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An Assessment of Growth and Trend on Credit Guaranteed by the CBN under ACGSF in Nigeria: 1981 - 2021

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Abstract

The efficiency of agricultural lending in Nigeria depends on whether the Central Bank of Nigeria guarantees increase lending supply or simply act as a subsidy to lenders. This study assesses the growth and trend direction on agricultural credit guaranteed by Central Bank of Nigeria under the Agricultural Credit Guarantee Scheme Fund between the periods of 1981 - 2021. Detailed Secondary yearly data was used and sourced from CBN statistical bulletin. A trend analysis was employed to make out if there exists a drift in growth of a variable over the period of time. The result showed that there was a positive growth with a minute deceleration in the credit guaranteed likely in the long run. The result showed that there was a growth (increase) in the credit guaranteed and that time trend, as a variable was very important as it accounted for 90.3% of variations noticed in the credit guaranteed for the period. However, the quadratic equation in time trend variable revealed that the coefficient value of β_2 (-0.001) which is negative and statistically significant at 10% shows that there was a little deceleration in the long run. The study concluded that there exists a positive (increase) trend in the credit guaranteed over the years studied and in long run there will be a slight decrease in the amount of credit guaranteed. Efforts should be made to decrease bottleneck in accessing the agricultural credit guaranteed by the Central Bank of Nigeria to avoid extensive access to the credit decrease in the long run.

Keywords: Growth trend, Credit guarantee, CBN, ACGSF
JEL Classification: O1, E51

Contribution to/Originality Knowledge
The study contributed to the body of knowledge by assessing the growth and trend on credit amount guaranteed by CBN, unlike other studies that focuses on growth and trend of agricultural productions. The findings revealed that in long run there will be a slight decrease in the amount of credit guaranteed.

1.0 Introduction

Nigeria's agriculture sector is expanding, and a significant amount of farmer finance comes from external loans. Producers of agricultural commodities also receive finance from savings and non-operating sources through government loans and grants, in addition to their own self-perpetuated savings and capital (Kocturk *et al.,* 2013). In light of this, an agricultural loan is a credit line extended to farmers and other agribusiness participants with the purpose of funding agriculture (Abdulraheem & Adeola, 2015).

The Agricultural Credit Guarantee Scheme Fund (ACGSF) was created by the Federal Military Government in compliance with Decree No. 20 of 1977, which was amended on June 13, 1988,

and June 26, 2019 (Central Bank of Nigeria, CBN, 2021). The Act originally asked for N100 million to be donated to the Fund, and both the Federal Military Government and the Central Bank of Nigeria (CBN) made this guarantee. The share capital of the Fund has increased to N50 billion, while its paid-up capital is at N3.0 billion. By providing a guarantee on loans issued by lending banks for agricultural purposes under the scheme, the Fund hopes to enhance the amount of bank credit flowing to the agricultural sector.

The operations of the ACGSF focuses on agricultural activities such as rubber, oil palm, cocoa, coffee, and tea; cereal crops, tubers, fruits, vegetables, cotton, pineapples, bananas, and plantains; animal husbandry involves the raising of poultry, pigs, cattle, and other animals; and fishing and catching of fish. purchasing farm equipment and hiring services; creating farm machinery implements and equipment for use in production, processing, storage, and transportation, among other agricultural value chain operations.

Even though agriculture employs a large portion of the workforce, the agriculture industry has been slipping over time (Mehmood *et al.,* 2012). While previous patterns in credit availability are evident, future changes in this area remain uncertain, as noted by Jatto *et al.,* (2017). Financial schemes require timely access to agricultural credit from institutions such as the Central Bank of Nigeria (CBN). The CBN's Agricultural Credit Guarantee Scheme Fund is undoubtedly one of its policy initiatives that has allowed actors in the agricultural value chain to expand their businesses.

As of 2021, the Central Bank of Nigeria has guaranteed the disbursement of about N5.92 billion in loans to participants in the agricultural value chain through the ACGSF. Issues of ACGSF accessibility include high demand, low educational attainment of agricultural value chain participants seeking agricultural credit, low recovery, insufficient management of the credit facility, lack of collateral security, shoddy record keeping, and financial fraud. Inadequate understanding of the costs associated with agricultural value chain actors' access to credit can lead to the government enacting erroneous policies and programs, further complicating an already difficult situation.

There have been numerous studies on trend analysis in relation to Nigerian agricultural production and productivity (Obalola *et al.,* 2020; Ala & Maikasuwa, 2013; Tanko *et al.,* 2010; Onyenweaku, 2004), but there are scarce studies on the growth and trend of credit in Nigeria that is covered by the CBN's ACGSF. There is a need to understand the present situation and its attendant effects on future credit availability and guarantee provided by the central bank of Nigeria. Therefore, the main aim of this study is to carry out an assessment on credit guaranteed by the central bank of Nigeria but specifically, to understand the growth and trend of the credit guaranteed.

