AGRICULTURAL FINANCING AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT: *The study examined the influence of agricultural financing on economic growth in Nigeria over the period 1981 to 2019. The objective of the study is to the impact of the long-term relationship between various forms of agricultural financing on Nigeria's economic growth. The study employs the stationary test, the co-integration test, the error correction model and the Granger causality model. All variables were stationary at the first difference, and the co-integration test evidenced a long-run relationship. The study identified, in the long run, that; the agricultural credit guarantee scheme fund shows a positive and significant influence on the gross domestic product in Nigeria. The commercial bank loan and community –micro-finance bank loan shows a positive and significant influence on the gross domestic product in Nigeria within the reference period. In light of the findings, the study concluded that all the variables employed predict Nigeria's gross domestic product. Furthermore, the granger causality results show a demand following a role as against supply leading role, revealing that increase in output level in Nigeria significantly support/promotes agricultural financial instrument. The study recommends that the Federal government should motivate commercial banks to provide adequate credit facilities to the Agricultural sector through moderate bank lending rates for ease of farming business in Nigeria. Proactive campaigns on the availability of credit facilities for farmers to enable them to have access to loans at a single-digit interest rate. This could be achieved through social media, door-to-door vibes, town hall meetings and market squares. Government should create an enabling environment for farmers through the provision of adequate security, pest control measures and seedlings.*

KEYWORDS: Economic Growth, Agricultural credit scheme fund, Commercial bank loan and advances, Community-microfinance credit.

INTRODUCTION

Agriculture, as the largest industry in terms of employment, remains the recipe for any economic progression (Philip et al., 2009). The government's initiative is based on the assumption that agriculture funding will boost economic growth. As a result, finance is a vital tool for acquiring all the sector instruments required for mechanized production. The agricultural sector's function in the economy includes, among other things, creating large numbers of jobs, producing basic raw materials, providing food for the population, and earning foreign exchange.

Agriculture ensures economic security and stability, as well as providing industrial raw material markets. Agriculture contributes significantly to Nigeria's GDP as observed by Anyanwu (1997), and Rahji and Fakayode (2009). Nevertheless, their contribution is insubstantial due to limited credit facilities in fundraising (Odoemenem and Boinne 2010) while Duong and Izumida (2002) opined that agricultural financing and agricultural growth exhibit a complex situation.

Agricultural financing is a key component in Nigeria's agricultural growth and development. As cited by Beck and Demirguc-Kunt (2006), financial system technologies can help people access to credit. In the 1970s, the government made available a variety of tools and policies to promote agricultural development. Despite its initiatives on the ground to promote agriculture, the Nigerian government has failed to meet its goals in the field of rural poverty reduction.

Adegeye and Dittohs (1985) suggested that land acquisition and capital utilization in agriculture fuel Nigeria's economic growth. Furthermore, the Nigerian agricultural industry is primarily made up of peasant farmers who rely on informal sources of funding for their expansion; this source is not always adequate or available (Aguniwa et al., 2015). Tunachan and Dizkiric (2012) asserted that Credit Guarantee Scheme Fund enhances turkey output.

In the same vein, Nzoma and Muturi's (2014) findings on the effect of agricultural credit schemes and programs on the productivity of small-scale farming companies found that small-scale farmers were able to obtain credit for the purchase of farming instruments and seeds through various agricultural schemes. However, any economy, such as Nigeria's, may improve its production performance by accumulating capital and allocating it to necessary investments. Two of the most pressing concerns in both developed and developing countries were how to increase investment and raise domestic financial resources to boost productivity.

Agricultural finance schemes are designed to encourage financial institutions to assist farmers to access funds at a lower and more manageable interest rate (Mafimesebi et al., 2009). Despite the usefulness of the agricultural sector in the nation's socio-economic situation, it is still been neglected, unplanned, and severely underfunded. Olatunji et al. (2018) noted that the agricultural sector's contribution to the economy has been underwhelming due to budgetary constraints.

Furthermore, they said that borrowers' failure to repay loans in this sector causes banks to reduce their risk exposure by closing lending windows. According to Obilor (2013), lack of human capital development in the agricultural sector influences productivity negatively, particularly in the areas of training, promotion, and neglect of sector workers. However, according to Enyim et al. (2013), observed that Nigeria's agricultural financing witnessed a series of failures.

