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IMPACT OF COMMERCIAL BANK CREDIT ON AGRICULTURAL OUTPUT IN NIGERIA

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ABSTRACT

Purpose. *The purpose of this study was to investigate the impact of commercial bank credits on agricultural output in Nigeria over the period 1980 to 2015 by setting three specific objectives which are to examine the trend of commercial bank credit and agricultural output in Nigeria; to investigate the effect of commercial bank credit on agricultural output in Nigeria and to investigate the effect of commercial bank credit on subsector of agriculture in Nigeria. The trend analysis and the impact of commercial bank credit on subsector of agriculture in Nigeria make this work unique and different from other studies in this area. Trend analysis was used to achieve the first objective and fully modified ordinary least square (OLS) for objective two and three.*

Methodology. *The study employed Fully Modified Ordinary Least Squares (FMOLS) approach.*

Findings. *It was evidenced that interest rate on commercial banks' credit to agriculture and deposit money bank's assets are statistically significant in determine agricultural output in Nigeria within the period considered. Also, commercial bank loan on agriculture and deposit money bank's assets determine the output of crop production in Nigeria; commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of livestock production in Nigeria and commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of forestry in Nigeria while commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of fishing in Nigeria.*

Limitations. *This study is limited because the study does not include other variables that determine the output of agricultural sector in Nigeria. Also, other theories and methods can still be used by other researcher to make it different from this work.*

Originality. *This is an original work and has neither been published in any other peer-reviewed journal nor is under consideration for publication by any other journal.*

1. INTRODUCTION

The role of agriculture in human development cannot be overemphasized. This includes provision of the basic food requirements of human populations; it is the predominant occupation of the working population, especially in agrarian nations; an important way of life, culture and custom of the people (Olagunju and Ajiboye, 2010). Agriculture is the economic mainstay of the majority of households in Nigeria and is a significant sector in Nigeria's economy (Ayeomoni and Aladejana, 2016). The important benefits of the agricultural sector to Nigeria's economy include: the provision of food, contribution to the gross domestic product (GDP), provision of employment, the provision of raw materials for agro-allied industries, and generation of foreign earnings labour (until the early 1970s; agricultural exports were the main source of foreign exchange earnings) (Ogbonna and Osondu, 2015). Commercial banks have traditionally played an important role in financing agriculture. Commercial banks are interested in giving out loans and advances to their numerous customers bearing in mind the three principles guiding their operations which are profitability, liquidity and solvency. However, commercial banks decision to lend out loans are influenced by a lot of factors such as the prevailing interest rate, volume of deposits, the level of their domestic and foreign investment, banks liquidity ratio, prestige and public recognition to mention a few (Olokoyo, 2011).

One of the reasons for the fall in agricultural sector to GDP is lack of access to commercial banks credit to enable them to take advantage of economic opportunities to increase their level of output, hence move out of poverty. Credit constraint has plagued poor farmers and rural dwellers for many years and was thought to be a critical part of a package of inputs needed to boost agricultural production. Majority of farmers lack access to formal credit and this has continued to be a constraint limiting farmers' ability to adopt agricultural technologies and increase productivity. In spite of the importance of credit in agricultural production, its acquisition and repayment are fraught with a number of problems. Institutional problems such as the lending conditions which limit access of investors to credit facilities have not been adequately addressed. A large number of socioeconomic factors all play a role influencing farmers' ability to secure optimum credit. Such factors include risk of loan default, age of the farmers, location, and high interest rate charged by financial providers' (Ajibade, 2011). It is against this backdrop that this study attempts to examine the impact of commercial bank loan on agricultural output in Nigeria. The specific objectives are:

- (i) to examine the trend of commercial bank credit and agricultural output in Nigeria.
- (ii) to investigate the effect of commercial bank credit on agricultural output in Nigeria.

(iii) to investigate the effect of commercial bank credit on subsector of agriculture in Nigeria.

The general framework of this study is made up of five sections. Section one will bring to limelight the introduction of the study and section two involved the literature review. Section three based on methodology and section four focused on empirical analysis while section five based on conclusion and policy recommendations.

