

Deposit Money Bank Credit to Agricultural Sector and Agricultural Output in Nigeria (1986-2016)

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ABSTRACT

The study investigates the impact of deposit money bank credit to the agricultural sector on agricultural output in Nigeria. Annual data on agricultural output, deposit money bank credit to the agricultural sector and lending rate from the Central Bank of Nigeria covering the period 1986 -- 2016 were utilized, and the Ordinary least Square (OLS) Method adopted. The Stationarity (Unit roots) status of the series was examined using the appropriate statistic. Some of the assumptions of the OLS models were also tested to avoid spurious regression. The granger causality test was also conducted to determine the direction of causality. Over all, the results indicate that deposit money bank credit to the agricultural sector has positive and insignificant impact on agricultural output, while lending rate has negative and insignificant impact on agricultural output during the period. Moreover, a long-run relationship exists among the variables as confirmed by the co-integration test. Causality results were unidirectional relationship running from: AGR1C to DBC and AGR1C to LR. However, there is bidirectional relationship between LR and DBC. The study recommends effective impact assessment and regulation of micro economic and local condition, through monitoring of benchmarks and business practice, voluntary guidelines, and transfer of environmentally sound technology.

Keywords: Deposit, Money Bank, Agricultural Sector, Nigeria.

INTRODUCTION

Agriculture is the first and most thriven occupation of mankind [1,2,3]. From its early form of wild fruits, leaf, root, snail and insect gathering, fishing and hunting, to its present mechanized and almost automated form, it has undergone a lot of development [4,5,6]. Agriculture is conceived as the cultivation of land, rearing animals for the purpose of production of food for man, feed for animals, and raw materials for our industries. It also consists of crop production, forestry, livestock and fishing [7]. It is also essential for expansion of employment opportunity, reduction of poverty and improvement of income distribution, speeding up industrialization and easing the pressure on balance of payments disequilibrium [8]. The role of agriculture in transforming both the social and economic framework of an economy cannot be over emphasized. [8], posits that "agriculture has been the main source of gainful employment from which

Nigeria nation can feed its population, providing the nation's industries with local raw materials and as a reliable source of government revenue.

The major agricultural export commodities in Nigeria include cocoa, coffee, cotton, groundnut, groundnut oil, palm kernel, soya beans, ginger, rubber, benign seed and chili pepper [9]. There are other commodities that are being demanded in the world market such as cassava and cassava products banana, plantain and so on [10,11,12]. The Nigeria economy today is still dependent on primary products both as foreign exchange earner and contributor to gross domestic product. Agriculture is of two types, the substance agriculture and commercial agriculture [13]. The substance agriculture is the type of farming which involves the farmer and his family, that is, the fanner produces for himself and his family with little or none to sell in the market. It is practised in small scale system and also involves

only a little amount of money to establish as against commercial farming that involves huge amount of money to establish. It does not involve the use of machine, since the land is very small and fragmented [14]. The second type is-commercial agriculture, where farming is mainly for commercial and profit purpose [15]. It is characterized by large scale production and capital intensive. In agriculture, fund is needed to enable the farmers purchase more land, buy inputs at the appropriate time and to pay for hired labor or farm equipment. Unfortunately, credits are not easily available for most of the farmers because of collateral and other documentations that are usually required by the deposit money banks and other credit institutions [16]. This makes it impossible for most farmers in Nigeria to access the required capital for investment in large scale agriculture, hence the reason for the recent low agricultural productivity. Discovery of oil in large scale in the 1970,s turned the hide against the agricultural sector in favor of the oil sector. For instance, as at 2000, oil and gas exploration accounted for more than 98% of export earnings and about 83% of federal government revenue [17]. The oil sector also accounted for more than 40% of the Gross Domestic Product (GDP) in Nigeria and about 95% of the foreign exchange earnings. Despite this seemingly high revenue from the oil sector, the paradox of it that over 70% of the Nigeria population is engage either in the informal sector or in agricultural production [18].With the recent move by the leading economies of the world to diversity their economy and Nigeria in a