Ngozi (2015) argued that lack of commitment by lending institutions and follow-up deepened the non-performing loans in the agriculture sector meanwhile Commercial agriculture output to bank financing was found to be below capacity and expectations by Fakun and Evbuomwam (2017). Efobi and Osabuohien (2011) acknowledged that agricultural credit guarantee scheme funding facilitates non-oil export in Nigeria, While Udoka et al. (2016) also claimed that agricultural financing facilitates agricultural productivity in Nigeria.

According to Ijaiya (2013), commercial bank credits to the agriculture sector and the Nigerian economy have shown a progressive tendency in previous years, the report also corresponds with Anthony's (2014) findings that the contribution of bank credit facilities to export growth is encouraging. However, Ijaiya et al. (2017) found that by utilizing ACGSF, food security was only sustained for a short time, but Kehinde (2012) viewed agricultural financing as a gateway to help farmers enhance the rate of food production and national food security. Egwu (2016), argued that the Agricultural Credit Guarantee Scheme Funds loan to Nigerian agricultural sectors has a substantial impact on agricultural sector output, economic growth, and employment.

In light of the above, agricultural financing is relevant for improving the efficiency and efficacy of the scheme operations. The foregoing disparity, in addition to the requirement for Nigeria's economy to grow through the agricultural sector, is a serious concern. The numerous methods by which agriculturists in the sector might obtain finance can be stingy and discouraging, affecting the economy as a whole. Against this backdrop, the study focuses on the long-term impact of various forms of agricultural financing on Nigeria's economic growth, with a particular spotlight on commercial bank loans and advances, community-based microfinance credit, and agricultural credit guarantee scheme funds, and how these variables contribute to the economic growth process.

The study will be useful to farmers in determining the type of financing that best suits their risk appetite, increase production and, invariably improves overall economic growth at micro and macro levels. The remaining section of the paper is divided into four sections: section one covers the literature and theoretical review, section two covers the methodology used in the study, section three covers data analysis and interpretation, and section four covers summary, conclusion, and policy implications.

LITERATURE REVIEW

Agriculture in the Nigerian Economy

Agriculture is a vital component of any country's growth and development. It plays a fundamental part in the production of goods and services for both domestic and international consumption, employing a significant portion of teaming population and supporting the country in contributing positively to output level. Specifically, agriculture accounts for about 32% of national GDP and 14% of agricultural GDP in Africa as of 2017. Sustains the livelihood of roughly two-thirds of Nigeria's rising population and employs 62 percent of the country's workers, creating the backbone of the country's agribusiness (CBN, 2017).

Crop production accounted for 88 percent of overall industry capacity, with livestock, fishery, and forestry accounting for the remaining 12 percent. In 2014, the industry had the highest

GDP of $113.64 billion (Oyaniran & Omosomi, 2018). Agricultural yields have been low in recent years (2013-2017), and the sector's contribution to GDP has decreased by 31%, from $113.64 billion in 2013 to $78.45 billion in 2017. This might be as a result herdsmen crisis, terrorism, or climate change, which all contribute for a 31% drop in the sector. Agriculture amongst the world's oldest professions, yet it is also one of the most unpredictable.

Agriculture has been seen as the cornerstone of economic growth in the country's economic growth by involving the country's teeming youth in entrepreneurship, self-sufficiency, and wealth creation (Okosodo, 2016). As per Todaro and Smith (2003), classified the undeveloped system in two sectors. The subsistence agriculture sector, which has zero marginal labor productivity, and the commercial modern industrial sector are the two sectors in question. Traditional society, pre-conditions for commencement, start off, movement to maturity, and era of high mass-consumption are the five stages of economic growth identified by Rostow (1960).

Stewart (2000) established that agricultural sector has the ability to serve as an industrial hub and an economic window through which a country's development can start off. Agricultural activities nevertheless are typically concentrated in less developed rural areas where rural transformation, redistribution, poverty reduction, and socio-economic development are vital. Between 2010 and 2016, the GDP to agricultural output increased by 1.15 percent, from $8.287 million to $17.879 million. Nigeria's agriculture industry contributed 2.26 percent of GDP in 2019 (CBN 2019).