2. LITERATURE REVIEW

There are a lot of arguments in the literature on commercial bank credit and agricultural output. Imoisi *et al.*, (2012) examined credit facilities and agricultural output and productivity in Nigeria from 1970-2010. The results showed that there was a significant relationship between deposit money banks loans and advances and agricultural output. Kolapo, Ayeni and Oke, (2012) carried out an empirical investigation into the quantitative effect of credit risk on the performance of commercial banks in Nigeria over the period of 11 years (2000-2010). The results showed that the effect of credit risk on bank performance measured by the Return on Assets of banks was cross-sectional invariant. That is, the effect is similar across banks in Nigeria, though the degree to which individual banks are affected is not captured by the method of analysis employed in the study. A 100 percent increase in non-performing loan reduces profitability (ROA) by about 6.2 percent, a 100 percent increase in loan loss provision also reduces profitability by about 0.65 percent while a 100 percent increase in total loan and advances increase profitability by about 9.6 percent.

Ogbonna and Osondu, (2015) analyzed performance of formal credit sources by amount of loan disbursed to agriculture from 1992 to 2012 and determined factors that influenced volume of funds supplied to agricultural sector from formal sources in Nigeria from 1992 to 2012. The 2SLS results showed that the volume of funds supplied to agricultural production from formal sources was affected positively by interest rate and commercial banks' liquidity ratio and negatively by banks' cash reserve ratio (CRR) and index of World agricultural commodity prices. These variables were statistically significant at 1.0% level of probability except the index of World agricultural commodity prices which was significant at 5.0% alpha level. The diagnostic statistics posted R^2 and F-ratio values of 0.7904 and 6.46 respectively with Durbin Watson estimates of 2.323311. Ayeomoni and Aladejana (2016) emphasized that the significant role of agricultural sector cannot be underestimated in any nation. 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.

Filli *et al.* (2015) analyzed factors influencing credits access among small scale fish farmers in Adamawa State, Nigeria. Primary data on access to credits in the study area were collected from 150 respondents who were sampled using purposive and snowball technique from the study area. The result revealed that the coefficients of linear probability model indicate a high R^2 value (0.89) and F-Value was significant at 1% (103.285). Interest rate, farm insurance, payments period, age and subsidy were the positive and significant coefficients, while those of collateral on loan, installment of payment and formalities were negative and significant. The results also indicated that the major problems hindering access to credit were amount acquired, formalities involved and lack of collateral. Ololade and Olagunju, (2013) examined the determinants of credit access by rural farmers in Oyo state Nigeria. Data were collected with the aid of structured questionnaires, administered on 210 respondents using multistage sampling procedure. The data were analyzed with the use of descriptive statistics and logit model. The sigma values of the binomial ($\sigma^2 = 90.32$) logit model that measured the significance of model showed that the data fit the model reasonably well. The binomial logit model revealed that significant relationships existed between sex (-2.0187), marital status (-1.9786), lack of guarantor (2.1517), high interest rate (6.8263) and access to credit. The variables were significant at 10%.

Tawose (2012) investigated the effect of bank loans and advances on industrial performance in Nigeria between 1975 and 2009. The results showed that industrial performance co-integrated with all the identified explanatory variables. Industrial sector as dependent variable was proxied by real GDP, while Commercial Banks' Loan and Advances to Industrial Sector, Aggregate Saving, Interest rate, Inflation Rate, are the independent variables. This suggests that the behavior of real Gross Domestic Product contributed by industrial sector in Nigeria is significantly explained by the commercial banks' loan and advances to industrial sector, aggregate saving, interest rate and inflation rate. Uzomba and Chukwu (2014) investigated the impact and the determinants of Deposit Money Banks' loans and advances granted to agricultural sector in Nigerian sector from 1980 to 2011. The results of the study revealed that the overall model was statistically significant. Based on this, the study concluded that deposit money banks' loans and advances did make positive impact on the agricultural sector of Nigerian within the period of review.

Yakubu and Affoi (2014) analyzed the impact of the commercial banks credit on economic growth in Nigeria from 1992 to 2012. Using the ordinary least square it was found that the commercial bank credit has significant effect on the economic growth in Nigerian. As this was a good achievement, it requires more efforts to maintain and sustain it.

3. METHODOLOGY

The theoretical framework of this work is based on the financial intermediation theory. McKinnon and Shaw (1973) describes financial market as playing the central role in economic development. They attribute differences in economic improvement experienced in different countries to the quality and quantity of services provided by financial institutions. Financial institutions accept deposit from customers and channels the amount mobilized to borrowers in the form of loans and advances. Bank credits represent the amount of loan and advances to individuals and organizations from banking system. Production sector as used is a universal name for organizations in agriculture, manufacturing, mining and quarrying, and real estate and construction.

