers.

On the contrary, where the credits are ready to be granted, some of the farmers are unable to furnish the necessary collateral and honesty required by the banks as guarantee to cushion the effects of leakages or unforeseen exposures should there be default, fears of diversion of the loans to non-agricultural projects as it is attitude of some people to embrace luxurious household family spending thereby suffocating the purpose for which the credit was given. Research literature addressing the declining contribution of the agriculture sector to the Nigerian GDP has yielded contradictory conclusions and recommendations, causing confusion for policymakers. For instance, Ngozi (2016) investigated the impact of Agricultural financing on Agricultural output and poverty alleviation in Nigeria and recommended that the Central Bank of Nigeria should reduce the cash-reserve ratio and review land use policies. On the other hand, Obansa (2013) explored Agriculture financing and economic growth in Nigeria, suggesting that Nigeria should attract foreign investment in physical assets rather than investments that could easily exit the economy. Ayeomoni and Aladejana (2016) examined the relationship between Agricultural credit and economic growth in Nigeria, concluding that the shortfall in agricultural output stemmed from inadequate credit finance by the government and a lack of awareness among farmers regarding available funding. These varying perspectives are often based on different research methodologies and models.

The underperformance of Nigeria's agricultural sector, leading to food shortages and high food prices, has been consistently attributed to insufficient capital for agricultural investments (Ojiegbe and Duruechi, 2015). Despite increased institutional funding on agriculture over the years, the sector's performance remains subpar. This suggests that the overall investment in agriculture is still inadequate. Several experts have emphasized the obstacle of inadequate funding for achieving higher agricultural output (CBN, 2007; Bernard, 2009).

However, when examining government spending on agriculture from a nominal standpoint, it is clear that it has been increasing over the years in Nigeria, while empirical evidence reveals continued inadequacy in the agricultural sector's performance (CBN, 2000; Ekerete, 2000)."

In conclusion, the discordant conclusions and recommendations within the research literature regarding the agricultural sector's woes in Nigeria have created a perplexing situation for policymakers. While investments and government spending on agriculture have seen consistent growth in nominal terms, the sector's overall performance remains persistently inadequate. Addressing this

dilemma necessitates a deeper examination of the underlying causes and a holistic approach that considers not only the quantum of funding but also its effective allocation and utilization. It is evident that the agriculture sector's challenges demand innovative strategies, collaborative efforts, and a nuanced understanding of the intricacies involved to propel Nigeria towards a more sustainable and prosperous agricultural future. Only through such comprehensive endeavors can we hope to surmount the obstacles that have long hindered the sector's potential and its vital role in the nation's economic development.

1.3 Objective of the study

It important to note that the influence of government policies has been an enabling factor which have stimulated government agencies and also private institutions in the investment in the agriculture sector.

- The objective of this study is to examine the effect of institutional funding to agricultural sector on economic growth in Nigeria between 1981-2021. and to
- Determine the causal relationship between institutional funding of agricultural sector and economic growth in Nigeria.

Literature review

Institutional funding of Agricultural sector and economic growth nexus has witnessed tremendous research attention in empirical literature. On the general note, Anthony (2010) examined the impact of agricultural credit on economic growth in Nigeria. The findings show that agricultural variables have impact on economic growth and their contribution to export growth has been encouraging. Adofu, Abula & Agama (2012) examined the effect of government budgetary allocation to the agricultural sector on the output of the agricultural sector, the OLS regression technique was adopted, the results revealed that budgetary allocation to agricultural sector has significant effect on agricultural output in Nigeria and that the relationship between them is strong, positive and significant