We highlighted a related theory and review literature on the search for growth trend analysis and then we discuss some contributions to the link. We present the data and the methodology used and then, we present the result and discussions. Finally, we concluded and made recommendation in

2.0 Theoretical framework

As far as the literature is concerned there is paucity of theories explaining credit guarantee at the microeconomic level. But important theories relating that can be applied include: the classical theory of interest rate, loanable funds theory, the Keynesian, and the modern theory of interest (Jhingan, 2010). However, of interest to this study is the loanable funds theory. The famous Swedish economist, Knut Wicksell, expounded the loanable-funds theory, also known as the neo-classical theory of interest. The loanable funds theory is an attempt to improve upon the classical theory of interest, which recognizes that money can play a disturbing role in the saving and investment processes and thereby causes variations in the level of income. Thus, it is a monetary approach to the theory of interest, as distinguished from that of the classical economists. In fact, the loanable funds theory synthesizes both the monetary and non-monetary and according to the theory, the rate of interest is the price that equates the demand for and supply of loanable funds. Thus, fluctuations in the rate of interest arise from variations either in the demand for loans or in the supply of loans or credit funds available for lending. This implies that interest is the price that equates the demand for loanable funds with the supply of loanable funds. Loanable funds are "the sums of money supplied and demanded at any time in the money market (Jhingan, 2010).

Applying this theory to our study, we can deduce that loanable fund is not without some cost. The implication here is that the interest element of a credit facility is an important determinant of its guarantee by the Central Bank in accessing ACGSF by the beneficiary. The important implication of this study is that it will highlight the long run implication the amount CBN guarantee under the scheme.

Reviews

Ala & Maikasuwa (2013) examined trends in area and productivity of sorghum in Sokoto state, Nigeria over the period 1993-2012. Secondary data collected from the State Agricultural Development Programmes (ADPs) were used for the study. Exponential trend equations were fitted to area and productivity to examine their patterns of growth. The computed growth trend for the area was negative and significant. The computed growth trend for productivity was positive and significant at 1 percent. However, the quadratic time term indicated a stagnated growth in area and an accelerated growth in productivity. It was suggested that the process of decline in area should be reversed through expansion of area devoted to sorghum cultivation and the process of growth in productivity could be enhanced through increased use of advisory services and provision of input supports to the farmers engaged in the cultivation of sorghum.

Jatto *et al.,* (2017) assessed the growth trend in the amount of loan granted to farmers in the study area for the period 1984-2014. Secondary data was used and sourced from Central Bank of Nigeria Statistical Bulletin, National Bureau of Statistics and Kwara State Bureau of Statistics. The result showed that there was an acceleration in the amount of loan defaulted by farmers for the period 1984-2014 in the study area and 73% variations was noticed in the exponential time trend for the period. It was concluded that a rigorous effort to speed up the increase and availability of loan process should be inaugurated to increase farmers ability to

purchase improved inputs so as to increase productivity in the agricultural sector as a whole and proper monitoring should be put in place.

Onyenweaku, (2004) examined the determinants of agricultural production in Kenya under climate change with specific interests in assessing the trend of climate variables and growth rate of agricultural production within 1970-2012 periods; estimating factors influencing agricultural production and deducing policy implications from the findings. Data used were secondary and include value of agricultural production, livestock, machines, fertilizer, agricultural land, labour, annual precipitation and temperature over the study period. These were obtained from databases hosted by the Food and Agriculture Organization (FAO) STAT, the World Bank and United Nations Development Programme (UNDP). Data analysis was done using trend analysis, log quadratic trend equation and multiple regression model. The trend results show that precipitation pattern traced out high amplitude decadal variability with the forecast showing off a slightly upward trend. In temperature, the inter-annual variability observed was wide with a forecast of a slight increase up to 2020. In terms of growth analysis, the log quadratic equation indicates that agricultural production posted a compound growth rate of 3.252% during the period while production was determined by the quantum of labour, livestock, agricultural land, precipitation and its squared term. The implication is that precipitation both on the short and long run affected agricultural production. It is recommended that ecosystem based and technologically driven adaptation measures be taken to address climate change effects on agricultural production.

While reviewing the available literature, it is found that the concept of growth and trend on credit guaranteed is still in emerging stage and due to its novelty, it has not got more research publications. Most of the research work has focused on agricultural production and productivity but there has been no study which has focused on the growth and trend of Credit guaranteed With the majority of existing literature focusing on the growth and trends of agricultural productivity and productivities, this study is expected to make a unique contribution to the body of knowledge on empirical credit growth and trend guaranteed, particularly as it relates to the central bank of Nigeria. In addition, it will support policymakers in creating suitable regulations and giving prospective borrowers the information, they need.

