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Agricultural Credit Guarantee Scheme Fund (ACGSF) and Agricultural Performance in Nigeria: A Threshold Regression Analysis

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Abstract

Credit financing deficit is one of the problems militating against the performance of agriculture in Nigeria. Against this background, the government of Nigeria introduced the agricultural credit guarantee scheme fund (ACGSF) in 1977 to encourage banks to increase and sustain lending to agriculture. Unfortunately, the scheme has not achieved the desired results. Hence, this study seeks to evaluate the thresholds of ACGSF on agricultural performance in Nigeria between 1981 and 2019. The performance of agriculture was captured using real agricultural Gross Domestic Product (GDP). Annual time series data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and the World Development Indicators (WDI) and analysed using threshold regression. Although insignificant, the results show U-shaped relationship between real agricultural GDP and ACGSF. In addition, ACGSF has significant positive effects on real agricultural GDP at 1060389 (₦' thousand) and 5951809 (₦' thousand) thresholds. The study concludes that sustain increase in the value of agricultural loans guaranteed and the inclusiveness of more smallholder farmers who dominate the Nigerian agricultural space will translate into robust contribution of the scheme to agricultural performance in Nigeria.

Keywords: Agriculture; Credit; Guarantee; Threshold; Nigeria

1.0 INTRODUCTION

In the 1960s, the Nigerian agricultural sector occupied a coveted position among its cohorts in the world. The country took the lead in palm oil exports, second in cocoa exports, and ahead of the USA and Argentina in groundnut exports. More specifically, in the 1960s, export crops accounted for a considerable quantum of the country's foreign exchange earnings (Green, 2013). During this period, Nigeria was regarded as one of the key agricultural commodity vaults of the world. Unfortunately, during and after the 1970s oil boom, agriculture, the country's major non-oil

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tradable sector degenerated into a shadow of its former self (Oyejide, 1986; Pinto, 1987). Ever since, the oil and gas sector has consistently maintained the dominating position of exports and government revenue, while agriculture continues to struggle. These developments remain a major concern to policy makers and have led to many empirical literature interrogating the possible causes of the stark decline in agriculture performance in the country since 1970s. While some scholars have attributed this phenomenon exclusively to Dutch disease, other strands of literature have looked beyond. First, I argue, that the 1967 – 1970 civil war might have exaggerated the adverse effects of the oil boom on agricultural performance. During this period, there were outflow of resources from other sectors of the economy to strengthen national defence and severe disruption of economic activity in the south-eastern region that was major in palm oil, rubber, and other agricultural products. In addition, resources which ought to have been used to sustain development in agriculture and other critical sectors of the economy were channeled to the reconstruction, rehabilitation and reconciliation of post-civil war torn areas. In another view, Oyejide (1987) argued that the government industrialization policies accompanied by the movement of resources from agriculture for the development of manufacturing and its infrastructure also weaken agriculture during the 1970s. To Teal (1983), the drought which affected the northern states between 1972 and 1974 imposed greater stress on agriculture in the period.

Furthermore, credit financing and its influence on the growth of agricultural productivity and output has received considerable attention in the literature with no exception on Nigeria. While Food and Agricultural Organization (2020) identifies credit constraint as one of the key problems of agriculture in Nigeria, empirical studies such as Awotide, Abdoulaye, Alene and Manyong (2015) and Osabohien, Mordi and Ogundipe (2020) give credence to the significant impact of credit financing on agricultural productivity in the country. Over time, there has been apparent concentration of commercial banks' credit in industry relative to agriculture with oil and gas taken the front sit (see Table 1). The marginal increase in banks' credit to agriculture, *ceteris paribus*, will mean marginal increase in agricultural productivity and output in the country.