CONCEPT OF AGRICULTURAL FINANCING AND ECONOMIC GROWTH IN NIGERIA

Agriculture Finance

Agriculture finance can be defined as various funds set aside to strengthen farming business in Nigeria and improve people's socio-economic welfare. It includes both government money and non-governmental groups working toward sector growth, economic empowerment, and social empowerment. In the same vein, Adejumo and Bolarinwa (2017) hypothesized agricultural financing programs as part of financial arrangements set up by the government at all levels to assist farmers' access to finance and invariably boost agricultural productivity.

The scheme gives boosts to immunity and financial assistance to tillers in the event of crop failure due to natural calamities, pests, or illnesses. The finance aspect of the program strengthens farmers to engage in modern and sophisticated farming techniques, high-value inputs, and more advanced technologies. The CBN had always set aside monies for agricultural financing through a variety of initiatives with the World Bank. The goal is to resurrect the agricultural sub-sector, which contributes significantly to GDP and employs a large percentage of the workforce.

The following are examples of such a scheme:

Commercial Agricultural Credit Scheme (CACS): The scheme was established in 2009. The Debt Management Office raised N200 billion in bonds to fund the scheme (DMO). Qualifying businesses are eligible for loans with a maximum interest rate of 9%. The program

provides funding for the agricultural value chain in the country (production, processing, storage and marketing). High production as a result of the intervention would help the Bank achieve its goal of price stability in the country by reducing inflationary pressures. The Scheme's major goal is to accelerate the development of the Nigerian agricultural sector by providing finance to large-scale commercial farmers at a single-digit interest rate. Low inflation could be achieved by increasing the food supply and lowering the prices of agricultural produce and products (CBN 2009).

Anchor Borrowers' Program (ABP): The program began in 2015 with the goal of establishing a link between agricultural processing anchor companies and smallholder farmers (SHFs) of major agricultural commodities. As shown in the study, the Anchor Borrowers' Programme (ABP) has helped about 3.8 million farmers, with a total of $1.422 billion distributed to beneficiaries since its commencement. Through the program, the Central bank of Nigeria is expected to assist more farmers across the country during the 2020 wet season.

SMALL HOLDERS FARMERS: Smallholder's farmer's offer farm inputs and cash to farmers to help enhance the output of these commodities and ensure the supply of these inputs to agro-processors remains stable. Smallholder farmers are individuals who own tiny pieces of land and rely nearly entirely on family labour to raise subsistence crops and one or two cash crops. In Nigeria, more than 80% of farmers are small-scale. The SHFs deliver the farm product to the Agro-processors and get paid for it when it is harvested. There were also World Bank-assisted Agricultural Development Programs (ADPs) and State-run Agricultural Credit Programs. However, it appears that the impact of these programs has not been felt in the economy (CBN 2015).

CAPITAL MARKET FUNDING: Financing the agricultural sector through capital market-type financing may be a clearly preferable option; the agricultural sector's expansion, in our opinion, is dependent on more than just financial availability. Structures such as adequate infrastructure, the re-establishment of commodities boards, and efficient storage facilities, among others, are required to drive the sector's growth (SEC 2020). However, Agbaeze and Onwuka (2013) concluded that financial market funding is a feasible alternative for all levels of government in Nigeria when it comes to financing agriculture. They claimed that credit markets, including the ACGSF, are unreliable.

Agricultural Credit Guarantee Scheme Fund (ACGSF): The ACGSF was created in 1987 by Decree No. 20 and began activities in April 1978. It commenced with N100 million in share capital and N85.6 million in paid-up capital. The Federal Ministry of Finance owns 60% of the stock, while the Central Bank of Nigeria owns 40% (CBN 2019). The capital base of the scheme as of March 2001 was N3 billion and then N50 billion in March 2019 under the Agricultural Credit Guarantee Scheme Amendment Act. Bank loan facilities extended to farmers are guaranteed by the Fund up to 75% of the amount in default, net of any security realized. The Central Bank of Nigeria is in charge of the Scheme's day-to-day operations and fund management.

The Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL): The Central Bank of Nigeria (CBN) launched the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) in 2011. It was incorporated in 2013 as a dynamic, holistic USD500 million public-private initiative to catalyze the flow of finance and investments into fixed agricultural value chains. NIRSAL's aim is to address the hindrances

that contribute to low funding levels in the agriculture sector, such as a lack of comprehension of the industry, a perception of high risks, complicated credit evaluation processes/procedures, and high transaction costs. The Nigerian Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) created 400,000 jobs in various sectors of the agricultural value chain through a N101 billion bank fund (Chiejina, 2019).

Nigerian Agricultural Insurance Corporation: It was founded in 1987 to protect Nigerian farmers against risk. Due to its unique socio-economic benefits to the public, it is also the only existing insurance firm controlled by the federal government. The reason is that it covers the areas of traditional insurers' inability to handle agricultural risks, which they deemed too risky. The Nigerian Agricultural Insurance Corporation (NAIC) has a wide goal of protecting Nigerian farmers from the consequences of natural disasters by enacting policies that assure quick payment of adequate indemnity (compensation) to keep farmers in business after a loss.

National Economic Reconstruction Fund (NERFUND): The Federal Government established NERFUND in 1989 to provide short, medium, and long-term financing for wholly Nigerian-owned SMEs in manufacturing, agro-allied enterprises, mining, quarrying, industrial support services, equipment leasing, and other ancillary projects. Between 1989 and 1995, NERFUND funded 474 initiatives, but just 87 projects were approved between 1996 and 1998. NERFUND disbursed approximately $144.9 million and $681.5 million to eligible projects from its creation through 1998 (CBN, 2014).

Commercial Bank Loan to Agric Sector: The total amount of combined cash provided by financial institutions to an individual or firm is known as bank credit. Ijaiya (2003) discovered that commercial bank credits to the agricultural sector have been rising since 1981, although the agricultural sector's contribution to the country's total GDP remains modest. In line with Efobi and Osabuohien (2011), commercial bank loans to the agricultural sector had little impact when compared to the number of funds accessible to commercial banks. Other schemes, as revealed by Oguoma et al. (2010), include the establishment of the Nigerian Agricultural Cooperative and Rural Development Bank; Rural Banking; River Basin Authorities; Agricultural Development projects in all of the federation's states between 1972 and 1980; crop loans; loan against warehouse receipts; agricultural term loans; land development schemes; capital stock loans; farm mechanization schemes; minor irrigation schemes; and land purchase.

EMPIRICAL LITERATURE REVIEW

Olatunji et al. (2018) explored the restructuring of the rural finance market in Nigeria for agricultural expansion from 1996Q1 -2017Q4. The study adopted Autoregressive Distributed Lag (ARDL) Bounds testing approach in estimating the relevant relationship. The results of the long-run estimate showed that agricultural credit, money markets, capital markets, and exchange rates have a positive relationship with agricultural growth in Nigeria, while expected inflation has a negative impact on agricultural growth in the long run. In a similar vein, Enoma (2010) observed that in Nigeria, agricultural finance, interest rates, and exchange rates stimulate output from the evaluation of the impact of agriculture credit on economic growth in Nigeria from 1986-2007. The study utilized ordinary least square techniques for data analysis. The interest rate, exchange rate, and agricultural credit were the study's variables. However, Okosodo (2016) examined the long-run relationship between Nigeria's agricultural sector and economic growth using bounds testing, co-integration, unit root test, and error correction mechanism. The empirical findings revealed that government expenditure in the agricultural

sector has a positive impact on the performance of the Nigerian economy. Nevertheless, the federal government should encourage commercial banks to provide adequate credit to the agricultural sector through affordable and attractive bank lending rates to make farming in Nigeria easier.

Nwankwo (2013) investigated the influence of agricultural financing and its effect on Nigeria's economic growth from 1990-2010.The study used a quantitative research approach and the ordinary least square method. The findings revealed that there is agricultural financing promotes the expansion of the Nigerian economy significantly, but that the rate of loan repayment has had a detrimental impact on the increase of the Nigerian economy over time. However, recommend that the Nigerian Agricultural Cooperative and Rural Development (NACRDB) agricultural loan level and size be increased at a moderate interest rate to facilitate output development.

