EFFECT OF AGRICULTURAL FINANCING ON NIGERIA ECONOMIC GROWTH (1999 – 2018)

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ABSTRACT:

To diversify from oil based economy, Nigeria is placing great emphasis on agricultural financing. This paper examined the effect of agricultural financing on Nigeria's economic growth. Secondary data were sourced from Central Bank of Nigeria(CBN) statistical bulletin (2017) and online CBN database with the aid of Eview 9 software, Descriptive statistics and Regression method were used to analyze the time series data covering the period 1999-2018. Variance Inflation Factor, Serial Correlation test and CUSSUM test were also used to diagnose the reliability and validity of the result. The result revealed that agricultural financing has positive and significant effect on economic growth. However, the impact of manufacturing sector financing on economic growth is larger than agricultural financing. The Probability value of F-statistic is 0.00000 < 0.05 level of significance. This study recommends more priorities to be given to the players in agricultural sector by all credit agencies by making loan readily accessible to them.

Keywords: Agricultural Financing, Economic Growth

1. INTRODUCTION

Nigeria is placing great emphasis on financing other sectors, most especially agricultural sector in order to diversify from her oil based economy. Mohammed and Jamila (2015) stated that Agriculture has the potential to spur economic growth through provision of raw materials, food, jobs and increased financial stability. Hence, agriculture financing is one of the most important instruments of economic policy for Nigeria, in order to stimulate development in all directions. Finance is required by agricultural sector to acquire land, construct buildings, acquire machinery and equipment, hire labour, irrigation etc. In certain cases such loans may also be needed to purchase new and appropriate technologies. Availability of adequate credit to finance agricultural production is essential for any meaningful agricultural practice. The agricultural lending market in any country is made up of the participating financial institutions and credit agencies that can effectively finance agricultural production.

Agricultural financing is essentially a development strategy in a variety of ways. It promotes agricultural investment and adoption of technology necessary to spur economic growth.

For Nigeria to transform from the state of mono-economy which majorly based on oil revenue, adequate financial support should be given to those in agricultural sector. Hence, there is need to examine the extent to which the financial support given to agricultural sector influences economic growth in Nigeria.

The, objective of this paper is to examine the effect of agricultural financing on economic growth in Nigeria.

2. LITERATURE REVIEW

Conceptual review:

Akpan (2005) in a CBN report asserted that "robust economic growth cannot be achieved without putting in place well focused programmes to reduce poverty through empowering the people by increasing their access to factors of production, especially credit."

Olagunju and Ajiboye (2010) posited that the lack of a formal national credit policy and the inadequate number of credit institutions in Nigeria is a major cause for the decline in the contributions of agriculture to the economy. Olagunju and Ajiboye (2010) further defined Agricultural credit 'as the mobilisation of resources at all levels in order to increase production and productivity in agriculture and to enhance the productive capacity'. Agriculture credit in an emerging world could have positive effects on the growth of Gross Domestic Products, which translates to the entire economy's wellbeing. Agricultural financing brings about growth and it solves the problems militating against the agriculture sector's productivity. It plays the role of an effective engine for growth for most agriculture-based countries (ADB, 2000).

The study by Adesina (2006) stated that agricultural financing provides an increased

productivity, economic sustainability, poverty reduction, business opportunities, institutional changes, innovation incentives and improvement of economic growth in Nigeria.
Theoretical review:
According to Shreiner and Yaron (2001) agriculture financing refers to (public or private) resources (in form of equity, gift or loan) for improving social welfare through development of agricultural sector. It encompasses not only government funds but also funds of non-governmental organizations that use matching grants to attempt to promote community and sector development, income equality and local empowerment. Public funds are subsidized funds and private funds, regardless of their price, are not subsidized, unless a contribution is tax free or the market price is affected by an explicit or implicit state guarantee of the liabilities of a development finance institution. The agricultural credit/finance can be divided into the non-debt (non–leverage) and debt (leverage) categories.

On the issue of economic growth, Mallik (2008) identified three gaps as constraints to growth in most African countries. These three gaps are (i) savings gap, (ii) trade balance gap and (iii) fiscal gap. In general, most African countries (Nigeria inclusive) have inadequate levels of domestic savings, which could be directed to investment. They also lack sufficient export earnings required to import capital goods for investment and do not have the revenue raising capacity to cover a desired level of investment into various sectors.
Empirical review:

Akpansung and Babalola (2012) statistically showed that economic growth responded positively to bank credit for the private sector in Nigeria. Moreover, lending rate was found to negatively influence growth in the Nigerian economy. In a regression model estimated by Obamuyi, Adebisi and Edun (2012), bank lending rates significantly predicted output from the manufacturing sector. Bank credit to the private sector, according to Okwo, Mbajiaku, and Ugwunta (2012), positively predicted growth in Nigeria.

