

Causal of Financial Deepening and the Agricultural Credit Guarantee Scheme Funding in Nigeria

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Abstract:-The Agricultural sector is seen as an environment that contributes to the Nigerian foreign exchange, regrettable it seems to have been substituted for petroleum (crude oil). The mandate for agricultural produce is aimed for food security and to fast-track Nigerian sustainable development goals thereby need for the establishment of the Bank of Agriculture (BOA). The birth of this institution gave rise to the Agricultural Credit Guarantee Scheme Fund (ACGSF) to revitalise the economy through loanable income. Despite this intervention, it appears that the value chain and the reduction of the rural-urban migration have not been achieved. The study therefore critically examined the causal relationship between financial deepening and agricultural credit guarantee scheme funds in Nigeria. The study adopted a broad money supply (BMS,) and credit to the private sector (CPS) as measures of financial deepening. Moreover, the data was sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and prorated, while (ACGSF) was sourced from BOA database. All data were monthly from January 2017 to December 2018 and was analysis using the Ordinary Least Squares (OLS). The findings reported that ACGSF had a negative and insignificant causal relationship with BMS, but revealed a positive and significant causal relationship with (CPS). The outcomes led to suspect of high inflation as possible cause to the behavior of money supply. The study concluded that BMS constitutes a significant variable of study that affects negatively on (ACGSF) in Nigeria that demands the monetary policy attention. Finally, the study recommends the (CBN) to effect downward review of the inflation rate and strengthens the cash policy.

Keywords: - Bank of Agriculture, Credit to Private Sector, Broad Money Supply, Agricultural Credit Guarantee Scheme Fund, OLS, & Nigeria.

I. INTRODUCTION

The activities of agriculture can be pictured as a catalyst for economic growth through financial intermediation. Agriculture is an economic activity that has been poorly devoted over the years. Agriculture by concept is the production

of crops and rearing of animals for man use. It is one of the most viable sectors that play a supplementary role to the Nigerian petroleum products. Agriculture production guarantee food security, income generation, employment, provides foreign exchange and raw materials as well as facilitates recreational activities in any economy. The greatest task for sustaining self-sufficiency is raising the production. And as such, the cost of money and machinery is expected to improve production capacity in which agriculture credit is one.

It is on the above idea the Nigerian government nursed and established the Agricultural Credit Guarantee Scheme for sustainability. The scheme was introduced in the year 1977 through the former Nigerian Agricultural and Co-operative Bank (NACB) for food sustainability. Although, in October 2001, following the Federal Government efforts to streamline the operations of its agencies, the NACB and the risk assets of the Family Economic Advancement Programme (FEAP) were merged to form Nigerian Agricultural Co-operative Rural Development Bank Limited. It was ten years later in October 2010 the Bank was rebranded and gave birth to the Bank of Agriculture (BOA) Limited for institutional transformation programme. The BOA does not operate in isolation, so it partners with the Nigerian Meteorological Agency (NIMET), the Central Bank of Nigeria (CBN), National Agricultural Extension and Research Liaison Services (NAERLS), National Centre for Agricultural Mechanization (NCAM), Nigerian Economic Summit Group (NESG), Association of African Development Finance Institutions (AADFI), Nigerian Agricultural Insurance Corporation (NAIC), Nigerian Commodity Exchange (NCX), and the Nigerian Export-Import Bank (NEXIM), with outlets over the country.

The notion for such integration is to achieve the core mandate and provides among other opportunities for self-employment in the rural areas, thereby reducing rural-urban migration. Following these lofty strengths, it is expected that Nigerian per capita income ought to have been appreciated. The study of Marty (1961) pointed out that the government sector creates money which is used either to purchase goods and services or to make transfer payment. It is surprising to say again that the Agricultural credit guarantee is 60% owned by