Based on the above theoretical framework, the model specification is given below.

$$AGDP = f(CBLAGRIC, AGRICEXP, INT, DMBA \& M_2) \tag{1}$$

Where AGDP = Agricultural GDP Output

CBLAGRIC = Commercial Bank Loan on Agriculture

AGRICEXP = Agriculture Expenditure by the Government

INT = Interest Rate on Commercial Banks' Credit to Agriculture

DMBA = Deposit Money Bank's Assets

M₂ = Money Supply

The linear regression is given below in equation (4.2)

$$AGDP = \beta_0 + \beta_1 CBLAGRIC + \beta_2 AGRICEXP + \beta_3 INT + \beta_4 DMBA + \beta_5 M_2 + u_t \tag{2}$$

The linear function of equation (4.2) is giving below

$$LNAGDP = \beta_0 + \beta_1 LNCBLAGRIC + \beta_2 LNAGRICEXP + \beta_3 INT + \beta_4 LNDMBA + \beta_5 LNM_2 + u_t \tag{3}$$

The a priori expectation is that a positive relationship would be established between agricultural output and each of commercial bank loan on agriculture, agricultural expenditure on commercial banks' credit to agriculture and deposit money bank's assets and money supply while a negative relationship will be established between agricultural output and interest rate on commercial banks' credit to agriculture (Uzomba *et al.*, 2014, and Agunuwa *et al.*, 2015).

Table 1.: A priori Expectation

Explanatory variables	Symbols	Hypothesis	Expected sign
Commercial bank loan on agriculture	CBLAGRIC	Commercial Bank Loan on Agriculture is expected to have a positive effect on agricultural GDP output.	+

Explanatory variables	Symbols	Hypothesis	Expected sign
Agriculture expenditure on commercial banks' credit to agriculture	AGRICEXP	Agriculture Expenditure is expected to have a positive effect on agricultural GDP output.	+
Interest rate on commercial banks' credit to agriculture	INT	Interest rate on commercial banks' credit to agriculture is expected to have a negative effect on agricultural GDP output.	-
Deposit money bank's assets and money supply	DMBA	Deposit money bank's assets and money supply is expected to have a positive effect on agricultural GDP output.	+
Money Supply	M ₂	Money Supply is expected to have a positive effect on agricultural output.	+

Source: Author's Computation.

The data used for the research work is basically time series data covering 1980 to 2015 because of the unavailability of data for some of the variables. The data were sourced from Central Bank of Nigeria's (CBN, 2015) Statistical Bulletin and World Bank's World Development Indicators (WDI, 2016). This particular scope was chosen in order to ascertain the impact of commercial bank credit on agricultural output in Nigeria during the period of military and civilian regimes.

4. ESTIMATED TECHNIQUE

The estimation technique include the pre-diagnostic and diagnostic test and the pre-diagnostic include unit root test and co-integration test while diagnostic test include fully modified ordinary least squares method (FMOLS) approach.

4.1. Unit Root Test

To examine the time series properties of the variables in the model the Augmented Dickey Fuller (ADF) test were conducted.

Table 2.: ADF (Augmented Dickey Fuller) Unit Root Test Result

Variable	Level		Status	First Difference	
	t*	ADF Critical Value		t*	ADF Critical value
DLNAGDP	-2.948404	-0.210806	I(1)	-2.951125	-5.527309
DLNCBLAGRIC	-2.948404	0.179424	I(1)	-2.951125	-4.553717
DLNAGRICEXP	-2.951125	-0.769519	I(1)	-2.951125	-10.79063
DINT	-2.948404	-1.132806	I(1)	-2.951125	-7.420087
DLNDMBA	-2.951125	-0.882445	I(1)	-2.951125	-9.533899
DLNG(M2	-2.951125	-0.845638	I(1)	-2.951125	-9.099340

Source: Author's Computation.

The study tests for unit roots on agricultural output, commercial bank loan on agriculture, agricultural expenditure on commercial banks' credit to agriculture, interest rate on commercial banks' credit to agriculture and deposit money bank's assets and money supply. The stationarity of the variables is tested by conducting the Augmented Dickey-Fuller (ADF). The study makes use of unit root in order of guarantee that our inference regarding the important issue of stationarity is unlikely driven by the choice of testing procedures used. The above result implied that all the variables are stationary at first different.