An expansionary monetary policy regime that is targeted at real sectors like agriculture was therefore recommended. Aggregate output from the agricultural sector, from the study of Obilor (2013), responded positively to the Agricultural Credit Guarantee Scheme (ACGS) financing option in Nigeria.

Banks' credit, from the study of Izhar

and Tariq (2009), was not a significant predictor of productivity in India's agricultural sector. Though they found out that it correlated highly with growth in agriculture and manufacturing output. Merdynwati and Yunanto (2011) also found that banking sector development contributed very little to aggregate output in the Indonesian economy.

Onoja, Onu and Ajodo-Ohiemi (2012) empirically demonstrated that the increase in agricultural credit supply grew an exponentially in Nigeria as a result of reforms of the financial sector. For Nigeria to transform from the state of mono-economy which majorly based on oil revenue, adequate financial support should be given to those in agricultural sector.

Hence, there is need to examine the extent which the financial support given to agricultural sector influences economic growth in Nigeria. This study examined the extent of finance to two sectors: namely agriculture and manufacturing sector in order to reveal the one the credit agencies gave more priorities and the sector that significantly contributes to economic growth in Nigeria.

3. DATA AND METHODS OF RESEARCH
Secondary data were used in carrying out this research. The data covering the period 1999 - 2018 were sourced from the Central Bank of Nigeria Statistical Bulletin (2017) and Central Bank of Nigeria (online) database. The study empirically examined the effect of agricultural financing on Nigeria economic growth. The Descriptive Statistics and Regression Analysis were employed in carrying out the research analysis.

3.1 Model specification
The model for this study was coined out of Cobb-Douglass production function($Y = \alpha L^{\alpha 1} k^{\alpha 2}$). When this production function is adapted to this study it becomes:

$GDP = \beta_0 AGRIF^{\beta 1} MANUF^{\beta 2}$ ------------------ (1)

$GDP = \beta_0 + \beta_1 AGRIF + \beta_2 MANUF + Ut$------- (2)

When equation (2) log-linearized, it becomes

$LGDP = \beta_0 + \beta_1 LAGRIF + \beta_2 LMANUF + Ut$ --------------------(3)

Where:
GDP = Gross Domestic Product (Economic Growth)
AGRIF = Agricultural sector financing
MANUF = Manufacturing sector financing

LGDP = Log of GDP
LAGRIF = Log of AGRIF
LMANUF = log of MANUF
B_0 = Constant
$B_1 - \beta_2 =$ Coefficients of Variables
U_t = Error term.

4. PRESENTATION AND ANALYSIS OF DATA

The statistical method of Descriptive statistics and Regression analysis were used to analyse the data.

4.1 Descriptive Statistics

The descriptive statistics of the variable used in the analysis are presented in table 1 below. Economic growth(GDP) had a mean value of ₦47267.8b and a median of ₦24545.3b. The Maximum value of ₦127762b and the Minimum value of ₦4679.2b.It had a standard deviation of #41483.9b which is very close to the mean value. This reflects a low degree of variability of the data in the time series. GDP was positively skewed with a skewness value of 0.555075. Financing of agriculture (AGRIF) had a mean value of ₦218b and a maximum value of ₦528b and standard deviation of ₦190b which is also close to the mean value of ₦218b. It shows a low degree of variability in the time series which is ₦28b. AGRIF is also partially skewed.

Table 1: Descriptive Statistics

	AGRIC(₦b)	GDP(₦b)	MFG(₦b)
Mean	218.0100	47267.79	939.4400
Median	132.0500	24545.29	960.2000
Maximum	528.2000	127762.0	2215.700
Minimum	31.00000	4679.212	115.8000
Std. Dev.	190.3723	41483.93	720.9856
Skewness	0.638166	0.555075	0.587842
Kurtosis	1.761247	1.816347	2.054513
Jarque-Bera	2.636277	2.194555	1.896817
Probability	0.267633	0.333779	0.387357
Sum	4360.200	945355.7	18788.80
Sum Sq. Dev.	688590.5	3.27E+10	9876584.