Samuel and Azuka (2020) investigated the dynamics of agriculture financing and it effect on Nigeria economic growth, an Autoregressive distributed lag model (ARDL) was adopted, using annual series data covering a period of 1981 and 2018 that was obtained from the CBN. The empirical finding revealed that in the short-run, agricultural financing has an estimated negative and insignificant effect on agriculture output and economic growth within the period under study. Nevertheless, in the long-run, agricultural financing exerts a significant and positive effect on agricultural output and economic growth in Nigeria.Iwedi & Nwosi (2020) x-rays the four basic institutional funding indicators as predictor of growth of agricultural sector in Nigeria. Time series data for the period of thirty nine (1980-2018) sourced from the central bank of Nigeria statistical bulletin were adopted. Unit root of augmented dickey fuller test revealed all the variables were stationary at first difference. Co-integration test however, revealed that long run relationship exists among the variables. The relative statistics of the estimated model shows evidence of strong, positive and significant association between agricultural credit Guarantee Scheme and growth of agricultural sector in Nigeria. Microfinance bank credit to Agricultural Sector, coefficient shows a negative and also significant influence on growth of agricultural sector. Commercial bank credit to agriculture sector has positive and insignificant relationship with the growth of agricultural sector at 5% significant level while government expenditure on agriculture sector has negative and insignificant relationship with the growth of agricultural sector at 5% significant level. The study recommends that Government should make more funds available for farmers through the agricultural credit guarantee scheme. Since there is strong positive and significant relationship between Agricultural Credits Guarantee Scheme and growth of agricultural sector. Government should adequately implement policies on agricultural development and ensure that funds meant for agricultural sector are spent on the purpose it appropriated. Commercial Bank should as matter of urgency increase the funds loaned to agricultural sector as stipulated by the CBN. Microfinance Bank should monitor the use of loans given to farmers to avoid diversion.

Ayodele (2018) assesses the impact of agricultural finance on the growth of Nigerian economy. Secondary data and econometric techniques of Ordinary Least Square (OLS) of multiple regression estimates was employed. The result of the model used suggested that the productivity of investment will be more appropriately financed with resources administered by the commercial and specialized financial institutions. And also, that there are an urgent and sincere needs to expand the credit size to the agricultural sector in order to enhance the productivity growth of the sector. It is recommended that maintenance of credible macroeconomic policies that is pro-investment in overhauling the Agricultural Sector and debt-equity swap option are necessary for an agricultural-led economic growth.

Funsho & Godswill (2019) carried out an in-depth examination of the impact of guaranteed agricultural finance to oil palm, cocoa, groundnuts, fishery, poultry, cattle, roots, and tubers on the real gross domestic product of the country. Time series data was sourced from the Central Bank of Nigeria statistical bulletin of various issues. The data sets covered thirty-seven (37) years spanning from 1981 to 2017. The study adopted the Autoregressive Distributed Lag (ARDL) model for its analysis. However, due to several exogenous variables, Phillip Perron stationarity test was used to determine the order of integration because of its robustness to serial correlation and heteroskedasticity. The study also specified the lag criterion based on LR, FPE, AIC, SC, and HQ using Newey-West covariance matrix estimator. Findings from both short-run and long-run models as confirmed by the Wald test, which shows that none of the guaranteed agricultural finance is statistically significant to real gross domestic product. The study, therefore, recommends increased funding and deliberate efforts at determining which of the nominated agricultural spending has the most contributory impact on growth.

Ayeomoni & Aladejana (2016) examines the relationship between agricultural credit and economic growth in Nigeria. The study employed time series data from Central Bank of Nigeria, Statistical Bulletin and National Bureau of Statistics which spanned from 1986-2014. The study carried out Auto-Regressive Distributed Lag (ARDL) approach to investigate the variables. The findings showed that short and long run relationship existed between agricultural credit and economic growth in both short and long run respectively. Moreover, real exchange rate and private domestic investment as control variables had direct effect on economic growth whereas inflation rate revealed an inverse relationship in the model. The study concluded that economic growth is influenced by dynamic variables such as credit to agricultural sector, real exchange rate, real interest rate, private domestic investment and inflation rate in Nigeria. The study therefore suggested that concerted efforts should be made by policy makers to increase the level of productivity of agricultural sector in Nigeria through adequate credit to the sector so as to boost the growth of the economy.