bid to join the rest of the developed economies is conscious of the danger signals observed both within and outside the country that underscores the need to move away from total reliance on petroleum related revenue. This signal according to [3], include the ongoing global economic crisis that is threatening the growth and development agent of the present administration, the current decline in crude oil prices, and the frightening revelation that the United States of America, the highest buyer of Nigeria crude oil, Brazil and several other countries have seriously engaged in alternative source of energy. The vast employment opportunity and the quest towards diversification of the revenue source by the federal government and development agencies have shifted attention towards the informal and the agricultural sector. For example, to sustain the agricultural production in Nigeria, the World Bank developed a programme called Agricultural Development Projects (ADPs) in 1989.This was designed to enhance the production of agricultural outputs in Nigeria, About 19 states benefit from this programme [4]. There have been other national programmes established to boost agricultural production in Nigeria such as the agricultural credit fund (ACGSF) established in 1977. The ACGSF has lofty aims especially the need to make the agricultural sector more profitable. However, it has not lived up to its bidding and hence, calls for empirical assessment with a view to understanding the resultant effect from the huge investment from the government into this sector.

Research Questions

1 -To what extend has deposit money bank credit to agricultural sector affected agricultural output in Nigeria?

2- What is the causality relationship between deposit money bank credit to agricultural sector and agricultural output in Nigeria?

Objectives of the Study

The general objective of this study is to examine the impact of deposit money bank credit to agricultural sector on agricultural output in Nigeria. Specifically the research intends to:

(1) Evaluate the impact of deposit money bank credit to agricultural sector on agricultural output in Nigeria.

(2) Examine the causality relationship between deposit money bank credit to

Hypotheses of the Study

- H₁: Deposit money bank credit to agricultural sector has no significant impact on agricultural output in Nigeria.
- H₂: Deposit money bank credit to agricultural sector has significant impact on agricultural output in Nigeria
- H₃: There is no causality relationship between deposit money bank credit to

- agricultural sector and agricultural output in Nigeria.
- H₄: There is causality relationship between deposit money bank credit to agricultural sector and agricultural output in Nigeria.

METHODOLOGY

In order to derive and estimate the numerical parameters of the model, the researcher will adopt the ordinary least square (OLS) technique to give quantitative estimates to our parameters. The ordinary least squares (OLS) technique is chosen for this research from other techniques because of its optimal properties when compared with other techniques some of its properties include

linearity, unbiasedness and minimum variance. The OLS technique is the best linear unbiased estimator. It is also chosen because it is very simple to calculate and its data requirement is not excessive when compared with other economic techniques. Furthermore, the ordinary least squares have been used in wide range of economic relationship with fairly satisfactory results.

Theoretical framework

The Quantity theory of credit will serve as the theoretical framework of this study. The quantity theory of credit was propounded by Prof. Richard A. Werner, commonly used to explain different equation of exchange distinguishing between money used for GDP-transaction and money used for non GDP-transaction. He further stressed that money should not be defined as bank deposit or other aggregate of private sector saving. There has long been an interest among economists and policy makers in the question of how the "tangible" economy is related to the non-"tangible" financial and monetary system. Of course, the very framing of the question betrays long standing presupposition: it was first asked by classical economists, who also postulated that the monetary part of the economy is but a "veil" over the real economy that does not in any way affect

the latter. The neo-classical and new classical, argued that monetary variables and indeed the entire financial sector represent but a nominal scale factor that cannot affect the tangible economy. The idea is simple, and deceptive, if markets are complete, competitive and virtually in a permanent state of equilibrium, and everyone is perfectly informed about everything, including how much money is produced, by whom, & given to whom, and then all normal variables will move immediately in line with any monetary expansion or contraction, leaving underlying physical quantities. Therefore, price-adjusted neatly separate the economic system into two parts namely the 'real' economy of production, employment, consumption and the part deals with anything financial or monetary.

Model Specification

This study shall build a multiple regression model and make use of econometric procedure in estimating the relationship between my economic variables.

$$AGRIC = f(DBC,LR) \dots\dots\dots 3.1$$

The functional form of the model is specified as:

Where,
AGRIC = aggregate Agricultural output.
f = functional relationship.
DBC = Deposit money bank credit to the agricultural sector

LR= Lending rate

The explicit form of the model is specified as follows:

$$AGRIC_t = \beta_0 + \beta_1 DBC_t + \beta_2 LR_t + \mu_t \dots \dots \dots 3.2$$

Where, $\beta_1 > 0$ and $\beta_2 < 0$

AGRIC_t = aggregate Agricultural output.