Egwu (2016) evaluated the effectiveness of agricultural financing on agricultural output, economic growth, and poverty reduction in Nigeria. T-test, R-square, Standard Error Test, and Durbin Watson test ADF/PP unit root and co-integration test were utilized for data analysis. The empirical findings demonstrated that Commercial Bank Credit to the Agricultural Sector (CBCA) and Agricultural Credit Guarantee Scheme Fund Loans to Nigeria's Agricultural Sector (ACGSF) indicated significant in Agricultural Sector Output as a Percentage of GDP (ASOGDP). Based on the findings, the study advocates that the government should implement policies that encourage agricultural commercialization, such as cooperatives, agricultural subsidies, and zero-tariff agricultural input imports.

Oyeronke and Bolarinwa (2017) used descriptive statistics for data analysis in assessing the performance of the agricultural credit guarantee scheme funds in Nigeria from 1981 to 2016. The variables employed are agricultural credit deployed to the geo-political zones viz North Central, North East, North West, South East, South-South and South West. The findings show that only 21.4 percent of the total number of farmers have access to ACGSF loans. In addition, the majority of the credit fund is allocated to food crop cultivation. The study suggests that agricultural policies be improved in order to establish a favourable and enabling environment for farmers, particularly small-scale farmers, to obtain finance.

Odetola and Etumnu (2013) documented a positive and consistent influence of the agricultural sector on economic growth in Nigeria, reaffirming the sector's importance in the economy. The causality test findings showed that agriculture growth Granger-causes GDP growth. The implication was that the agriculture sector's crop production subsector and GDP progress are mutually beneficial. As a result, more efforts in strengthening the livestock, fishery, and forestry subsectors are recommended to help the agriculture sector contribute more to the Nigerian economy. Omosebi and Aladejana (2016) viewed the capacity of agricultural credit to Nigeria's economy from 1986-2014. The variables were assessed using a stationary test, co-integration test, modified ordinary least square (FMOLS) and Auto-Regressive Distributed Lag (ARDL) approach. Credit to the agriculture sector, exchange rate, interest rate, private domestic investment, inflation rate, and economic growth in Nigeria were all used in the study. The findings revealed that agricultural finance and economic growth have a strong short- and long-term correlation. However, control variables such as the real exchange rate and private domestic investment had a direct impact on economic development, whereas the inflation rate had an inverse association in the model. Therefore, canvass for more credit to the sector so as to facilitate the growth of the economy. Adetiloye (2012) assessed the Agricultural Credit

Guarantee Scheme Fund (ACGSF) in Nigeria for food security (1978-2006). The study centred on secondary data from the Nigerian Central Bank's (CBN) statistical bulletin. Agricultural credit from Deposit Money Banks claims filed, and claims settled are among the study's variables. The study used t-tests and paired t-tests and the Granger Causality test. The study found credit to the agric sector has a positive effect on economic productivity but is inconsequential to the economy in terms of growth, whereas ACGSF indicated an adverse performance on economic growth. The test on food security showed negative results in Nigeria as food insecurity is widespread. As a result, it is suggested that government should make agriculture more attractive so as to encourage the youth to harp into the value chain.

Tiamiyu et al. (2017) evaluated the role of the Agricultural Credit Guarantee Scheme Fund, commercial bank loans to agriculture, and agriculture's percentage of GDP from 1981-2017. Correlation Matrix and Ordinary Least Square regression were used as statistical approaches. Agricultural credit, interest rates, and exchange rates equally drive output in Nigeria, as shown in the empirical findings.

Ali et al. (2016) attempted to estimate the connection between financial intermediation through deposit money banks and agricultural growth for the period 1981 to 2014. For data analysis, the ordinary least square approach, Unit root, Variance Inflation Factor (VIF), and Heterosckedasticity White Test were employed although the conclusion for Deposit Money Banks' lending rate (DMBLR) suggested a negative and minimal impact on Agricultural production, the study demonstrated that deposit money banks' credit is significant for output leap in the agricultural sector (AQ). To foster food production in Nigeria, the study recommends that Deposit Money Banks should increase the number of loan facilities mapped out for the agricultural sector.