Olowofeso, Adeyemi, Valli, Bassey & Abraham (2017) investigates the relationship between credit to agriculture and agricultural output in Nigeria by means of nonlinear autoregressive distributed lag (NARDL) model using a time series data from 1992Q1 to 2015Q4. Results show no evidence of asymmetry in the impact of credit to output growth in the agricultural sector (positive and

negative changes) in the short-run, but different equilibrium relationships exist in the long-run. The dynamic adjustments show that the cumulative agricultural output growth is mostly attracted by the impact of the positive changes in credit to agriculture with a lag of four quarters of the prediction horizon. This calls for the need for a policy on moratorium on credit administration to agricultural sector.

Raji (2008) critically analysed the empirical studies on the relationship between agricultural credit and economic growth, analysis was carried out to consider the impact of agriculture on Nigerian economy using OLS. He found out that, the lack of adequate, accessible, and affordable credit is among major factors responsible for the systemic decline in the contribution of agriculture to Nigerian economy.

Ayoola and Oboh (2006) examined the effect of agricultural production on the growth of the economy. They discovered that every segment of agricultural production requires of adequate financial capital since it determines access to all other resources on which farmers depend. The finding further revealed that agricultural credit if well utilized, encourages capital formation and diversified agriculture, increases resource productivity, size of farm operations, innovations in farming, marketing efficiency, value added and net farm incomes and thereby leads to economic growth. In the same direction, Oboh (2008) examined farmers' allocative behaviour in credit utilization in Benue State using error correction model approach. The study revealed that the relevant of any agricultural credit programme does not only lie on its availability, accessibility and affordability, but also on its proper and efficient allocation and utilization for intended uses by beneficiaries. Despite the significance of credit in agricultural production, its acquisition, management and repayment are replete with a number of problems. In contrary, Awoke (2004) examined the factors affecting loan acquisition and repayment patterns of small holder farmers in Nigeria. The study revealed that high rate of default arising from poor management procedures loan diversion and unwillingness to repay loans have been threatening the sustainability of most public agricultural credit schemes in Nigeria.

3.0 Methodology

This section covers the model specification, identification of variable and their sources, estmation methods and result evaluations. The study investigated the effect of institutional funding of agriculture sector on economuc growth Nigeria between 1981-2021.

Data such as Real Gross Domestic Product (RGDP) proxied for economic growth while Agricultural Credit Guarantee Scheme Fund (ACGSF), Commercial Banks' Credit to Agriculture sector (CBCA), and Government Expenditure on Agriculture (GEX) proxied institutional funding of agriculture sector for sourced from Central Bank of Nigeria (CBN) statistical bulletin between the year 1981-2020.

3.1 Model specification and estimation techniques

The study is anchored on Lewis Spellman's (1976) financial intermediation model, which is an offshoot of the endogenous growth model developed by Arrow (1962). Financial intermediation is explicitly recognize as not only the owner-operated agriculture but also the urban informal sector, lacking cooperating capital instead of land, was characterized by a system of bargaining rather than cooperative wages. Lewis contributes in a significant way to transitory growth theory, to the notion of development phases and sub-phase, en-route to modern economic growth. The Lewis theory applies to overpopulated developing countries under certain assumptions.

On the typical Cobb-Douglas model which relates productivity to factor inputs capital and labour the Lewis Spellman's therory of financial intermediation model is expressed as thus:

$Q = f(L\alpha, K\beta)$……(3.1)

The capital input is further decomposed to institutional funding of agricultural sector such as Agricultural Credit Guarantee Scheme Fund (ACGSF), Commercial Banks' Credit to Agriculture sector (CBCA), and Government Expenditure on Agriculture (GEX). The model is thus express follows:

$Y_t = \beta_0 + X_1\beta_1 + X_2\beta_2 + X_3\beta + \mu_t$ ……(3.2)

Implicitly:

RGDP = f(ACGSF,CBCA,,GEX)……(3.3)

In econometric form

$RGDP = \beta_0 + \beta_1 ACGSF + \beta_2 CBCA + \beta_3 GEX + \mu t$ ……..(3.4)

In log form

$InRGDP = \beta_0 + \beta_1 lnACGSF_t + \beta_2 InCBCA_t + \beta_3 InGEX_t + \mu t$ ……(3.5)

Where;

RGD P = Real Gross Domestic Product (₦' billions)

ACGSF = Agricultural Credit Guarantee Scheme Fund (₦' billions)

CBCA = Commercial Banks' Credit to Agricultural sector (₦' billions)

GEX = Government Expenditure to Agriculture sector (₦' billions)

t = 1981-2020

Ut = error term

3.1.2 Vector Autoregreessive analysis (VAR)

The log value of the data collected was subjected to unit root test, in other to to test for stationarity using the Augmented Dickey fuller method of analysis considering that time series data are mostly non-stationary. The result revealed that all the variables were integrated of order 0ne $I_{(1)}$. The Johansen cointegration test also revealed that there exist no cointegration among the variables. The Unrestricted Lag selection technique using the Akaike's Information Criterion (AIC) was adopted to determine the lag length criterion. The short-run Vector Autoregreessive analysis is thus estimated below:

$\Delta InRGDP_t = \phi_{01} + \beta_{11}\Sigma\Delta InRGDP_{t-1} + \beta_{12}\Sigma\Delta InACGSF_{t-1} + \beta_{13}\Sigma\Delta InCBCA_{t-1} + \beta_{14}\Sigma\Delta InGEX_{t-1} + \varepsilon_{11}$……(3.9)

$\Delta InACGSF_t = \phi_{02} + \beta_{21}\Sigma\Delta InACFSF_{t-1} + \beta_{22}\Sigma\Delta InRGDP_{t-1} + \beta_{23}\Sigma\Delta InCBCA_{t-1} + \beta_{24}\Sigma\Delta InGEX_{t-1} + \varepsilon_{21}$……(3.10)

$\Delta InCBCA_t = ddr\phi_{03} + \beta_{31}\Sigma\Delta InCBCA_{t-I} + \beta_{32}\Sigma\Delta InACGSF_{t-1} + \beta_{33}\Sigma\Delta InRGDP_{t-1} + \beta_{34}\Sigma\Delta InGEX_{t-1} + \varepsilon_{31}$……(3.11)

$\Delta InGEX_t = \phi_{04} + \beta_{41}\Sigma\Delta InGEX_{t-I} + \beta_{42}\Sigma\Delta InACGSF_{t-1} + \beta_{43}\Sigma\Delta InCBCA_{t-1} + \beta_{44}\Sigma\Delta InAGO_{t-1} + \varepsilon_{41}$……(3.12)

4.0 Data analysis and discussion

This chapter reflect the analysis of result and discussion of results based on the methodology and estimation techniques specified in the previous chapter.

4.1 Unit root test result

This test examine the property of the variables to check for the presence of a unit root i.e. no stationarity of the variables. It is carried out using the Augmented Dickey Fuller (ADF) test. This is the first test carried out in the Co- integration analysis and is known as the pre Co-integration test.

Table 4.1: Result of Unit Root Test

Variables	Levels Difference	1st Difference	Remarks
LogRGDP	**-0.48503 [0.8832]	**-3.289440 [0.0224]	$I_{(1)}$
LogACGSF	**-1.09626 [0.7077	**-5.5785 [0.0000]	$I_{(1)}$
LogCBCA	**-1.00069 [0.7414]	**-7.12005 [0.000]	$I_{(1)}$
LogGEX	**-2.123580 [0.2370]	-8.687790 [0.0000]	$I_{(1)}$
LogAGO	**-0.894556 [0.7794]	**-6.144891 [0.0000]	$I_{(1)}$

\

***are ADF test statistics and [ ] are probability values*

Table 4.1 above reports the respective levels of stationarity of the variables after the Unit root test of the natural logarithm for the first model. All variables examined are statistically significant at either 1% or 5%, therefore, the study rejected the null hypothesis that there is unit root problem in the series. All variable are stationary at the first difference.