Table 1: Sectoral Distribution of Commercial Banks' Credit (₦ Billion)

Year	Sector		
	Agriculture	Manufacturing	Oil and Gas
2014	478.91	1647.45	2047.20
2015	449.31	1736.19	2272.81
2016	525.95	2215.74	3587.90
2017	528.24	2171.37	3576.32
2018	556.67	2118.10	3505.55
2019	680.03	2434.38	3406.27

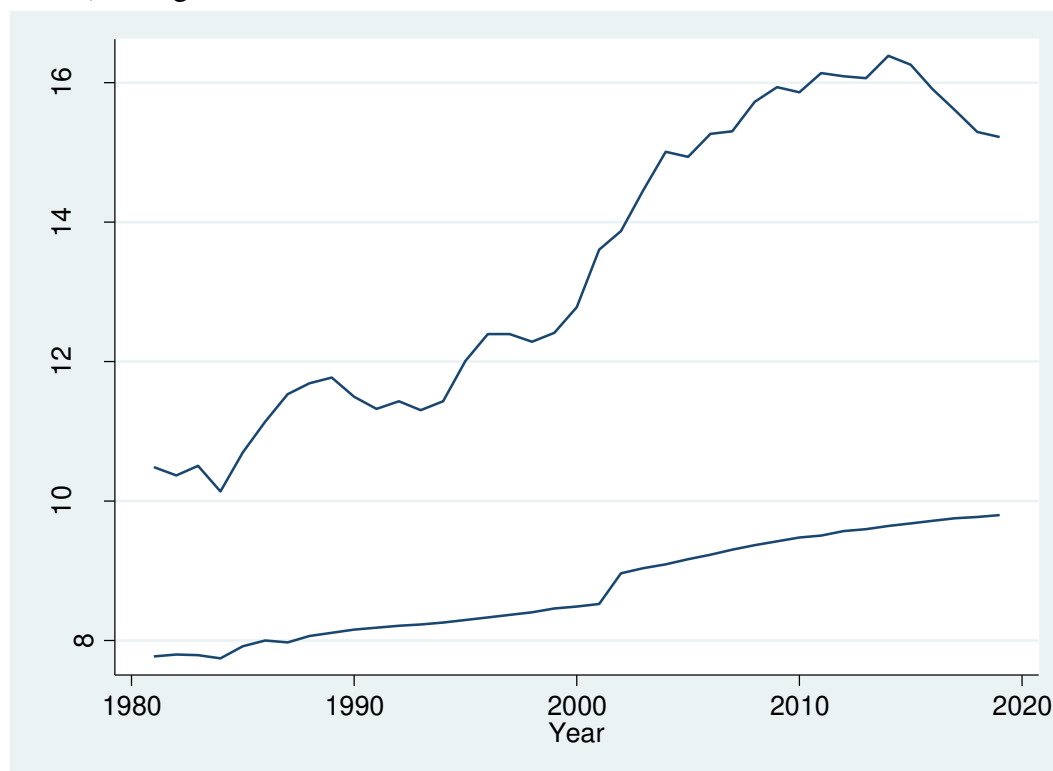
Source: Central Bank of Nigeria (CBN) Statistical Bulletin, 2020

Table 1 shows commercial banks' sectoral preferences for credit facilities. Although there appears to be consistent increase in banks' credit to agriculture in the period under review, it remains small relative to manufacturing and oil and gas. On the average, between 2014 and 2019, commercial banks' credit to agriculture, manufacturing, and oil and gas were ₦577.43, ₦2165.06 and ₦3260.96 billion, respectively. The differences in the observed banks' credit allocation can be attributed to variation in risks of income and capital loss across agriculture, manufacturing and oil and gas.

Credit financing remains one of the key ingredients to achieving sustainable economic activity in any country. For agriculture, this will translate to improved agricultural productivity through access to more critical inputs like fertilizer, land, improved seedlings, machineries, storage facilities to prevent postharvest waste and irrigation facility for dry season farming. More so, access to credit can lower entry barrier and encourage new entrants into agriculture, thus leading to increased agricultural output on the aggregate. Unfortunately, poor access to institutional credit by farmers has been identified as one of the critical factors militating against the performance of agriculture in Nigeria (Olubiyo & Hill, 2003; FAO, 2020). In addition, volatility of commodity prices, unexpected disease outbreak and climate change – flood and drought – continue to make agricultural activity highly risky and less attractive to banks for credit facility. In addition, most smallholder farmers and rural dwellers who dominate the Nigeria's agricultural space do not have sufficient collateral facilities to obtain credit in formal financial institutions, thus, hindering potential agricultural performance. To address the challenge of agricultural financing deficit and achieve food security, the central government introduced the Agricultural Credit Guarantee Scheme Fund (ACGSF) in 1977 to encourage formal financial institutions to increase and sustain lending to agriculture (Eyo, Nwaogu & Agenson, 2020). Under this scheme, the CBN act as a