the Federal Government and 40% by the Central Bank of Nigeria, and this information is yet to be a channel or being useful to the target audience. Inadequate publicity and poor loan administration are some of the constraints found in the Nigerian Bank of Agriculture as stated by Orjih, (1996). So, those individuals and corporate bodies that are privy to the information grasp it and change their prospects. This suggests financial intermediations principles that tend to revolve in nexus with financial deepening and the Bank of Agricultural Credit Guarantee Scheme in Nigeria. An earlier work by Pischke and Adams (1980) identified agricultural credit as an important element in developing the lowest income countries. This shows that proper management of the BOA can aid Nigerians. Besides, Marty (1961) has argued the model introduced by Gurley and Shaw that it is a governmental banking system that determines the nominal stock of money while the public determines the real stock. Moreover, Love (1994) pointed out that the rapid expansion of other mineral sectors in Botswana created relative price disadvantages in the agricultural sector, though it was positively correlated to output in the country. While Heidhues, Davis, and Schrieder (1998) observed that building an efficient rural finance system to address the financial demands of the private agricultural sector requires a multi-level approach in Roman. As such innovations are needed to be tackled and make it mandatory not to default loans being granted by the banks.

Meanwhile, Seibel and Schmidt (2000) indicated that if financial services are offered without a credit bias, demand for savings deposits services exceeds demand for credit by a wide margin. The character and the capacity of some borrowers that are questioned need a holistic background-checked. Notwithstanding Kydd, Dorward, Morrison, and Cadisch (2007) described that agriculture has a critical role to play for the concern widespread of poverty and food insecurity in the Sub-Africa, and largely by default as there are few other candidates with similar potentials to the broad-based pro-poor growth. Ali, Deininger, and Duponchel (2014) postulated that the elimination of all constraints could increase output by 17 percent.

The above experience has suggested that economic growth can be derived from the Nigerian agricultural sector if the borrowers and the lenders complied. Thus, the relationship between financial deepening and the Bank of Agricultural credit guarantee scheme can be better illustrated in the theory of financial intermediation. The theory is built on informational and the agency. A bank is a financial intermediary that creates credit by lending money to borrowers. Leland and Pyle (1977) described financial intermediaries as a union that handles with the supply of information. However, the generation of information asymmetry would lead to the emergence of some specific forms of transactional cost. Besides, the theory introduction is to eliminate unspecific costs. So, in a relationship between borrowers and lenders, the main aspect of

evaluation is the function of the bank and the tracking of the granted loans.

It can be arguable that despite the improved savings mobilisation over these periods, there appears no support from the agricultural credit guarantee scheme fund to provide adequate value chain activities in Nigeria. This gap motivated the study. Thus, the study filled this cavity to examine the causal relationship of financial deepening and Agricultural Credit Guarantee Scheme Funding in Nigeria. Therefore, the aim is to examine the causal relationship of financial deepening in broad money supply, credit to private sector, and Agricultural Credit Guarantee Scheme Funding in Nigeria using monthly data from January 2017 to December 2018. The study questioned, thus; what is the extent of the causal relationship between financial deepening in broad money supply, credit to private sector, and Agricultural Credit Guarantee Scheme Funding in Nigeria? Hypothetically, there is no positive and significant causal relationship between financial deepening in broad money supply, credit to private sector, and Agricultural Credit Guarantee Scheme Funding in Nigeria. Scholars/Academics, Policymakers, Industrial Practitioners, and the general public are expected to be beneficiaries of the findings arising from the study.

II. LITERATURE REVIEW

The financial theory postulated that informational asymmetry may lead to the emergence of some specific forms of transactional cost. As stated by Gurley and Shaw (1960) that financial intermediation is based on informational asymmetry. The asymmetry can be ex-ante that is breeding the issue of adverse selection, moral hazard, or the ex-post leading to the need for cost verification and auditing/execution of the debtor. The theory of financial intermediation performs the role of efficient allocation of funds from the surplus to the deficit units. As stated by Gurley and Shaw (1960) that the economy is divided into spending units and financial intermediaries. A bank is said to be the intermediary that provides funds to individuals and corporate bodies in the form of debt. Though, aggregates debt is said to increase at a faster pace, if an increasing portion of direct debt moves into the portfolio financial intermediaries, Gurley and Shaw (1960). Morrison (1967) argued the submission of Gurley and Shaw that the assumptions are only necessary to ensure significant adjustment to marginal changes in the rate of interest. And that the viability of the model only rests to relevant economic variables that respond to the changes in the interest rate and classified the model at early development to be somehow dubious. This idea brings to the knowledge of loanable fund theory as perfected by Robertson (1934). The theory in itself suggests that interest rate is being determined by the demand and supply of loanable funds which include credit but not only. The theory tries to elucidate the causation in the nexus of financial deepening on the Bank of Agriculture in Nigeria. In this context Robertson (1934) further stated that