4.2. Co-integration Test

From the unit root test results, it is shown that some of the variables of the model are stable at level while some are stable at first difference. Consequently, it is still important to test for the presence of long-run relation among the variables so as to affirm the result of the unit root test i.e. co-integrating relationship. Co-integration test was carried out to establish the existence of a long-run association between the variables. The test result which was obtained using the Johansen co-integration technique is reported in the Tables 3. and 4.

Table 3.: Unrestricted Co-integration Rank Test (Trace)

Unrestricted Co-integration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.616722	78.76995	69.81889	0.0081
At most 1	0.442521	46.16415	47.85613	0.0715
At most 2	0.333844	26.29691	29.79707	0.1200
At most 3	0.283603	12.48504	15.49471	0.1351
At most 4	0.033126	1.145345	3.841466	0.2845

Notes: Trace test indicates 1 co-integrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Source: Author's Computation.

Table 4.: Unrestricted Co integration Rank Test (Maximum Eigen value)

Unrestricted Co-integration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.616722	32.60579	33.87687	0.0703
At most 1	0.442521	19.86724	27.58434	0.3504
At most 2	0.333844	13.81188	21.13162	0.3807
At most 3	0.283603	11.33969	14.26460	0.1380
At most 4	0.033126	1.145345	3.841466	0.2845

Notes: Max-eigenvalue test indicates no co-integration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Source: Author's Computation.

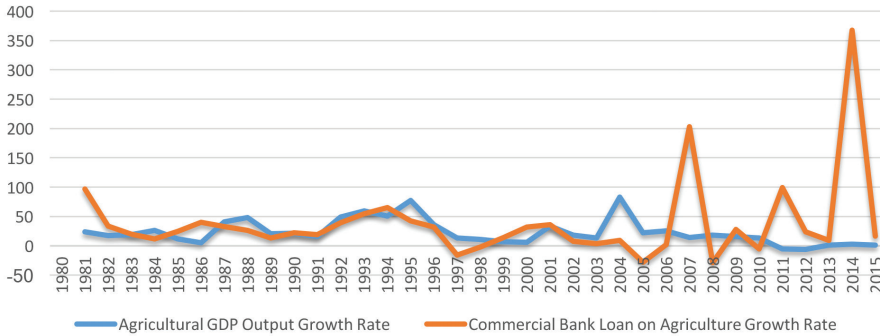
The test results indicate that the unrestricted trace rank test suggest one integrating vector in the model and unrestricted co-integration rank test (maximum Eigen-value) suggest the existence of no co-integrating vector in the model. Therefore, the implication of the result is that there is no long-run relationship among the variables.

4.3. Diagnostic Test

4.3.1. Objective one: to examine the trend of commercial bank credit and agricultural output in Nigeria

In order to achieve the first objective, trend analysis of the growth rate of both commercial bank credit and agricultural output in Nigeria from 1980 to 2015 were done and it is presented below.

Figure 1.: Trend of Commercial Bank Credit and Agricultural Output in Nigeria



Source: Author’s Computation.

From the Figure 1., the growth rate of commercial bank and that of agricultural output exhibit the same trend up to 2005 showing that as commercial bank loan to agricultural sector increases, this lead to increase in agricultural output in Nigeria. In 2006 and 2007, there was an exponential growth in commercial bank credit and this does not lead increase in agricultural output. In the same vein, the growth rate of commercial bank loan was negative in 2008 and this does not have any effect on agricultural output in the period. By 2009, the growth rate of commercial bank loan move out of negative and the growth rate of agricultural output still remain unchanged. Both the growth of commercial bank loan and agricultural output follows the same trend in 2010 and by 2011, there was an increase in the growth of commercial bank loan while that of the agricultural output was negative. Also there was a fall in the growth rate of commercial bank loan in 2012 and 2013 and agricultural GDP output follow suit and by 2014, there was an exponential growth increase in commercial bank loan to agricultural sector and this affected the growth rate of agricultural output because it increases little. The commercial bank reduces the amount of loan extended to agricultural sector and this affect the growth of agricultural output big time.

From the above, the general observation is that growth rate of commercial bank loan to agricultural sector has not be stable over the period considered in this study as well as that of agricultural output. They both exhibit upward and downward trend over time.