guarantor, and 75% of loans given to farmers by banks are guaranteed in the event of default (Nwosu, Oguoma, Ben-Chendo & Henri-Ukoha, 2010). This reduces the value at risk and encourages banks to increase and sustain credit to agriculture. Since the implementation of ACGSF in 1978, various reforms such as interest draw back, self-help group linkage banking and trust fund model have been made by CBN under the scheme to sustain the increase of banks' lending to agriculture (vide Figure 1 for the nominal value of loans guaranteed over time). In 1981, the value and number of loans guaranteed under the scheme were ₦35,642.04 billion and ₦1,295 billion, respectively (CBN, 2020). In 2019, both increased by 11,319 percent and 2,131.89 percent, respectively.

Figure 1: Logarithm of Value of Loans Guaranteed (₦' Million) and Real Agricultural GDP (₦' Billion) in Nigeria, 1981 – 2019.



Data Source: CBN Statistical Bulletin, 2020

Figure 1 shows the behaviour of both the value of loans guaranteed and real agricultural GDP between 1981 and 2019. On a 5-year average, there is sustained increase in the value of loans guaranteed and real agricultural GDP between 1981 and 2016. Although the value of loans guaranteed declined between 2015 and 2019, real agricultural GDP increased. These periods

coincided with the 2015 general election which sap resources from other critical sectors of the economy, the 2016 recession and revenue fluctuation caused chiefly by volatility in oil prices. On the average, the value of agricultural loans guaranteed and real agricultural GDP has increased over time.

Given Nigeria's enormous agricultural resources endowment, it has the potential to meet the food and nutritional need of the large and fast growing population, generate surplus for exports and foreign exchange earnings to finance imports, expand and diversify the country's revenue base, and provide raw materials to support and sustain industrialisation. However, economic, political and social factors constitute constraints that continue to blight the performance of agriculture in Nigeria. Thus, keeping actual agricultural output consistently far below the potential level. It is interesting but disturbing to know that approximately 13 million Nigerians are hungry with wide variations between rural and urban areas (Olomola, 2017), and 5 in 10 children under five years are malnourished in the country (United Nations International Children Emergency Funds – UNICEF, 2019). More so, the growth of food importation to bridge local production deficit has created severe foreign exchange leakage in the economy, leaving less to finance the imports of critical inputs to strengthen agriculture and sustain industrialisation. According to the National Bureau of Statistics (2020), the value of agricultural imports rose by 59.01 percent in 2020Q2 relative to 2020Q1, and by 68.28 percent relative to 2019Q2. The situation becomes appalling when food crops in which a country has comparative advantage in their production are being imported (Vaughan, Afolami, Oyekale & Ayegbokiki, 2014). This is the case of some food crops in Nigeria. For tomato, in 2016, Nigeria was ranked the second largest producer with an estimated average of 2.3 million tonnes annually and third largest importer of tomato paste in Africa (PricewaterhouseCoopers – PwC, 2018). In 2016 and 2017, an estimated USD360 million of tomato paste was imported annually into Nigeria (PwC, 2018). In addition, prices of staple foods are on the upward trend with increased risk of hunger, malnutrition and low productivity in adulthood. According to NBS (2020), composite food index rose by 16.66 percent in September, 2020, as against 16 percent in August, 2020. These worrisome indicators are reflective of the slow growth of agricultural productivity in the face of Nigeria's large and fast growing population.