Source: Researcher's computation (2019)

4.2 Regression Analysis

From the regression result in table 2 the goodness of fit of the model can be seen in the coefficient of determination (R-Square).The R^2 measure how well variation in the dependent variables (Economic Growth) are explained by the independent variables(Agricultural financing and Manufacturing financing). For this observed period of study the R^2 is 0.961401 (96.1%). This shows independent variables adequately explained about 96.1% of any variation in the dependent variable.

The coefficient of LAGRIF is 0.416224. This means agricultural financing made about 41.6% contribution to any positive change in economic growth. It also has a statistical significance on economic growth with the Prob-value of 0.0153< 0.05 level of significance. Hence, we do not accept the Null hypothesis. It implies agricultural financing has a positive and significant effect on economic growth.

The coefficient of LMFGF is 0.726841. This implies that financing of manufacturing sector contributes about 72.7% to any positive change in economic growth and it is statistically significant with the prob- value of 0.3003<0.05.

Table 2: Regression Result

Dependent Variable: LGDP
Method: Least Squares
Date: 04/03/19   Time: 10:28
Sample: 1999 2018
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.493197	0.430208	8.119792	0.0000
LAGRIF	0.416224	0.154326	2.697048	0.0153
LMFGF	0.726841	0.162650	4.468740	0.0003

R-squared	0.961401	Mean dependent var	10.26876
Adjusted R-squared	0.956860	S.D. dependent var	1.105972
S.E. of regression	0.229712	Akaike info criterion	0.033499
Sum squared resid	0.897048	Schwarz criterion	0.182859
Log likelihood	2.665007	Hannan-Quinn criter.	0.062656
F-statistic	211.7140	Durbin-Watson stat	1.872045
Prob(F-statistic)	0.000000		

Source: Researcher's computation (2019)

`   The durbin-watson statistics is 1.872 (close to 2) indicate the absence of auto-correlation. The regression result shows that Agricultural financing (LAGRIF) and manufacturing sector financing (LMFGF) contributed a positive and significant effort on economic growth but manufacturing sector financing contributes greater proportion to the economic growth during the observed period. Result for this observed period of study implies credit agencies gave more priorities to the manufacturing sector than the agricultural sector probably for the lack of confidence in the stakeholders in agricultural sector.

In term of overall significance, the independent variables (Agricultural Financing and Manufacturing Financing) had a combined significant effect on economic growth in Nigeria with the Prob(F-statistics) of 0.0000< 0.05 level of significance.

4.3 Diagnostic Test

In order to ensure the reliability and validity of our empirical result, two diagnostic tests were conducted on the data ,The diagnostic test are: variance inflation factor (VIF), Breush-Godfrey serial correlation on test, and cumulative sum of square (CUSSUM) test.

4.3.1 Variance Inflation Factor (VIF)

The result of variance inflation Factor (VIF) in table 3 below shows that both independent variable in the regression model are relevant to the study since the centered VIF are all below the bench mark of 10.This indicates the absence of multicollinearity in the model.

Table 3: Variance Inflation Factors

Date: 04/03/19   Time: 10:33
Sample: 1999 2018
Included observations: 20

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.185079	70.14868	NA
LAGRIF	0.023816	229.8877	8.488229
LMFGF	0.026455	430.2976	8.488229

4.3.2 CUSSUM Test

The result of the cumulative sum of square (CUSSUM) test shows in table 4 below revealed that the CUSUM plots do not cross the 5% critical lines. This implies that the estimated coefficients are relatively stable. This testified to the reliability of data used.

Table 5: CUSSUM result
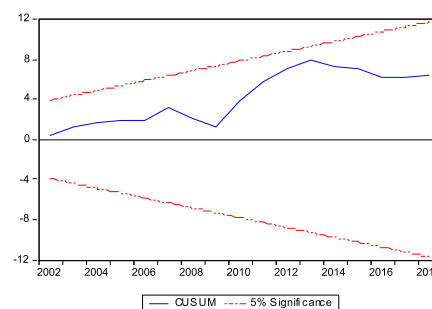
Source: Researcher's computation 2019

5. DISCUSSION AND CONCLUSION.

This study investigated the impact of agricultural financing on economic growth in Nigeria. The data were obtained from the Central Bank of Nigeria statistical bulletin (2018) and CBN statistical data base (2018). From this study, it was found that a positive and significant impact exists between Agricultural Financing and Economic Growth. This study further verified that financing of manufacturing sector has greater positive and significant effect on economic growth than agricultural financing. The study recommends that more priorites should be given to agricultural sector by the credit agencies to make loan readily accessible to players in the sector.

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