DBC_t = Deposit money bank credit to the agricultural sector

LR_t = Lending rate

f= functional notation

β_1 = Constant term.

B₁ = Co- efficient of Deposit money bank credit to the agricultural sector.

B₂ = Co- efficient of Lending rate,

β_0, β_1 & β_2 , are the parameters to be estimated

μ = stochastic term or error term

Method of Evaluation

Preliminary Test

Stationarity (Unit Root) Test

The importance of this test cannot be over emphasized since the data to be used in the estimation are time-series data. In order not to run a spurious regression, it is worthwhile to carry out a stationarity test to make sure that all the variables are mean reverting, that is, they The unit root equation is stated as follows:

have constant mean, constant variance and constant covariance. In other words, that they are stationary. The Augmented Dickey-Fuller (ADF) test will be used for this analysis since it adjusts for serial correlation.

$$\Delta Y_t = \delta Y_t + \sum \alpha \Delta Y_{t-1} + \mu_t \dots \dots \dots 3.3$$

Decision Rule: If the ADF test statistic is greater than the MacKinnon critical value at 5% (all in absolute term), the variable is

said to be stationary, otherwise, it is non stationary.

Co-integration Test

Econometrically speaking, two variables will be co integrated if they have a long-term, or equilibrium relationship between them. Co-integration can be thought of as

a pre-test to avoid spurious regressions situations [4]. As recommended by [6] the ADF test statistic will be employed on the residual.

$$\Delta \tilde{U}_t = \alpha_0 + \alpha_1 \mu_t \dots \dots \dots 3.4$$

Decision Rule: If the ADF test statistic is greater than the critical value at 5%, then

the variables are co-integrated (values are checked in absolute term).

Error Correction Mechanism

If there exist a long run relationship (co-integration) among the time series variables, the Error correction mechanism will be estimated to know the rate at which the dependent variable returns to

equilibrium to the independent variable after some levels of variations i.e to derive the numerical value of the magnitude of the short run dynamics or disequilibrium.

$$\Delta AGRIC_t = \beta_0 + \beta_1 \Delta DBC_t + \beta_2 \Delta LR_t + \delta ECM_{t-1} + U_t \dots \dots \dots 3.5$$

Decision Rule: In conducting ECM, the expected sign of the result should be negative. A positive ECM implies a model misspecification or an indication of

structural changes and wilt not give us the rate of these change in the dependent and independent variables.

Economic Test of Significance

Economic Criterion Test (A Priori Test)

These are determined by the principles of economic theory and refer to the sign and size of the parameters of economic

relationship. The expected signs for the parameters associated with the various variables are shown below

Table 1 A priori Expectation

Variable	Expected sign
DBC	+ve
LR	-ve

Statistical Test of Significance

These are determined by the statistical theory and aimed at evaluating the statistical reliability of the estimates of the parameters of the model, the most

widely used statistical criteria is the square of correlation coefficient (coefficient of determination R^2), T-Test and F-Test of significance.

Test for Goodness of Fit

The coefficient of multiple determinations (R^2) will be used to determine the proportion of variation dependent variable that is attributable to

variation in explanatory variable. The value of R^2 ranges between 1 and 0 (i.e. $0 \leq R^2 \leq 1$). The closer to 1 the better the fit, otherwise the worse the fit.

t-Test of significance

The student t-ratio will be used to test the individual statistical significance of the regression co-efficient. A two-tail test will be conducted at 5% level of significance and $n-k$ degree of freedom (df). where n is the number of observation and K is the

number of parameter(s) estimated. Decision Rule: The computed (t^*) will be compared with the critical t-value ($t_{0.025}$). If $t^* > t_{0.025}$, the H_0 will be rejected and H_1 will be accepted, otherwise, H_0 is accepted and H_1 rejected.

f-Test of Significance

F-test statistic will be used to test the overall statistical significance of the independent variables. A one-tail test will be conducted at 5% level of significance and (V_1/V_2) degrees of freedom. Where; V_1 = degree of freedom (df) for the numerator: $v_1 = k-1$.