there are connections that distinguish between rates charged by banks and market rates charged by outside lenders. In this case, the study is concentrated only on the Bank of Agriculture in Nigeria that has a fixed interest rate on the borrowed sum. Although, the theory does not explicitly connote financial deepening strategies which this study tends to discover. So, the study explicitly examined the causations of financial deepening and the Agricultural credit guarantee scheme funding in Nigeria in the relationship of financial intermediation and loanable fund theories empirically.

Sahu and Rajasekhar (2006) assessed the banking sector reform and credit flow of agriculture in India. The study asks questions to uncover the interest rate elasticity of the supply of agricultural credit using total outstanding credit provided by commercial banks to the agricultural sector between 1981 and 2000. Aftermath, the study stated that deregulation of interest rate may be of help to the formal agencies for enhancing the proportion of disbursement to the agricultural sector with the overall net bank credit.

Satish (2007) examined the agricultural credit in the post-reform era with the focus of the systematic policy. The study considered negative policies on credit for agriculture. The study more disturbed about the disincentives of credit flow to agriculture through the automated request of Basel norms and the cuddle on resources available for agricultural credit process. The study discovered the need to reverse the systematic policy for agricultural credit. That it is the successful promotion of financial deepening which would ensure an uninterrupted flow of credit to agriculture.

Marsden and Sonnino (2008) investigated the rural development and the regional state of multifunctional agriculture in the United Kingdom. The study argued that multifunctional activity adds income to agriculture. Also, the agricultural multifunctional has occurred recently through the shift from a sectoral to a regional and territorial perspective that reintegrates farming into rural development. The Basic constraints facing England are that the UK government has been unable to turn multifunctional activities into a real rural development but has continued to justified allocation to agriculture.

Poulton and Macartney (2012) appraised the public-private partnerships leverage investment in agricultural value chains in Africa. The study traced the methods that contribute to failure that affects chains and brings the attention of principal-agent theory to asses' encounters. The findings reveal a positive impact on investment and traced the state failures for undermining the effectiveness of public-private-partnerships.

Shahbaz, Shabbir, and Butt (2013) analysed the effect of financial development on agricultural growth in Pakistan. The study employed the Cobb-Douglas function factor of

production between 1971 and 2011. The autoregressive distributive lag (ARDL), vector error correction model (VECM), and the Granger causality tests. The findings revealed a long-run relationship. Further, there was an existence of financial development positively and significantly affect agricultural growth.

Toby and Peterside (2014) evaluated the role of Banks in financing the agriculture sector between 1981 and 2010 in Nigeria. The study adopted two multiple regression models using the software package for social science (SPSS). The study found a 33.5% contribution of agriculture to the gross domestic product growth rate. While the study inferential results reveal a significant weak correlation between agriculture and the growth rate of the Nigerian economy. Further, the beta results show that agriculture contributed up to 48.22% to gross domestic product. The study however recommends for a mandatory sectoral allocation of credit with appropriate incentives to boost the flow of bank credit.

Hartarska, Nadolnyak, and Shen (2015) investigated agricultural credit and economic growth in rural areas. The study adopted commercial banks and farm credit system institutions from 1991 to 2010 in rural areas. Also, applied panel data sets and fixed effects models to a causal effect of credit supply on agricultural growth rate. The findings reveal a positive relationship between agricultural lending and growth rate. Also, there was a positive link between credit and economic growth in rural areas.

Ayeomoni and Aladejana (2016) ascertained the connection between agricultural credit and economic growth in Nigeria. The study used data between 1986 and 2014 from the Central Bank of Nigeria (CBN) and the National Bureau of Statistics for analysis of the autoregressive distributive lag (ARDL). The results show a relationship between agricultural credit and economic growth. The study considered economic growth to have been influenced by changes in variables such as credit to the agricultural sector, interest rate, etc.