Despite its sluggish performance, agriculture still accounts for the highest proportion of non-oil exports in Nigeria. However, its contribution to total exports and foreign exchange earnings remain

relatively appalling, hence, making Nigeria's economy highly oil dependent and vulnerable to global oil price shock. On the average, in 2010/2014 and 2015/2019, the non-oil sectors contributed 917.81 (₦' Billion) and 1,405.02 (₦' Billion) to total exports, respectively. Comparatively, this is much below the oil and gas total exports contribution of 13,204.5 (₦' Billion) and 12,652.31 (₦' Billion) in 2010/2014 and 2015/2019, respectively (CBN, 2020). In recent time, the value of agricultural exports fell by 38.2 percent in 2020Q2 relative to 2020Q1, but rose by 6.3 percent relative to 2019Q2 (NBS, 2020). The observed stark decline in agricultural exports between 2020Q1 and 2020Q2 is partly due to the outbreak of Covid-19 pandemic and the lockdown policy response implemented by the government to contain its spread.

To address the problem of growth in agricultural productivity, successive governments in Nigeria have implemented various agricultural financing policies and programmes to meet the credit need of farmers. One of such is the agricultural credit guarantee scheme fund. Unfortunately, the scheme has been in favour of large scale farming as smallholders and rural farmers who dominate Nigeria's agriculture rarely obtain credit from formal financial institutions (Awotide et al., 2015). More so, the growth in the value and number of loans guaranteed have not translated into vibrant agricultural performance as food insecurity and low agricultural exports remain key problems in the country. Eyo et al. (2020) argued that the macroeconomic environment has not proven favourable to both the value and number of loans as well as the performance of loans guaranteed on agricultural output in Nigeria. With Nigeria's large and fast growing population, low agricultural productivity and output will translate into large scale food inflation, hunger, malnutrition and lower productivity if not urgently and critically address with informed policy.

Empirical studies examining the relationship between agricultural credit finance and agricultural performance in Nigeria are relatively large in the literature. From a methodological perspective, recent and relevant empirical studies like Osabohien et al. (2020), Osabohien, Afolabi and Godwin (2018), Akinrinola and Okunola (2017) and Oparinde, Amos and Adeselu (2017) adopted the Autoregressive Distributed Lag Model (ARDL), Olowofeso, Adeboye, Adejo, Bassey and Abraham (2017) adopted the Non-linear Autoregressive Distributed Lag Model (NARDL), Reuben, Nyam and Rukwe (2020), Eyo et al. (2020), Okafor (2020) and Orok and Ayim (2017) adopted the Ordinary Least Squares (OLS) technique, while other related studies have adopted different methodologies to examine credit financing and agriculture performance relationship in

Nigeria. However, only few empirical studies have examined the thresholds of credit guaranteed on agricultural performance in Nigeria.

Hence, this study seeks to: (1) evaluate the thresholds of ACGSF on agricultural performance and (2) examine non-linear relationship between ACGSF and agricultural performance in Nigeria.

The rest of the paper is structured as follows: section 2 presents the literature review. Section 3 presents data and methodology. Section 4 analyzes the results. And section 5 presents the conclusion and policy recommendation.

2.0 LITERATURE REVIEW

2.1 Theoretical Literature

Theories explaining the positive impact of credit markets on output growth abound in the literature. Schumpeter (1911) argued that the financial system stimulates output growth due its role in the allocation of savings, encouragement of innovation and funding of productive investments. McKinnon (1973) and Shaw (1973) in their independent studies concluded that financial development has positive effect on output growth. Jensen and Murphy (1990) opined that through changes in incentive for corporate control, financial markets stimulate output growth. Levine (1991) and St. Paul (1992) suggested that financial markets aids in the diversification of firms' portfolio, reduce risks and stimulate output growth. Demirguc-Kunt and Levine (1996) argued in favour of Jensen and Murphy (1990) on the channel through which credit markets positively impact output growth. In addition, funds from the credit markets stimulate output growth by encouraging specialization in entrepreneurship and adoption of new technologies (Greenwood & Smith, 1997). Similarly, Wu, Hou and Cheng (2010) and Cheng (2012) suggested that both credit- and stock markets development stimulate output growth.

Hence, these theoretical models form the basis for this study and give support to the positive effect of credit markets on the output growth of agriculture.