3.0 Methodology

Secondary yearly data was used in the assessment of growth and trend on credit guaranteed by the CBN under the ACGSF in Nigeria between 1981- 2021, because this is the time when scheme data started. Data was sourced from the Central Bank of Nigeria Statistical Bulletin and the Trend and growth analysis are used to understand if there was a drift in growth of a variable over a period of time. The Augmented Dickey Fuller test was used to test the stationarity of the value and this is based on the value of t-statistics for the coefficient of the lagged dependent variable compared with special calculated critical values. If in any case the calculated value in absolute terms is greater than the tabulated value, then we reject the null hypothesis of a unit root; the unit root does not exist and our variable is stationary. The equation of Dickey Fuller is improved because it assumes no serial correlation between error term and dependent variable (Jhingan, 2010). The exponential trend model as employed by Ala &

Maikasuwa, (2013) and Jatto *et al.*, (2017) was modified and used for the analysis. The exponential trend equation for credit guaranteed was specified as follows:

$$Y_t = e\beta_0 + \beta_1 t_1 + \mu_t \quad (1)$$

The ordinary least square was used to calculate the growth rate having linearized the exponential function by taking the natural logarithm of both sides. Equation (1) was re-written as;

$$\ln Y_t = e\beta_0 + \beta_1 t_1 + \mu_t \quad (2)$$

Where: Y= amount of credit guaranteed;

t= time trend variable;

β_0 = Intercept of the trend equation;

β_1= Trend coefficient;

u_t = Error term

To determine if there is acceleration, deceleration or stagnation in credit guaranteed by the CBN, the quadratic equation time trend variable was fitted as follows:

$$\ln Y_t = e\beta_0 + \beta_1 t_1 + \beta_2 t_1^2 + \mu_t \quad (3)$$

t^2 = trend factor

β_2 = accounts for the growth pattern (Obalola et al., 2020; Jatto et al., 2017); such that;

If β_2 is > 0 and statistically significant it is acceleration,

If β_2 is < 0 and statistically significant it is deceleration and;

If β_2 is positive or negative and not statistically significant then there is stagnation in the pattern.

All variables as previously defined

4.0 Results and discussions

The Augmented Dickey Fuller (ADF) test to ascertain the stationarity shows that the variables were stationary at first difference. Table 1 shows the probability shows that Augmented Dickey Fuller (ADF) at first difference, that is, at lag 1[1]

Table 1: ADF unit root test for stationarity at first difference

Variables	**T-statistics**	**Critical 1%**	**5%**	**10%**	**Prob.**	**Decision**
Amount guaranteed	-2.779139	-3.653730	-2.957110	-2.617434	0.0725	1(1) *

Source: data analysis, 2023; **=stationary*

The growth trend result was done with the estimated exponential regression coefficient of the time trend variable as in equation 2. The data used is a secondary yearly data from the CBN using an independent variable for the analysis as time lag (years) 1981 to 2021, while the dependent variable is amount of credit guaranteed yearly for the period 1981-2021. The adjusted R^2 value of 0.903 shown in the Table 2 implies that time trend, as a variable was very important as it accounted for 90.3% of variations noticed in the credit guaranteed for the period while the remaining 9.7% were due to error estimated from the credit of ACGSF. The coefficient of the t was 0.172 and was significant at 1 percent suggesting that there has been an increase in credit guaranteed for the period 1981-2021.

Table 2: Estimated exponential and quadratic growth trend of ACGSF guaranteed by CBN (1981-2021)

Period	$\boldsymbol{\beta}_0$	$\boldsymbol{\beta}_1$	$\boldsymbol{\beta}_2$	Adjusted R^2	t-Stat	p-value
Exponential Trends	**-323.59**	**0.172**		**0.903**	**-18.2053**	**0.000*****
	[17.78]	[0.009]				
Quadratic growth trends	**-5916.59**	**5.762**	**-0.001**	**0.908**	**-1.70281**	**0.0967***
	[3284.60]	[3.283]	[0.0008]			

Source: data analysis, 2023;
Figures in brackets are the standard error
*** =1%; *=10%

The increase shows that there was a steady and continuous provision of credit through the ACGSF scheme. This could be attributed to the focus of the government on agricultural value chain financing and more requests are been made to access the funds.

To investigate for the existence of acceleration, deceleration or stagnation in trend of credit guaranteed for the period under study. The result of the quadratic equation in time trend variable was fitted in equation 3. The result in Table 2 reflected and revealed that the equation has a good fit giving the R^2 value of 0.908 and the associated t-statistics at -1.70281, which is statistically significant at 10 percent. Table 2 also presented the coefficient value of β_2 (-0.001) which is negative and statistically significant at 10%. By implication, credit offtake growth rate has sharply decreased by 0.1%. Although this is a minor issue considering the figure in the short run, the influence it will have on the goal of access might make it seem tough to handle in the long run. The significant negative value is a confirmation that there is an inconsequential deceleration in the amount of credit guaranteed over the period 1981-2021. However, such a

circumstance may be related to the beneficiary's credibility on the scope of fund utilization that is at odds with the fund goal.

5.0 Conclusion and Recommendation

The study concluded that there exists a positive (increasing) trend in the credit guaranteed over the years studied and in long run there will be a slight decrease in the amount of credit guaranteed. Efforts should be made to curtail bottleneck in accessing the credit the CBN guarantees so as to avoid extensive decrease in the long run. This if done will boost agricultural activities which will enable value chain actors have access to funds for increased productivity.

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