Udoka, Mbat, and Duke (2016) determined the effect of commercial banks' credit on agricultural production in Nigeria. The study adopted the ordinary least squares regression on agricultural credit guarantee scheme fund and agricultural production. The results reveal a positive and significant relationship between commercial bank credit and agricultural production. On the other side, a negative relationship existed between government expenditure on agriculture and agricultural production in Nigeria.

Noroozi and Hosseinpoor (2017) examined the effects of financial deepening and repression on value-added in the agricultural sector of Iran. The assessed the study between 1971 and 2013 using the Johansen co-integration model. The results found financial intermediaries to be a significant positive impact on the agricultural sector. Consequently, the study

called on the government and banks to launder support for agricultural output in form of credit schemes.

However, the above review needs cautiousness as a portion of these works have presented just a slight gap and fusion which this study tends to fill and contribute to the current literature. Moreover, it is arguable that this interpretation from the casual relationships of financial deepening and agricultural credit guarantee scheme funds in Nigeria is within the financial sector can be explained by the causation of broad money supply and credit to the private sector on Bank of Agriculture activities management. Accordingly, it may extend the present studies in this area as none of the reviewed trailed the route of this study. Besides, the study adopted a novel estimation approach using recent monthly data sets between 2017 and 2018. The study also applied the Ordinary Least Squares (OLS) Regression model the short-run causal relationship of financial deepening and agricultural credit guarantee scheme fund in Nigeria, in which the earlier works were not captured. This awareness may bring uncommon results and becomes current to the obtainable frame of information.

III. METHODOLOGY

The study is country-specific. So, the *ex-post facto* research design is found appropriate for the work. The *ex-post facto* research plan is fit for a work of quasi-experimental. Justly, it is an attempt to disclose the causation of financial deepening and agricultural credit guarantee scheme fund in Nigeria. This can be explained by the causal relationship of financial deepening in broad money supply, credit to the private sector, and agricultural credit guarantee scheme fund in Nigeria. This work adds in its design, the econometric/analytical design to the approval of the *ex-post facto* design.

The data sets for empirical estimation in this study have two major properties. The data was secondary and monthly basis time-series. The time series data sets followed a regular time-frequency of agricultural credit guarantee scheme fund, while the financial deepening of broad money supply and credit to private were prorated to put all variables at the same level. In this case, monthly basis data were used for both the dependent and explanatory variables. In terms of sources, data were extracted from the Central Bank of Nigeria fact books of various issues and the Bank of Agriculture of Nigerian database. This study covers the Nigerian location precisely causal relationship of financial deepening in broad money supply, credit to the private sector, and agricultural credit guarantee scheme fund in Nigeria. It can arguably be said that the sets of data are in monthly time-series forms between 2017 and 2018.

The theoretical outline of this study is the Loanable Interest Theory (LIT) perfected by Robertson (1934) and the

Financial Intermediation Theory (FIT) by Gurley and Shaw (1960). These theories take into justification the systematic factors usually across between creditors and debtors' relationships. The theory in itself provides relevant information concerning financial deepening that captured agricultural banking activities so it needs to be empirically determined. The study adopted the Ordinary Least Squares (OLS) regression model to critically and empirically examine the LIT and the FIT functional approach. The attempt is to validate or invalidate these concepts via the (OLS) regression model. According to Lewis-Beck (1980), OLS can be used to estimates the relationship between one or more independent variables and the dependent variables. Hence, the OLS model becomes more appropriate for modeling joint dynamics and the causal relationship concerning the financial environment. Besides, the study period is two years and is a monthly basis.

Expressing the LIT/FIT functionally appears thus:

$$ACGSF = f(\text{financial deepening}) \text{-----} \text{eq. 1}$$

Taking ACGSF to be Agricultural Credit Guarantee Scheme Fund being performance index and Financial Deepening as an indicator of broad money supply and credit to private sector. Thus, the study empirically estimates the functional relationships as follows:

$$ACGSF_r = f(BMS_r, CPS_r) \text{-----} \text{eq. 2}$$

From the theoretical perspective, this study is designed to prove the reality or otherwise of the FIT/LIT using variables from Nigeria. The above equation can be written in a mathematical form, thus

$$ACGSF = Y_t = \alpha + \beta_0 Y_t + \beta_1 BMS_{t-1} + \beta_2 CPS_{t-1} + \mu_t \text{-----} \text{eq. 3}$$

By and large, the regression forms, thus, eqs. 1, 2, and 3 can be rewritten in econometric form, thus:

$$ACGSF_t = Y_t + \beta_0 ACGSF_t + \beta_1 BMS_{t-1} + \beta_2 CPS_{t-1} + \mu_t \text{-----} \text{eq. 4}$$

Where all the variables are as stated above and β_{0-2} = the constant (the value of the dependent variable when all the repressor are at zero); β_1, β_2 is the coefficient of the independent variables and μ_t is the noise or error term.