2.2 Empirical Literature

The significant contributions of agriculture to the Gross Domestic Product (GDP), employment of labour, and exports make it one of the critical sectors in developing economies and Nigeria in particular. Unfortunately, several competing forces have been identified to hinder agricultural

performance. One of such forces is credit accessibility and empirical studies of its impacts on agricultural performance has gained large attention in the literature, by and large in developing countries where agriculture still remains the principal employer of labour and contribute relatively high to national output. For example, Florence and Nathan (2020) assessed the impact of commercial banks' credit on agricultural growth in Uganda from 2008Q3 to 2018Q4 using Autoregressive Distributed Lag Model (ARDL). The findings showed that banks' credit have significant positive impact on agricultural output in the long-run and insignificant impact in the short-run. Along the same methodology, Islam (2020) examined the effect of agricultural credit on agricultural productivity in Bangladesh from 2000 to 2019 using ARDL. The findings showed significant positive effects of agricultural credit on agricultural productivity in the short- and long-run. Anh, Gan & Anh (2020) examined the impact of credit on agriculture performance in Vietnam from 2004Q4 to 2016Q4 using Indicator Saturation (IS) break test, ARDL bounds test and Toda-Yamamoto Granger causality test. The findings showed that agricultural credit has significant positive influence on agricultural output in both short-run and long-run. Also, a unidirectional causality exist running from agricultural credit to agricultural output. Similar study by Ngong, Thaddeus & Onwumere (2020) examined banking sector development and agricultural productivity in Central African Economic and Monetary Community (CEMAC) from 1990 to 2018 using Panel Autoregressive Distributed Lag Model (PARDL) and Vector Error Correction Model (VECM). The findings revealed long-run relationship between banking sector and agricultural productivity. Also, bi-directional causality exists between banking sector and agricultural productivity in the CEMAC region. Bahsi and Cetin (2020) assessed the impact of agricultural credit on agricultural production value in Turkey with time series data from 1998 to 2016 using the Ordinary Least Squares (OLS) technique. The results showed significant positive impact of agricultural credit on agricultural output. Akudugu (2016) evaluated agricultural productivity, credit and farm size nexus in Ghana using hierarchical competitive model. The results showed significant positive relationship between credit from formal and informal sources and household agricultural productivity. In a similar study, Iqbal, Ahmad, Abbas and Mustafa (2004) examined the impact of institutional credit on agricultural production in Pakistan using Ordinary Least Squares (OLS) technique. The results showed positive and significant impacts of institutional credit on agricultural production.

Furthermore, within the context of Nigeria, several empirical studies on agricultural credit and agricultural performance nexus exist in the literature. Osabohien et al. (2020) examined access to credit and agricultural performance in Nigeria from 1998 to 2018 using Autoregressive Distributed Lag Model (ARDL). The study results showed that both agricultural credit guarantee scheme fund (ACGSF) and commercial banks' credit to agriculture have significant positive impacts on agricultural performance in the short- and long-run. Osabohien, Adeleye and Alwis (2020) assessed the effect of agro-financing on food production in Nigeria from 1981 to 2018 using Johansen and Canonical cointegration approaches. The findings showed significant positive effect of agro-financing (proxy with ACGSF) on food production. At the household level, Fowowe (2020) examined the effect of financial inclusion on agricultural productivity in Nigeria with Generalized Household Survey (GHS) panel data set using fixed effects estimation. The findings showed that financial inclusion (ownership and usage of account, borrowing and saving) has significant positive effect on household agricultural productivity. In a similar study, Osabohien et al. (2020) examined the effect of household credit access on agricultural production in Nigeria with cross-sectional data using propensity score matching (PSM) technique. The results showed that households with access to credit have relatively better yields than households with no credit access. In another dimension, Orji, Ogbuabor, Anthony-Orji and Alisigwe (2020) examined causality between agricultural financing and agricultural output in Nigeria using Pairwise Granger causality test. The findings showed no causal linkage between agricultural financing and agricultural output within the period under review. Reuben, Nyam and Rukwe (2020) assessed the impact of ACGSF on agricultural output in Nigeria from 1998 to 2017 using OLS technique. The results showed that ACGSF has significant positive effect on agricultural output. Okafor (2020) examined the effect of commercial banks credit on agricultural development in Nigeria using Augmented Dickey Fuller test, Phillip-Perron test and OLS technique. The results revealed that banks credit to agriculture and ACGSF have significant positive effects on agricultural output. Eyo et al. (2020) analyzed the effect of agricultural credit guarantee scheme (ACGSF) on agricultural output in Nigeria using OLS technique. The findings showed significant positive impact of ACGSF on agricultural output. Similarly, Osabohien, Afolabi and Godwin (2018) examined the impact of agricultural credit facilities on food security in Nigeria from 1990 to 2016 using ARDL. The results showed that commercial banks' credits and ACGSF have significant positive relationships with food security. In a related study, Akinriola and Okunola (2017) estimated the