4.2 VAR Lag Order Selection Criteria

Table 4.2 Result of VAR Lag Order Selection Criteria

Var lag order selection criteria						
Endogeneous variable LOGRGDP						
Exogenous variable :c LOGCBCA LOGGEX LOGACGSF						
Sample (adjusted): 1981 2020						
Included observations: 39						
Date :07/05/2020Ti						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-139.1204	0.00003	0.026911	7.73626636	7.910389	7.797633
1	37.38921	305.3139	-0.6462*	-0.939957*	-0.069191*	-0.632971*
2	47.56367	15.39918	0.06550	-0.625063	0.942316	-0.072488
3	68.89814	27.67715*	-0.006534	-0.913413	1.350580	-0.115249
*indicates lag order selected by the criterion LR:sequential modified LR test statistic (each at 5% level) FPE:Final prediction error AIC:Akaike information criterion SC:Schwarz information criterion HQ: Hannan-Quinn information criterion						

Researcher's Computation, 2022

Table 4.2 above shows the to the optimum lag selection criterion using the vector autoregressive unrestricted lag selection criteria. The table reveals that LR(-3), FPE(-1), AIC(-1), SC(-1), and HQ(-1). The study adopted the AIC of Lag(-1) in the analysis of model.

4.3 Johansen Co-Integration Test

Table 4.3: Result of Unrestricted Co-Integration Test

Date: 07/20/22 Time: 11:33				
Sample (adjusted): 1983 2020				
Included observations: 38 after adjustments				
Trend assumption: Linear deterministic trend				
Series: LOGRGDP LOGGEX LOGCBCA LOGACGSF				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.440597	43.21059	47.85613	0.1275
At most 1	0.235441	21.13696	29.79707	0.3492
At most 2	0.190600	10.93565	15.49471	0.2155
At most 3	0.073479	2.900099	3.841466	0.0886

Trace test indicates no cointegration at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.440597	22.07363	27.58434	0.2166
At most 1	0.235441	10.20131	21.13162	0.7255
At most 2	0.190600	8.035549	14.26460	0.3751
At most 3	0.073479	2.900099	3.841466	0.0886
Max-eigenvalue test indicates no cointegration at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				

Researcher's Computation, 2022

Table 4.3 shows the Johansen cointegration test of the model. Result of the unit root test shows that all the variables are stationary at first difference, cointegration test was carried out in other to know whether the variables have a long term relationship and not produce a spurious regression. The result summarized above in table 4.2 for Trace and maximum Eigen value indicates no cointegration among the variables in model.