The model's variable of this study is the Agricultural Credit Guarantee Scheme Fund as a broad dependent variable that is impacted by the broad money supply, credit to the private sector as independent variables.

The estimation process for this study follows the Descriptive analysis, Diagnostic tests, Test of Hypothesis of the Ordinary Least Squares Regression Model Short-term

Estimations. These sets of tests were designed to validate the goodness of the data sets for Unit Root stationary of the variables. The traditional Augmented Dickey and Fuller (1976) ADF test is adopted to show the unit root properties of the series following equation being specified below.

$$\Delta y_t = \beta_1 + \delta y_{t-1} + \alpha_i \sum_{i=1}^m \Delta y_{t-i} + \mu_t \text{ ----- eq.5}$$

Where the test is for $H_0 = \delta = 0$ and $H_1 = \delta < 0$.

Lag selection will be based on the Bayesian Criterion generated automatically by the estimation software following the form of equation 6 below:

$$BIC = \ln(n)K - 2\ln(\hat{L}) \text{ ----- eq.6}$$

Where:

n represents either the sample size, the number of observations, or the number of data points in x.

k represents free parameters to be estimated.

\hat{L} represents the maximized value of the likelihood function for the estimated model M given as $\hat{L} = \mathcal{L}(\hat{\theta}, \mathcal{M})$

Ordinary Least Squares Representation

Error correction model is possible to test the short-term run effect through the speed of adjustment on agricultural credit guarantee scheme fund impact shocks emanating from the financial deepening. This will follow the form specified below:

For the Model ACGSF as the dependent variable:

$$\begin{aligned} \Delta kACGSF_t = & \beta_0 + \sum_{i=1}^n y_i \Delta ACGSF_{t-i} + \sum_{i=1}^{n1} \beta_1 \delta_i \Delta BMS \\ & + \sum_{i=1}^{n2} \beta_1 \delta_i \Delta CPS + \phi z_{t-1} + \varpi_{1p} BMS_{t-1} \\ & + \varpi_{1p} CPS_{t-1} + \mu_t \text{ ----- eq.7} \end{aligned}$$

All the variables are discussed above with combined modeling of the short-run coefficients in the Ordinary Least Squares framework.

A-Priori expectations:

The priori expectations are derived from underlying theoretical relationships been the dependence and each of the employed explanatory variables. These are presented as follows;

Broad money supply: Fundamentally, a rise in the money supply would imply increase the availability for business opportunities which directly raises the Agricultural credit scheme fund. Savings and investments, thereby, yielding a sensitivity greater than zero for GDP, i.e. $\beta_1 > 0$.

Credit to private sector: Fundamentally, an increase in the credit to private sector earnings would convert to increase investments and subsequently, on the economy thereby, directly boosting banking liquidity prospects. Hence, the sensitivity of the agricultural banking fund credit to the private sector is expected to be greater than zero, i.e. $\beta_2 > 0$.

All the variables are discussed above with combined modeling of the short-run coefficient in the error correction framework. Therefore, the summary of priori expectations from the model's tests of the hypotheses are given as follows:

$$ACGSF_t = \beta_0 + \beta_1 BMS_t + \beta_2 CPS_t + \varepsilon_t \text{ ----- eq.8}$$

Thus, the priori expectation with regards to this is $\beta_1 > 0, \beta_2 > 0$,

To ensure that estimates are valid, efficient, and unbiased inferences in this study, the diagnostic test contained in table 1 below shall be adopted.