effect of ACGSF on agricultural productivity in Nigeria from 1978 to 2014 using linear ARDL model. The results revealed long-run equilibrium between the value of loans, number of loans and agricultural productivity. Although in the long-run, the value of loans has no significant effect on agricultural productivity, the number of loans does. Oparinde, Amos and Adeselu (2017) assessed the effect of ACGSF on fishery development in Nigeria from 1981 to 2015 using ARDL model. The results showed that the value of fishery loans guaranteed has significant negative effects on fishery development in both short- and long-run. Orok and Ayim (2017) examined the impact of ACGSF on agricultural development in Nigeria from 1990 to 2016 using OLS technique. The results revealed significant positive relationship between ACGSF and agricultural development. Olowofeso, Adeboye, Adejo, Bassey and Abraham (2017) investigated agricultural credit and agricultural output relationship in Nigeria from 1992Q1 to 2015Q4 using Nonlinear Autoregressive Distributed Lag (NARDL) model. The findings showed no asymmetry (positive and negative changes) effect of credit on agricultural output in the short-run, but different equilibrium relationships exist in the long-run. More so, agricultural output is mostly attracted by the impact of the positive changes in credit to agriculture. Awotide et al. (2015) assessed the impact of access to credit on cassava productivity in Nigeria using Endogenous Switching Regression Model (ESRM). The results showed that access to credit has a significant positive impact on cassava productivity. Nnamocha and Eke (2015) examined the impact of bank credit on agricultural output in Nigeria from 1970 to 2013 using Error Correction Model (ECM). The results show long-run relationship between bank credit and agricultural output. Further, the effect of bank credit on agricultural output is significantly positive in the long-run and insignificant in the short-run. Adetiloye (2012) examined agricultural credit guarantee scheme fund (ACGSF) for food security in Nigeria from 1978 to 2006 using t test, paired t test and Granger causality test. The findings showed that credit to agriculture is significant but has not been growing with the economy. Along the same line, Ammani (2012) investigated the effect of ACGSF on agricultural production in Nigeria from 1981 to 2009 using OLS method. The results revealed that ACGSF has significant positive effects on crop, livestock and fishing productions. More so, Nigeria is food insecure as food import is on the rise. Isiorhovoja and Chukwudi (2009) estimated the effect of ACGSF on the output of cash crops in Nigeria from 1981 to 2005 using simple linear regression model. The findings showed insignificant relationship between ACGSF and cash crop production.

3.0 DATA AND METHODOLOGY

3.1 Data

Data on variables in the empirical model are annual time series obtained from different secondary sources. For RAGDP, ACGSF and CBCA, the data were obtained from CBN Statistical Bulletin. Data on INFL and RINR were obtained from the World Bank World Development Indicators (WDI).