4.4 Vector Autoregressive Results

Table 4.4: Result of Vector Autoregressive Estimates (VAR) for Model One

Vector Autoregression Estimates				
Date: 07/20/22 Time: 11:48				
Sample (adjusted): 1982 2020				
Included observations: 39 after adjustments				
Standard errors in ( ) & t-statistics in [ ]				
	LOGRGDP	LOGACGSF	LOGCBCA	LOGGEX
LOGRGDP(-1)	0.795705	-0.549168	0.906723	-1.656979
	(0.04509)	(0.54014)	(0.33002)	(0.95278)
	[17.6477]	[-1.01671]	[2.74750]	[-1.73909]
LOGACGSF(-1)	0.043599	0.960766	-0.140838	0.269553
	(0.00962)	(0.11525)	(0.07041)	(0.20329)
	[4.53192]	[8.33648]	[-2.00011]	[1.32593]
LOGCBCA(-1)	0.014297	0.097141	0.710478	0.731511
	(0.01319)	(0.15800)	(0.09654)	(0.27871)
	[1.08403]	[0.61481]	[7.35973]	[2.62467]
LOGGEX(-1)	0.000984	0.047557	0.129144	0.542054
	(0.00697)	(0.08351)	(0.05102)	(0.14730)
	[0.14118]	[0.56949]	[2.53118]	[3.67989]
C	2.110703	5.383799	-8.333446	15.31977
	(0.44048)	(5.27675)	(3.22401)	(9.30794)
	[4.79187]	[1.02029]	[-2.58481]	[1.64588]
R-squared	0.997318	0.970981	0.989279	0.951284
Adj. R-squared	0.997002	0.967567	0.988018	0.945552
Sum sq. resids	0.034083	4.891348	1.825946	15.21959
S.E. equation	0.031661	0.379293	0.231742	0.669055
F-statistic	3160.410	284.4073	784.3416	165.9797
Log likelihood	81.99038	-14.85478	4.359937	-36.98953
Akaike AIC	-3.948225	1.018194	0.032824	2.153309
Schwarz SC	-3.734947	1.231471	0.246101	2.366586
Mean dependent	10.33126	-0.303397	3.597262	1.141548
S.D. dependent	0.578261	2.106096	2.117073	2.867297
Determinant resid covariance (dof adj.)		2.95E-06		
Determinant resid covariance		1.71E-06		
Log likelihood		37.63849		
Akaike information criterion		-0.904538		
Schwarz criterion		-0.051429		

Researcher's Computation, 2022

Table 4.4 above shows the comprehensive effect of Institutional funding of agricultural sector on economic growth in Nigeria. The outcome of the Unrestricted Vector Autoregressive Estimates (VAR) analysis with reveals that a one percent rise in last year value

of economic growth LOGRGDP(-1) will result in an 79.5% increase in the current year economic growth (LOGRGDP) with a t-statistics value of 17.6477 which implies that the coefficient is statistically significant. Likewise, a 1% rise in the LOGACGSF in the short-run will have a positive influence of 4.4% on LOGRGDP with a t-staistics value of 4.53192 and implies that the influence is statistically significant. A 1% rise in LOGCBCA in the short-run will exhibit a positive relationship with LOGRGDP by 1.4%. The t-statistics value of 1.08403 implies that the influence is not statistically significant. This suggest that credit to agricultural sector from commercial banks are not driving the economy enough due its diversion to other sectors. Meanwhile, a 1% rise in LOGGEX in the short-run will reflects a positive influence of about 0.0984%. The t-statistics of 0.14118 implies the influence is not statistically significant. The R^2 value of 0.997318 indicates that about 99.7% of the total variation in economic growth which is the dependent variable is captured or explained by the adopted independent variables.