S/No	Test Name	Test Function	Decision Rule
1.	Coefficient of Correlation (R^2)	To measure the goodness of fit of the model	It is between 0 and 1. The higher the R^2 the better the fit.
2.	Probability	To test the significance of the regression	The p-value of less than 0.05 suggests it is good enough inferences acceptance.
3.	t- Statistics	To confirm the significance level	t- Statistics higher than 1.96 shows evidence of significant.
4.	Durbin Watson Statistics	To measure the first-order autocorrelation	DW approximately 2 shows evidence against the first-order autocorrelation.

Table 1: Summary of Adopted Diagnostic Tests
Source: Author's Compilation.

Inferences in this study are based on the outcome of the estimation approaches as well as conclusions drawn based on the tested hypotheses. The choice level of significance for all

tests is 0.05 or 5% level. All estimations are done by the use of E-views estimation software version 10.

IV. RESULTS PRESENTATION AND DISCUSSION OF FINDINGS

Presentation of Data

The base data for this study are presented in table 2 below:

Table 2: Monthly data of Agricultural Credit Guarantee Scheme Fund (ACGSF), prorated Broad Money Supply (BMS), and Credit to Private Sector (CPS) for the period from January 2017 to December 2018

Date	ACGSF	BMS	CPS
31-01-17	2525	1863.61	1841
28-02-17	4721	1863.61	1841
31-03-17	1806	1863.61	1841
30-04-17	4018	1863.61	1841
31-05-17	2334	1863.61	1841
30-06-17	3188	1863.61	1841
31-07-17	1592	1863.61	1841
31-08-17	6473	1863.61	1841
30-09-17	4458	1863.61	1841
31-10-17	4270	1863.61	1841
30-11-17	2092	1863.61	1841
31-12-17	3590	1863.61	1841
31-01-18	1314	2089.97	1876.82
28-02-18	2243	2089.97	1876.82
31-03-18	1393	2089.97	1876.82
30-04-18	1532	2089.97	1876.82
31-05-18	1494	2089.97	1876.82
30-06-18	2444	2089.97	1876.82
31-07-18	3272	2089.97	1876.82
31-08-18	4172	2089.97	1876.82
30-09-18	5080	2089.97	1876.82
31-10-18	3055	2089.97	1876.82
30-11-18	2399	2089.97	1876.82
31-12-18	2214	2089.97	1876.82

Source: Extracted from BOA database and the CBN Statistical Bulletin, and computed by Author.

ADF Unit Root Test

ADF Unit Root Test Results

The results of the Unit root test are presented in table 3 below:

Table 3: ADF Unit Root Test Results

Differenced variable	ADF-Test Statistic	Test of Critical Level			Order of integration	Probability Value
		1%	5%	10%		

D(ACGSF)	-9.411710	-3.769597	-3.004861	-2.642242	1(1)	0.0000
D(BMS)	-4.690416	-3.769597	-3.004861	-2.642242	1(1)	0.0013
D(CPSR)	-4.690416	-3.769597	-3.004861	-2.642242	1(1)	0.0013

Source: Extracted from E-views 10

ADF Results analysis

In the above, the results of Augmented Dickey-Fuller (ADF) test statistics indicate that all variables became stationary at first difference. ADF-Test Statistic **-9.411710**, **-4.690416**, and **-4.690416** are greater than the respective critical level values of -3.004861, -3.004861, and -3.004861. Moreover, the respective probability values of **0.0000**, 0.0013, and 0.0013 are all less than 0.05 significance level conducted with the trend and intercept, therefore the study refuses to accept the alternate hypothesis that there are unit-roots. So the data are free from spurious and can be used for analysis.

Descriptive Analysis

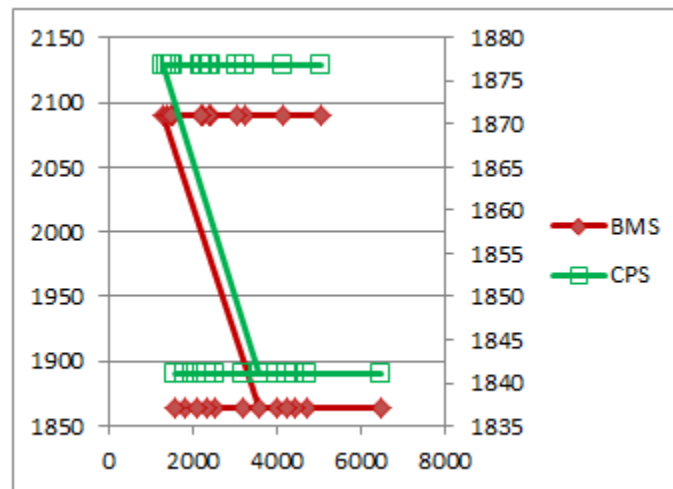


Fig. 1: BMS and CPS Relationship with ACGSF in Nigeria from 2017 to 2018.