V_2 = degree of freedom (df) for the denominator: $v_2 = n-k$.

Decision Rule: If the $F^* > F_{0.05}$, we will reject the null hypothesis and accept the alternative, otherwise, the alternative hypothesis H_1 will be rejected and null hypothesis H_0 will be accepted.

Econometric Test of Significance (Second order Test) Autocorrelation Test

The aim of this test is to examine whether the errors corresponding to different observations are serially correlated or not. Uncorrelated errors are desirable. The Durbin - Watson (D-W) statistic at 5% will be used to test for the presence of autocorrelation problem. The region of no autocorrelation remains:

$$du < d^* < (4-du)$$

Where:

du = Upper Durbin - Watson

d^* = Computed Durbin-Watson

Decision Rule: If the computed value of Durbin-Watson lies within the no autocorrelation region, it means there is no presence of autocorrelation problem. But if the Durbin-Watson computed value lies outside the regions there is the presence of autocorrelation problem. If it occurs, to avoid the spurious regression associated with it, we will employ the Heteroscedasticity Autocorrelation Correction (HAC) to remove its influence in the model.

Granger Causality Test

Although regression analysis deals with the dependence of one variable on the other, it does not necessarily imply causation. In other words, the existence of a relationship between variables does not prove causality or the direction of

influence (Gujarati, 2004). The essence of causality analysis, using the granger causality test, is to actually ascertain whether a causal relationship exists between two variables of interest. Here is the Granger specification mode.

$$AGRIC_t = \sum_{i=1}^k \beta_1 DBC_{t-1} + \sum_{i=1}^k \beta_2 DBC_{t-1} + \sum_{i=1}^k \beta_3 LR_{t-1} + \mu 1t \dots \dots \dots 3.6$$

$$DBC_t = \sum_{i=1}^k \alpha_1 AGRIC_{t-1} + \sum_{i=1}^k \alpha_2 DBC_{t-1} + \sum_{i=1}^k \alpha_3 LR_{t-1} + \mu 2t \dots \dots \dots 3.7$$

$$LR_t = \sum_{i=1}^k \lambda_1 AGRIC_{t-1} + \sum_{i=1}^k \lambda_2 DBC_{t-1} + \sum_{i=1}^k \lambda_3 LR_{t-1} + \mu 3t \dots \dots \dots 3.8$$

Data Required and Sources

The data required for this study are secondary time series data on deposit money bank credit to agricultural sector on agricultural output in Nigeria (1986-

2016). The data are extracted from the 2016 editions of the central bank of Nigeria (CBN) statistical bulletin.

Econometric software for the work

E views 8 regression software packages is employed in this analysis to test non

violation of the basic assumption of the OLS model.

PRESENTATION AND ANALYSIS OF RESULTS

Table 2: Result of Unit Root Test

Augmented Dickey Fuller					
S/No	Variables	ADF Values	5% Critical Values	Order of Integration	Test Result
1	AGRIC	-5.509157	-3.574244	1(1)	Stationary at 1 st difference
2	DBC	-5171372	-3.632896	1(1)	Stationary at 1 st difference
3	LR	-6.040156	-3.574244	1(1)	Stationary at 1 st difference

From the tabular illustration, the Agricultural output (AGRIC), Deposit money bank credit to the agricultural sector (DBC) and Lending rate (LR) are stationary at first difference. That is, the variables are integrated at order; one 1(1). Not having a stationarity time series data indicates not having a short run relationship among the individual time series data. This result is expected since most macro- economic time series data

are known to exhibit such behavior. Since Agricultural output (AGRIC), Deposit money bank credit to the agricultural sector (DBC) and Lending rate (LR) are non-stationary at level form, there is need to conduct a co-integration test. The essence is to show that, though Agricultural output (AGRIC), Deposit money bank credit to the agricultural sector (DBC) and Lending rate (LR) are non-stationary, the variable may have a

long term relationship, that is, the variables may be co-integrated and will not produce a spurious result.