Table 4.5: Coefficients and Probability of the VAR Estimate for Model One

System: UNTITLED				
Estimation Method: Least Squares				
Date: 07/20/22 Time: 12:23				
Sample: 1982 2020				
Included observations: 39				
Total system (balanced) observations 156				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.795705	0.045088	17.64773	0.0000
C(2)	0.043599	0.009620	4.531922	0.0000
C(3)	0.014297	0.013189	1.084032	0.2803
C(4)	0.000984	0.006971	0.141182	0.8879
C(5)	2.110703	0.440476	4.791868	0.0000
C(6)	-0.549168	0.540141	-1.016712	0.3111
C(7)	0.960766	0.115248	8.336475	0.0000
C(8)	0.097141	0.158001	0.614814	0.5397
C(9)	0.047557	0.083506	0.569495	0.5700
C(10)	5.383799	5.276748	1.020287	0.3094
C(11)	0.906723	0.330018	2.747500	0.0068
C(12)	-0.140838	0.070415	-2.000115	0.0475
C(13)	0.710478	0.096536	7.359729	0.0000
C(14)	0.129144	0.051021	2.531180	0.0125
C(15)	-8.333446	3.224007	-2.584810	0.0108
C(16)	-1.656979	0.952785	-1.739091	0.0843
C(17)	0.269553	0.203293	1.325934	0.1871
C(18)	0.731511	0.278706	2.624666	0.0097
C(19)	0.542054	0.147302	3.679893	0.0003
C(20)	15.31977	9.307940	1.645882	0.1021
Determinant residual covariance		1.71E-06		
Equation: LOGRGDP = C(1)*LOGRGDP(-1) + C(2)*LOGACGSF(-1) + C(3) *LOGCBCA(-1) + C(4)*LOGGEX(-1) + C(5)				
Observations: 39				
R-squared	0.997318	Mean dependent var		10.33126
Adjusted R-squared	0.997002	S.D. dependent var		0.578261
S.E. of regression	0.031661	Sum squared resid		0.034083
Durbin-Watson stat	1.682468			
Equation: LOGACGSF = C(6)*LOGRGDP(-1) + C(7)*LOGACGSF(-1) + C(8) *LOGCBCA(-1) + C(9)*LOGGEX(-1) + C(10)				
Observations: 39				
R-squared	0.970981	Mean dependent var		-0.303397
Adjusted R-squared	0.967567	S.D. dependent var		2.106096
S.E. of regression	0.379293	Sum squared resid		4.891348
Durbin-Watson stat	2.006511			
Equation: LOGCBCA = C(11)*LOGRGDP(-1) + C(12)*LOGACGSF(-1) + C(13)*LOGCBCA(-1) + C(14)*LOGGEX(-1) + C(15)				
Observations: 39				
R-squared	0.989279	Mean dependent var		3.597262
Adjusted R-squared	0.988018	S.D. dependent var		2.117073
S.E. of regression	0.231742	Sum squared resid		1.825946
Durbin-Watson stat	2.290029			
Equation: LOGGEX = C(16)*LOGRGDP(-1) + C(17)*LOGACGSF(-1) + C(18) *LOGCBCA(-1) + C(19)*LOGGEX(-1) + C(20)				

Observations: 39			
R-squared	0.951284	Mean dependent var	1.141548
Adjusted R-squared	0.945552	S.D. dependent var	2.867297
S.E. of regression	0.669055	Sum squared resid	15.21959
Durbin-Watson stat	2.278567		

Researcher's Computation 2022

Table 4.5 above shows the coefficients and probabilities of the variables for the VAR estimates. From the result, it is shown that one year lag of LOGRGDP and LOGACGSF were statistically significant at 5% with the probability values of 0.0000 and 0.00000 respectively while LOGCBCA and LOGGEX were not statistically significant at 5% with the probability values of 0.2803 and 0.8879 respectively.

The Durbin-Watson statistic is expected to fall between 0 and 4.0. a value from 0 to 2.0 implies a positive autocorrelation while a value from 2.0 to 4.0 indicates a negative autocorrelation. A value of 2 implies no correlation is detected. In the above model the Durbin-Watson value is 1.682468 and indicates that there is a positive autocorrelation in the model as it lies between 0 and 2.

Table 4.6: Wald Test Output for Model One

Wald Test:			
System: %system			
Test Statistic	Value	df	Probability
Chi-square	33.57849	3	0.0000
Null Hypothesis: C(2) = C(3) = C(4)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(2)		0.043599	0.009620
C(3)		0.014297	0.013189
C(4)		0.000984	0.006971
Restrictions are linear in coefficients.			

Researcher's computation 2022

Table 4.6 above depicts the wald test which is used to test for the joint significance of the independence variable on the dependent variable (LOGRGDP). The null hypothesis states that there exist no joint significance of the independent variable on the dependent variable. The result of the Wald test with the chi-square of 33.57849 and the probability of 0.0000 implies that the null hypothesis is rejected, hence LOGACGSF, LOGCBCA, and LOGGEX are having a positive and significance effect on economic growth of Nigeria.