4.3.2. Objective two: to investigate the effect of commercial bank credit on agricultural output in Nigeria

In order to achieve asymptotic efficiency, fully modified ordinary least squares method (FMOLS) will be used to account for serial correlation effects and test for the endogeneity in the regressors that result from the existence of Co-integrating Relationships”. The FMOLS method produces reliable estimates for small sample

size and provides a check for robustness of the results and for estimation of a single co-integrating relationship that has a combination of I(1) since the stationarity test confirmed it.

Table 5.: The FMOLS Result of Effect of Commercial Bank Credit on Agricultural Output in Nigeria

Dependent Variable: LNAGDP			
Variable	Coefficient	Prob.	
DLNCBLAGRIC	0.235621	0.0000*	
DLNAGRICEXP	0.001819	0.9403	
DINT	-0.131819	0.0015*	
DLNDMBA	0.190430	0.0002*	
DLNM2	-0.001968	0.9375	
C	20.39837	0.0000*	
R-squared 0.989914			
Adjusted R-squared 0.988175			

Note: *, ** and *** denote 1%, 5% and 10% level of significance respectively
 Source: Author's Computation.

From Table 5., the R-squared of 0.989914 showed that the explanatory variables i.e. commercial bank loan on agriculture, agricultural expenditure on commercial banks' credit to agriculture, interest rate on commercial banks' credit to agriculture, deposit money bank's assets and money supply can only explained about 98.9% of the variation in agricultural GDP output. The Adjusted R-squared of 0.988175 means that all the explanatory variables can only explained 98.8% of the total variation in agricultural GDP output.

Also from the coefficient, it was observed that commercial bank loan to agricultural sector, interest rate on commercial banks' credit to agriculture and deposit money bank's assets are statistically significant in determine agricultural output in Nigeria within the period considered while commercial banks' credit to agriculture and money supply are statistically insignificant in determine agricultural output in Nigeria. This implies that commercial bank loan to agricultural sector exhibit a positive significant relationship with agricultural output and as a result, a percentage increases in commercial bank loan to agricultural sector will bring about 0.235621% increases in agricultural output and also, interest rate on commercial banks' credit to agriculture exhibit a positive significant relationship with agricultural output meaning that any increase in interest rate on commercial banks' credit to agriculture will bring about 0.131819% decrease in agricultural output in Nigeria. This is an indication that any increase in interest rate on commercial banks' credit to agriculture will discourage farmers from borrowing from commercial bank and this will affect the agricultural output negatively while deposit money bank's assets exhibit a positive relationship with agricultural output in Nigeria, as deposit money bank's assets increases, agricul-

tural output will increase by 0.190430%. Lastly, all the explanatory variables follow the expected sign except for money supply.

4.3.3. Objective three: to investigate the effect of commercial bank credit on subsector of agriculture in Nigeria

In order to make the work unique and different from the past study, fully modified ordinary least square (FMOLS) regression will be carried out on the four subsector of agricultural to know which of the explanatory variables determine their output and it is given below in Table 5.

Table 6.: Fully Modified OLS (FMOLS) on the Effect of Commercial Bank Credit on Subsector of Agriculture in Nigeria

Dependent variable is subsectors of Agricultural output				
	Crop Production	Livestock Production	Forestry	Fishing
Regressor	Coefficient with [Prob]	Coefficient with [Prob]	Coefficient with [Prob]	Coefficient with [Prob]
DLNCBLAGRIC	0.294 [0.000]*	1.512 [0.000]*	2.251 [0.000]*	5.486 [0.000]*
DLNAGRICEXP	0.018 [0.549]	-1.57 [0.393]	-1.826 [0.624]	4.006 [0.712]
DINT	-0.012 [0.634]	-3.961 [0.020]**	-8.279 [0.017]**	-2.072 [0.039]**
DLNDMBA	0.106 [0.052]**	-2.900 [0.412]	-7.153 [0.315]	-1.341 [0.520]
DLNM2	0.032 [0.383]	3.396 [0.132]	3.595 [0.428]	1.230 [0.353]
C	3.961 [0.000]*	-1.2503 [0.000]*	-1.430 [0.000]*	-5.541 [0.000]*
R-squared	0.9823	0.939	0.867	0.862
Adj R-squared	0.980	0.930	0.849	0.844

Note: *, ** and *** denote 1%, 5% and 10% level of significance respectively

Source: Author's Computation from E-views 7.