3.2 Definition of Variables and A priori Expectation

Table 2: Definition of Variables and A priori Expectation

Variable	Definition	A priori Expectation
RAGDP	The contribution of agriculture to total real GDP measured in billions of naira	
ACGSF	The value of agricultural loans guaranteed measured in thousands of naira	+
INFL	The percentage change in the prices of market basket of goods and services	+/-
CBCA	The value of commercial banks' credit to agriculture measured in billions of naira	+
RINR	The nominal cost of borrowing money adjusted for inflation	-

3.3 Agricultural Model Specification

To evaluate the thresholds of ACGSF on agricultural performance in Nigeria, this study adopts the agricultural output model of Florence and Nathan (2020) with little modification and estimated using threshold regression. In implicit form, the agricultural output model is specified in Equation (1) as follows:

$$RAGDP = f(ACGF, CBCA, INFL, RINR) \quad \text{Equation (1)}$$

In explicit form, Equation (1) is transformed to Equation (2) as follows:

$$RAGDP_t = \beta_0 + \beta_1 ACGSF_t + \beta_2 CBCA_t + \beta_3 INFL_t + \beta_4 RINR_t + U_t \quad \text{Equation (2)}$$

Where RAGDP is real agricultural GDP (proxy for agricultural performance); ACGSF is agricultural credit guarantee scheme fund and the threshold variable; CBCA is commercial banks'

credit to agriculture; INFL is inflation rate; RINR is real interest rate; U is the stochastic term that captures other explanatory variables not included in the agricultural model; and t is the time dimension of the variables, from 1981 to 2019.

4.0 RESULTS AND DISCUSSION

4.1 Summary Statistics

Table 3: Results of Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
RAGDP	39	7956.731	5349.728	2303.505	17958.58
ACGSF	39	3087126	3942305	25154.9	12997004.15
CBCA	39	134.458	194.157	0.591	680.03
INFL	39	19.121	17.074	5.382	72.836
RINR	39	0.321	15.996	-43.573	25.282

Note: Std. Dev. and Obs represent standard deviation and observation

Table 3 presents the summary statistics and behaviour of each series in the empirical model. While the mean measures the central value, the standard deviation measures the dispersion of observations around the central value.

4.2 Presentation and Analysis of Results

Table 4: Results of threshold regression

Variable	Coefficient
Region 1: $ACGF < \text{₹}1060389$	
ACGSF	-0.0012 (0.0016)
CBCA	56.1348*** (16.4258)
INFL	2.146 (6.6693)
RINR	4.4297 (8.9066)
Region 2: $\text{₹}1060389 \leq ACGF < \text{₹}5951809$	
ACGSF	0.0013*** (0.0001)
CBCA	13.0027*** (0.9052)

INFL	142.1451***
	(31.1025)
RINR	-47.4143*
	(23.9834)
Region 3: ACGF \geq ₦5951809	
ACGSF	0.0004***
	(5.44E-05)
CBCA	8.8006***
	(1.2794)
INFL	399.1156***
	(41.3674)
RINR	-0.4406
	(11.6733)
Non-threshold variable	
β_0	2925.831***
	(221.4053)

Note: ***, ** and * imply 1%, 5% and 10% level of significance. Values in parentheses represent standard errors.

Table 4 shows the optimum number (2) and the value of ACGSF thresholds at ₦1060389 and ₦5951809 between 1981 and 2019. In region 1, below ₦1060389, the effect of ACGSF on agricultural performance is negative and insignificant. This may indicate reallocation of loans guaranteed by farmers to non-agricultural activities or lag between planting and harvest of agricultural output or both. In region 2 and 3, ACGSF has significant positive effects on agricultural performance. However, its effect on RAGDP is relatively higher in region 4.

The negative relationship in region 1 and the positive relationships in region 2 and 3 show the existence of non-linear relationship between ACGSF and agricultural performance under the study period, 1981 – 2019.

5.0 CONCLUSION AND POLICY RECOMMENDATION

5.1 Conclusion

The study concludes that sustain increase in the value of agricultural loans guaranteed and the inclusiveness of more smallholder farmers who dominate the Nigerian agricultural space will translate into robust contribution of the scheme to food security in Nigeria.

5.2 Policy Recommendation

Based on empirical results, the study recommends the following:

1. The government through the Central Bank of Nigeria should increase the current proportion of agricultural loans guaranteed.
2. Reduce the requirements of the credit scheme for smallholder farmers in order to achieve greater inclusiveness and better agricultural productivity.

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