Source: Researcher’s extract from Microsoft

Figure 1 below is a graphical representation of the relationship of the values between BMS and CPS to ACGSF in Nigeria from January 2017 to December 2019 activities. This is in line with the descriptive analysis. Normally, it is expected that other factors need to be analysis in the descriptive studies, but for this, the line graph is used to explain the influence of the relationship. Observing the graph, BMS is within the performance level of 2100 and CPS above 2100 or say at 2150 on ACGSF in Nigeria. Going through this, it can be arguable that CPS appears to be positive, and BMS may be negatively related to ACGSF. Though, this observation needs caution as it is not empirically examined.

Diagnostic Tests

The study carried out some diagnostic tests to affirm the validity and reliability of the used estimates in the test of our formulated hypotheses.

Serial Correlation Test

The null hypothesis specified that there is no serial correlation of any residuals up to the specified order. This test is based on serial correlation and follows the form set by Durbin-Watson.

Durbin-Watson serial correlation Test	
Test-statistic	1.857337

Table 4: Durbin-Watson serial correlation results

Source: Researcher extract from E Views 10.0 output

The Hypotheses for Durbin Watson test

Ho = no first-order autocorrelation
 Ha = first-order autocorrelation exists

The Durbin Watson test reported that a statistical value from 0 to 4, where 2 is no autocorrelation 0 to < 2 is positive autocorrelation (which is common in time series data).

The rule of the thumb by Field (2009) stated that, a test statistics value in the range of 1.5 to 2.5 is relatively normal for time series data. Based on the results of the test for autocorrelation shown in table 4 take into cognisance of the fact that the value of 1.857337 were within the range of 1.5 to 2.5. Thus, the null hypothesis that there is no autocorrelation was refused to be rejected. The study found no evidence of autocorrelation following the statistical value of 1.857337 which is within the range. On the above premise, it can be concluded that the model is free from serial correlation.

Test of Hypotheses

Hypothesis One

Ho₁ = There is no significant causal relationship between Broad Money Supply and Agricultural Credit Guarantee Scheme Funding in Nigeria.

Ha₁ = There is a significant causal relationship between Broad Money and Agricultural Credit Guarantee Scheme Funding in Nigeria.

The short-run of Ordinary Least Squares (OLS) Model Results

The results of the Short-run of Ordinary Least Squares (OLS) Model test are presented in table 5 and 6 below:

Table 5: Summary of OLS Short run (ACGSF and BMS) Results

Dependent Variable: ACGSF				
Method: OLS				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
BMS	-4.933381	2.850439	-1.730745	0.0975

Source: Researcher’s extract from E -Views 10.0 output.

The optimal is OLS which is the model with the least information criterion following the Akaike Information Criterion (AIC) and the highest log-likelihood ratio. The reported coefficient is -4.933381; Standard Error 2.850439 and p-value 0.0975. The study found evidence in favour of negative and insignificant causal between Broad Money and Agricultural Credit Guarantee Scheme Funding in Nigeria. The significant level can be confirmed by the negative t-Statistic value of -1.730745 in the table 5 which is less than 1.96 critical values. It can be said that broad money supply negatively and insignificantly affects Agricultural Credit Guarantee Scheme Funding in Nigeria as every unit change in broad money supply causes about 4.94-unit reduction in Agricultural Credit Guarantee Scheme Funding.

Based on the confirmation of the p-value (0.0975) which is greater than 0.05 significance levels as assigned to the short-run estimates, Ho is being refused to be rejected and concluded that there is no significant causal relationship between Broad Money Supply and Agricultural Credit Guarantee Scheme Funding in Nigeria. This finding further suggests that there is much money in circulation which inversely causes inflation. Inflation on the other side discourages investments as a greater portion of income is channeled to household consumptions, thereby reducing the propensity to save for investment opportunities.