From the above, it could be seen that commercial bank loan on agriculture and deposit money bank's assets exhibit a positive significant relationship with output of crop production in Nigeria while agricultural expenditure on commercial banks' credit to agriculture and money supply exhibit a positive insignificant relationship with output of crop production in Nigeria while interest rate on commercial banks' credit to agriculture exhibit a negative insignificant relationship with output of crop production in Nigeria. Percentage increase in commercial bank loan on agriculture will bring about 0.294% increase in output of crop production and percentage increase in deposit money bank's assets will bring about 0.106% increase in output of

crop production. Also, the R-squared of 0.9823 showed that the explanatory variables can only explained about 98.2% of the variation in output of crop production in Nigeria. The Adjusted R-squared of 0.980 means that all the explanatory variables can only explained 98% of the total variation in output of crop production in Nigeria.

In the same vein, commercial bank loan on agriculture exhibits a positive significant relationship with output of livestock production in Nigeria and interest rate on commercial banks' credit to agriculture exhibit a negative significant relationship with output of livestock production in Nigeria while money supply exhibit a positive insignificant relationship with output of livestock production in Nigeria and both the agricultural expenditure on commercial banks' credit to agriculture and deposit money bank's assets exhibit a negative insignificant relationship with output of livestock production in Nigeria. Percentage increase in commercial bank loan on agriculture will bring about 1.512% increase in output of livestock production and percentage increase in interest rate on commercial banks' credit to agriculture will bring about 3.961% decrease in output of livestock production. Also, the R-squared of 0.939 showed that the explanatory variables can only explained about 93.9% of the variation in output of livestock production in Nigeria. The Adjusted R-squared of 0.930 means that all the explanatory variables can only explained 93% of the total variation in output of livestock production in Nigeria.

Furthermore, commercial bank loan on agriculture exhibit a positive significant relationship with output of forestry in Nigeria and interest rate on commercial banks' credit to agriculture exhibit a negative significant relationship with output of forestry in Nigeria while money supply exhibit a positive insignificant relationship with output of forestry in Nigeria and both the agricultural expenditure on commercial banks' credit to agriculture and deposit money bank's assets exhibit a negative insignificant relationship with output of forestry in Nigeria. Percentage increase in commercial bank loan on agriculture will bring about 2.251% increase in output of forestry and percentage increase in interest rate on commercial banks' credit to agriculture will bring about 8.279% decrease in output of forestry production. Also, the R-squared of 0.867 showed that the explanatory variables can only explained about 86.7% of the variation in output of forestry in Nigeria. The Adjusted R-squared of 0.849 means that all the explanatory variables can only explained 84.9% of the total variation in output of forestry in Nigeria.

Finally, commercial bank loan on agriculture exhibit a positive significant relationship with output of fishing in Nigeria and interest rate on commercial banks' credit to agriculture exhibit a negative significant relationship with output of fishing in Nigeria while agricultural expenditure on commercial banks' credit to agriculture and money supply exhibit a positive insignificant relationship with output of fishing in Nigeria and deposit money bank's assets exhibit a negative insignificant relationship with output of fishing in Nigeria. Percentage increase in commercial bank loan

on agriculture will bring about 5.486% increase in output of fishing and percentage increase in interest rate on commercial banks' credit to agriculture will bring about 2.072% decrease in output of fishing. Also, the R-squared of 0.862 showed that the explanatory variables can only explained about 86.2% of the variation in output of fishing in Nigeria. The Adjusted R-squared of 0.844 means that all the explanatory variables can only explained 84.4% of the total variation in output of fishing in Nigeria.

5. CONCLUSION AND POLICY RECOMMENDATIONS

The study investigated the impacts of commercial bank credit on agricultural output in Nigeria over the period 1980 to 2015 and the study concluded that commercial bank loan to agricultural sector, interest rate on commercial banks' credit to agriculture and deposit money bank's assets are statistically significant in determine agricultural output in Nigeria within the period considered. Also, commercial bank loan on agriculture and deposit money bank's assets determine the output of crop production in Nigeria; commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of livestock production in Nigeria and commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of forestry in Nigeria while commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of fishing in Nigeria.

Therefore, commercial banks in the nation should increase their loan channel to agriculture for a better performance of both the subsector of agriculture and the sector has a whole. Also, government should subsidized agricultural sector which remain one of the sector that propel growth in Nigeria.

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