Co-integration Test Result

The co-integration test result is obtained as follows

Table 2: Co-integration Test Result

Null Hypothesis: U has a unit root
 Exogenous: Constant, Linear Trend
 Lag Length: 0 {Automatic - based on SIC, maxlag=6}

		1-Statistic	Prob.*
Augmented Dickey-Fuller	test statistic	-5.048837	0.0018
Test critical values.	1% level 5% level 1 0% level	-4.323979 -3.580623 -3.225334	

"MacKinnon (1996) one-sided p-values.
 Augmented Dickey-Fuller Test Equation

Dependent Variable: D(U)

Method: Least Squares

Date: 09/10/18 Time: 10:39

Sample (adjusted): 1989 2016

Included observations; 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
U(-1)	-1.008175	0.199685	-5.048837	0.0000
C	-0.658826	5.764888	-0.114282	0.9099
@TREND("1986")	0.031320	0.313809	0.099806	0.9213
R-squared	0.505075	Mean dependent var		-0.073709
Adjusted R-squared	0.465481	S.D. dependent var		18.34566
S.E. of regression	13.41266	Akaike info criterion		8.131232
Sum squared resid	4497.483	Schwarz criterion		8.273968
Log likelihood	-110.8372	Hannan-Quinn criter.		8.174867
F-statistic	12.75636	Durbin-Watson stat		1.983713
Prob(F-statistic)	0.000152			

From the result above, since the ADF test statistic (-5.048837) is greater than the 5% critical value (-3.580623) in absolute terms, it implies that the residuals are

stationary (i.e. the variables are co-integrated or that the linear influence of the independent variables cancels out.

Error Correction Mechanism Result and interpretation

Table 3: ECM Test Result

Dependent Variable; LOG(D(AGRIC))

Method: Least Squares

Date: 09/10/18 Time: 10'45

Sample (adjusted)' 1989 2016

Included observations. 9 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.999201	0.879075	5.686886	0.0023
LOG(D(DBC))	0.413393	0.245036	1.687071	0.1524
LOG(D(LR))	- 0.245036	0.306959	-0.892420	0.4131
U(-1)	-0.012465	0.028179	-0.442336	0.6767
R-squared	0.448586		Mean dependent var	5.751072
Adjusted R-squared	0.117738		S.D. dependent var	1.478369
S.E. of regression	1.388614		Akaike info criterion	3.795592
Sum squared resid	9.641246		Schwarz criterion	3.883247
Log likelihood	-13.08016		Hannan-Quinn criter	3.606432
F-statistic	1.355866		Durbin-Watson stat	0.193079
Prob (F-statistic)	0.356497			

From the test result above, the magnitude of the short run disparity is $-0.012465 \times 100 = -1.25\%$, that is to say the degree of the short run dynamics is

Result of Original Model

The regression result is based on the ECM result above. The variables under consideration are agricultural output (dependent variable), deposit money bank credit to the agricultural sector (DBC) and AGRIO $4.999201 + 0.413393\text{DBC} - 0.273936\text{LR}$

S.E= (0.879075) (0.245036) (0.306959)

t*= (5.686886) (1.687071) (-0.892420)

R² = 0.448586Adjusted R² -0.117738

F* = 1.355866

Durbin-Watson stats- 0.193079

1.25% in absolute term. This exhibits a very low speed of adjustment to the equilibrium after a shock.

lending rate (LR). From the result the estimated coefficient value of b_0 , b_1 , and b_2 , are 4.999201, 0.413393 and -0.273936 respectively. The regression results are presented as follows:

Table 4: Result of Apriori Test

Variable	Pre-Test Sign	Post-Test Sign	Test Result
DBC	+ve	+ve	CWES
LR	-ve	-ve	CWES

CWES: Conform With Expected Sign.

Evaluation of Regression Results

Evaluation Based on Economic Criterion

This subsection is concerned with evaluating the regression results based on apriori expectations. The signs and magnitude of each variable coefficient is evaluated against theoretical expectations. The expected signs of Deposit money bank credit to the agricultural output coefficient from the estimated model are in line with apriori expectations. Deposit money bank credit to the agricultural sector has a positive relationship with agricultural output (AGRIC) and while the expected signs of Lending rate coefficient from the estimated model is also in line with apriori expectations. Lending rate has a positive relationship with agricultural output (AGRIC). The constant term is estimated at 4.999201 which means that

the model passes through the point 4.999201mechanically. If the independent variables are zero, AGRIC would be 4.999201 [5].