Hypothesis Two

Ho₂ = There is no significant causal relationship between Credit to Private Sector and Agricultural Credit Guarantee Scheme Funding in Nigeria.

Ha₂ = There is a significant causal relationship between Credit to Private Sector and Agricultural Credit Guarantee Scheme Funding in Nigeria.

Table 6: Summary of OLS Short run (ACGSF and CPS) Results

Dependent Variable: ACGSF				
Method: OLS				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*

CPS	6.852878	3.036018	2.257193	0.0343
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Source: Researcher's extract from E -Views 10.0 output

The optimal is OLS which is the model with the least information criterion following the Akaike Information Criterion (AIC) and the highest log-likelihood ratio. The reported coefficient is 6.852878, Standard Error 3.036018, t-Stat 2.257193, and p-value 0.0343. The study found evidence in favour of a positive and significant causal relationship between Credit to Private Sector and Agricultural Credit Guarantee Scheme Funding in Nigeria. The significant level can be confirmed by the positive t-Statistic value of 2.257193 in the table 6 which is greater than 1.96 critical values. It can be inferred that Credit to Private Sector positively and significantly influences Agricultural Credit Guarantee Scheme Funding in Nigeria as every unit change in Credit to Private Sector causes about 6.85 unit increases in Agricultural Credit Guarantee Scheme Funding.

In light of the results shown in table 6, the p-value as reported as 0.0343 is less than 0.05 significance levels, H_0 is therefore rejected and concluded in favour of a positive and significant causal relationship between Credit to Private Sector and Agricultural Credit Guarantee Scheme Funding in Nigeria. These findings are not far-fetched for the fact loanable incomes invigorate the Nigerian economy.

V. CONCLUSION

There seems to be insufficient or no literature that has tested FIT concerning financial deepening and Agricultural Credit Guarantee Scheme Funding in Nigeria. Knowing fully the significant need for establishing the Bank of Agriculture and expected contributions to the Nigerian economy justified for evaluation. Moreover, the literature that derives thereof is of benefit to policymakers like the Central Bank of Nigeria, and other partners of the Nigerian Bank of Agriculture. Hence this study becomes a vanguard to the problem of the causation of financial deepening and Agricultural Credit Guarantee Scheme Funding in Nigeria. This contemporary issue opens the ambition to empirically examine the causal relationship between financial deepening and Agricultural Credit Guarantee Scheme Funding in Nigeria. The work employed the Agricultural Credit Guarantee Scheme Fund causal relationship with broad money supply and credit to the private sector of the Nigerian economy. The study then examines the causal relationship with a series of analyses alongside is the OLS regression model.

The findings reported that the Agricultural Credit Guarantee Scheme Fund had a negative but insignificant causal relationship to the broad money supply in the short run. The outcomes also uncover a positive and significant causal relationship between the Agricultural Credit Guarantee Scheme Fund and credit to the private sector. The affirmed is that in

every unit change in broad money supply cause about 4.94 unit decrease in Agricultural Credit Guarantee Scheme Funding. On the other side, every unit change in Credit to private sector causes about 6.85 unit increase in Agricultural Credit Guarantee Scheme Funding in Nigeria. The discoveries concerning broad money supply have suspected to be high inflation as possible causes of these results. Thus, it is glaring that there is an inverse link between broad money supply and Agricultural Credit Guarantee Scheme Funding in Nigeria. It can be concluded that the broad money supply in this circumstance becomes a significant variable of study that affects negatively on the growth rate of Agricultural Credit Guarantee Scheme Funding in Nigeria that demands monetary policy attention. Thus, the findings justified the Loanable Interest Theory and the Financial Intermediation Theory.

RECOMMENDATIONS

Based on the findings, the study recommends as following:

1. The Partners of the Bank of Agriculture should synergise and encourage entrepreneurship development by creating more credit to the private sectors. The encouragement of entrepreneurship activities will assist to boost the economy.
2. The Central Bank of Nigeria should make use of its monetary policy effectively to effect control and minimised inflation rate.
3. The Central Bank of Nigeria should strengthen the cash policy system to curb money in circulation. This can be possible through the effective implementation of cashless policy.

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