Table 4.7: Result of Test for Granger Causality

Null Hypothesis	Observations	F-Statistic	Prob
LOGACGSF does not GrangercauseLOGRGDP	39	5.95107	0.00062
LOGRGDP does not Granger cause LOGACGSF		2.08809	0.1400
LOGCBCA does not GrangercauseLOGRGDP	39	1.24578	0.3009
LOGRGDP does not Granger causeLOGCBCA		0.87265	0.4273
LOGGEX does not Granger causeLOGRGDP	39	2.06081	0.1434
LOGRGDP does not Granger cause LOGGEX		0.04868	0.9526

Researcher's Computation, 2022

The table above present pairwise Granger causality results. The null hypothesis states that LOGACGSF does not Granger cause LOGRGDP with the probability less than 0.05, hence we reject the null hypothesis and conclude that LOGACGSF granger cause LOGRGDP while LOGRGDP does not Granger cause LOGACGSF which implies these exist a uni-directional relationship between LOGACGSF and LOGRGDP.

LOGCBCA does not Granger cause LOGRGDP as well as LOGRGDP does not Granger LOGCBCA, the probabilities for the causal variables Real Gross Domestic Product and Commercial banks' credit to agriculture sector are 0.3009 and 0.4273 respectively. Therefore, the null hypotheses is accepted and concluded that there is no causal relationship between Commercial banks' credit to agriculture and economic growth in Nigeria.

Likewise. There exist no causal relationship between LOGGEX and LOGRGDP as the probability is greater than 0.05, hence the null hypotheses is also accepted and concluded that no causal relationship among the variables.

Discussion of findings

The study examined the effect of institutional funding to agricultural sector on economic growth in Nigeria from 1981-2020 using the Vector Autoregressive analysis technique method after determining the stationarity of the variables through the use of Augmented Dickey Fuller statistics, as well as the cointegration of variables through the Johansen approach and was discovered that the variables are stationary and have no long term relationship among the variables in the model. Findings has revealed that institutional funding of agricultural sector constitute one of the source of finance that contributes to the progress of agricultural

sector. This has been found to contain certain truth as many authors such as Bencivenga and Smith (1991) Deign (2003) maintained that fundings of agricultural sector and efficient intermediation contribute positively to agriculture productivity which induce economic growth.

The findings observed that the Agricultural Credit Guarantee Scheme fund has a positive and significance relationship on economic growth in Nigeria within the period under study. The findings supports the work of iwedi and Nwosu (2020) who discovered positive and significant effect between Agricultural Credit Guarantee Scheme fund and economic growth in Nigeria.

Likewise, the findings discovered that Commercial Banks' Credit to Agriculture Sector and Government expenditure to agricultural sector has an insignificant effect on agricultural sector output and economic growth in Nigeria within the period under study which was in conforms of the work of Toby and peterside (2014) who discovered an insignificant relationship between Commercial Banks' Credit to Agriculture Sector and economic growth which could be attributed to the apathy exhibited by banks in lending to the agricultural sector of the economy due to high level of risk involved.

5.0 Summary and conclusion

The study investigated the effects of institutional funding of agricultural sector on Economic growth in Nigeria for the period 1981 to 2020. The data used was sourced from the Central Bank of Nigeria (CBN) statistical Bulletin.The study conducted the stationarity test using the Augmented Dickey fuller and the cointegration test using the Johansen technique.The Unrestricted VAR was adopted in conduction the estimation techniques.

The study conclude that institutional funding has a significcant effect on economic growth in Nigeria within the period under study.

5.1 Recommendations

The following recommendations are given based on the above conclusions:

i. Government should make more funds available for farmers through the Agricultural Credit Guarantee Scheme as it will aid more output of the agriculture sector and will further improve the economic growth.
ii. The Apex bank should make a strong policies that will further enforce the commercial banks to give out more loans to the agricultural sector and strict regulations that will ensure the loans are fully utilized for their purposes
iii. Funds should be made available to farmers through the farmers' union/associations in other to make commercial farming more productive and stimulate economic growth in Nigeria.

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