The estimated coefficient for deposit money bank credit to the agricultural sector (DBC) is 0.413393. This also implies that if we holdall other variables affecting agricultural output constant, a unit increase in DBC will lead to a 0.413393 increase in agricultural output on the average and while the estimated coefficient for lending rate (LR) is - 0.273936. This implies that if we hold all other variables affecting agricultural output constant, a unit increase in LR will lead to a 0.273936 decrease in agricultural output on the average.

Evaluation Based on Statistical Criterion

Interpretation of R² Result

This subsection applies the R², the t-test and the f-test to determine the statistical reliability of the estimated parameters. These tests are performed as follow; The coefficient of determination R from the regression result, the R is obtained as

0.448586. This implies that 44.8586% of the variation in agricultural output is being explained by the variation in deposit money bank credit to the agricultural sector (DBC) and lending rate (LR).

Result of t-Test of Significance:

The result of the t-test of significance is shown in table 5 below:

(2.048) and the value of calculated t-statistic for each variable.

The result of the t-test is presented below and evaluated based on the critical value

Table 5: Result oft-Test of Significance

Variables	t-computed (t _{ca} j)	t-tabulated (t _a /2)	Test Result
DBC	1.687071	2.048	SI
LR	- 0.892420	2.048	SI

SI=Statistically Insignificant

For DBC, since $t_{ca} > t_{ca}$, therefore, we accept the null hypothesis and reject the alternative hypothesis, for LR, since $t_{ca} > t_{ca}$, therefore we accept the null hypothesis and reject the alternative hypothesis. The result implies that both

DBC and LR have no significant impact on agricultural output in Nigeria within the study period.

Result and interpretation of f-Test of Significance

Note: $V_1 = 3 - 1 = 2$.
 $V_2 = 31 - 3 = 28$,
 Therefore, $df = (2, 28)$ At 5% level of significance
 $f_{0.05} = 3.34$
 $f^* = 1.355866$

Table 6: Result off-Test of Significance

Computed f-ratio value	Critical f-ratio value	Test Result
1.355866	3.34	SI

SI= Statistically Insignificant
 The result shows that since $f_{0.05} > f^*$, we accept the null hypothesis and conclude that the

variable (DBC) and (LR) are insignificant on the entire regression plane.

Evaluation Based on Econometric Criterion

In this subsection, the following econometric tests are used to evaluate the result obtained from our model: and granger causality.

Result and Interpretation of Autocorrelation Test

Using the durbin-watson statistics, the region of no autocorrelation (positive or negative) is given as follows

$$du < d^* < (4 - du)$$

$$du = 1.57$$

$$d^* = 0.193079$$

$$4 - du = 4 - 1.57 = 2.43$$

By substitution, the region becomes:

$$3.57 > 0.193079 < 2.43$$

Table 7: Result of Autocorrelation Test

Clu	d*	4-du	Test Result
1.57	0.193079	2.43	Autocorrelation Present

The result shows that there is the presence of autocorrelation problem in the model as the computed Durbin Watson statistic does not fall within the zero autocorrelation region. Thus; there is

presence of autocorrelation, and the remedial measure to this is the use of the first difference equation, but the researcher will not go into this since this work is not for policy prescription.

Granger Causality Test: Result and Interpretation

The essence of causality analysis, using the granger causality test; is to actually

ascertain whether a causal relationship exists between two variables of interest.

Table 8: Result of Causality Test:
 Pairwise Granger Causality Tests
 Date: 09/10/18 Time; 10:46
 Sample- 19862016
 Lags. 2

Null Hypothesis:	Obs	F-Statistic	Prob.
DBC does not Granger Cause AGRIC AGRIC does not Granger Cause DBC	29	0.20745 148.715	0.8141 3.E-14
LR does not Granger Cause AGRIC AGRIC does not Granger Cause LR	29	0.08086 9.51877	0.9226 0.0009
LR does not Granger Cause DBC DBC does not Granger Cause LR	29	3.87498 95.6251	0.0348 4.E-12

Evaluating the result in table above based on the decision rule, we conclude that deposit money bank credit to the agricultural sector (DBC) does not granger cause agricultural output (AGRIC) but AGRIC granger causes DBC (uni

directional causality). On the other hand, the result equally reveals that lending rate (LR) does not granger cause agricultural output (AGRIC) but AGRIC granger causes LR (uni directional causality).

Evaluation of Research Hypotheses

From the t-test result in the table above, and based on our decision rule, we accept the null hypothesis (H_0) on deposit money bank credit to the agricultural sector (DBC) and reject alternative hypothesis (H_1) and we accept the null hypothesis (H_0) on lending rate (LR) and reject alternative hypothesis (H_1).

Therefore, we conclude that, deposit money bank credit to the agricultural sector (DBC) has insignificant impact on the agricultural output (AGRIC) and also lending rate (LR) has insignificant impact on the agricultural output (AGRIC) in Nigeria within the study period.

Implication of the Results

The result of this study indicates that deposit money bank credit to the agricultural sector has the potential to increase agricultural output in Nigeria. This is because deposit money bank credit to the agricultural sector exhibits positive relationship with the agricultural output in Nigeria. This is consistent with our a priori expectation. This is because deposit money bank credit to the agricultural sector is expected to stimulate the productive capacity of the sector through transfer of managerial, technical and technological skills that enhances sustainable agricultural output and development. The research results also indicate that deposit money bank credit to the agricultural sector is statistically insignificant in determining

agricultural output in Nigeria and this is because the Nigerian government normally allocates revenue to agricultural sectors for investment projects. Due to the power corrupt people, those who are in charge, misuse the funds; which should be used to improve and expand their managerial, technical and technological skills.

The result of this study further indicates that lending rate decreases agricultural output in Nigeria. That is, lending rate has a negative relationship on the agricultural output in Nigeria. This is consistent with our a priori expectation. Also, research results indicate that lending rate is statistically insignificant in determining agricultural output in Nigeria.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS.

The results from this study indicate that deposit money bank credit to the agricultural sector has insignificant and positive impact on agricultural output in Nigeria. This implies that, the higher the deposit money bank credit to the agricultural sector, the better the Nigeria's economy will be. The results further suggest that lending rate contribute

negatively to agricultural output in Nigeria and its impact on agricultural output is insignificant. The results further indicate that a unidirectional causality exists between deposit money bank credit to the agricultural sector and agricultural output, and lending rate with agricultural output.

CONCLUSION

In this study, we did an analysis of the impact of deposit money bank credit to agricultural sector on agricultural output over the years (1986-2016). Based on the findings of this research work, we conclude that for the period under review, the deposit money bank credit to

the agricultural sector exhibits insignificant, positive and unidirectional influence on agricultural output in Nigeria. On the other hand, lending rate reveals an insignificant, negative effect and unidirectional influence on agricultural output.

RECOMMENDATIONS

Based on the findings of this research, the following policy prescriptions are made for long term and sustainable economic growth in Nigeria. From the foregoing we therefore recommend as follows:

The study re-affirms the fact that one of the most important functions of banks and other financial institutions is to make credit available to the investors at affordable rate most especially to the agricultural sector. This is because low credit or high lending rate will amount to low level of investment which transmits to low agricultural output.

2. The government through its relevant authorities should design a favorable policy that enable banks to make credit more available to the agricultural sector for a massive development of that sector as this will help in job creation for the youths.

3. Government policies should focus on the enhancement of the internal economy, especially the stability of the economy to attract foreign direct investments that

will help to invest in our agricultural sector side to increase our output.

4. Improvement in the investment climate for existing domestic and foreign investors through infrastructure development; the availability of power, and changes in regulatory framework.

5. Monetary and fiscal policies directed at improving the performance of the economy need to be vigorously pursued. The government should be consistent with policy pronouncement and implementation as this will increase the level of confidence foreigners or foreign investors will have on our economy and equally create an opportunities for the citizen to borrow money from foreigners and financial institution.

6. Effective impact assessment and regulation of micro economic and local condition, through monitoring of benchmarks and business practice, voluntary guidelines, and transfer of environmentally sound technology.

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