Empirically, Nnamdi and Torbira (2015) evaluated the nature of the interrelationship between micro credits allocations to classified sectors of the economic environment and gross domestic product in Nigeria from (1992-2014). The study utilized Augmented Dickey-fuller, Johansen's co-integration, Error correction model and standard pairwise granger causality tests. The findings centred on no significant relationship between Nigeria's gross domestic product and micro-credit allocation to agriculture/forestry, mining, and quarrying, however, there is a positive and significant relationship between Nigeria's gross domestic product and micro-credit allocation to manufacturing/food processing, as well as real estate/construction. The causality flows from gross domestic product to micro-credit allocations to that sector. In the same vein, Nwakamma et al. (2014) discovered a considerable long-run relationship between Nigeria's gross domestic product and micro-credit distribution. While the granger causality indicated a demand following role which run from economic growth to micro credits (unidirectional). However, it is suggested that the number of microcredit products be increased in order to accelerate microcredit's contribution to Nigeria's economic growth.

Medugui et al. (2019) employed the ordinary least square method to assess the role of Commercial Banks' credit on Agricultural output in Nigeria, covering the period 1980 to 2018. The results revealed that commercial bank credit as well as government expenditure on agriculture predicts output level in Nigeria. The interest rate was inversely associated with agricultural output; the results were completely consistent with a priori expectations. Thus, the regulatory authority should establish policies that will encourage commercial banks to reduce their interest rates so as to make more funds available to farmers at affordable rates, and increase their expenditure in agriculture with strict compliance monitoring while for the period

1992Q1-2015Q4, Olorunsola et al. (2017) investigated the short- and long-run link through bank credit to agricultural output in Nigeria. Quarterly data on actual agricultural output growth (AGDPg) and private sector lending to agriculture were used in this study (SCA). The findings disclosed no evidence of short-term and long-term disunity between loan and output lump in the agricultural sector. Hence, suggested that the policy on agric sector credit moratoriums should be enhanced.

Obansa and Maduekwe (2013) found bidirectional causality between economic growth and agriculture financing in Nigeria from 1970-2008. The findings show that foreign direct private loans, share capital, foreign direct investment, and development stocks can boost productivity, while the capital-output ratio is enhanced and financed by multilateral loans and domestic savings. Agriculture-led economic growth should be strengthened by implementing sustainable macroeconomic policies.

Fintan and Lema (2018) analyzed the short and long-run connections between government expenditure on agriculture, bank loans to agriculture, and Tanzania's gross domestic product for the period 1990-2016. Ordinary least square techniques were used for data analysis. The empirical data revealed that the variables used have a notable short and long-run link. In light of further evidence, the study concluded that positive agricultural funding shocks have a substantial impact on economic growth. The study recommends that government funding for agriculture should be increased.

Michael (2016) adopted a survey research design for data collection and analysis of 105 farmers in the Ogun State to evaluate the impact of financial inclusion in the agriculture sector. The finding showed that financial inclusion in the Nigerian agriculture sector is vital for sustainable development. Therefore, recommend more establishments of rural banking institutions in primitive areas, and stimulates financial discipline among others so as to promote financial inclusion in the agricultural sector.

Okunlola et al. (2019) used stepwise regression analysis techniques on time series data over a 36-year period (1970-2009) to test the effects of agricultural guaranteed finance on the economic growth of Nigeria in the farm products such as oil palm, cocoa, groundnuts, fishery, poultry, cattle, roots, and tubers. The data was taken from the Central Bank of Nigeria's statistical bulletin. From the empirical analysis, 81 percent of root and tuber, 87 percent of cocoa, and 90 percent of chicken have a reasonable and statistically significant influence on Nigeria's economic growth. Agbada (2015) discovered a positive but insignificant trend between ACGS funds and output boost in Nigeria from 1982 -2012. Therefore concluded that there exists a positive affinity between the variables with insignificant impact. Furthermore, recommended more finances for the industry players to improve output size in the sector.

Orok and Ayim's (2017) findings revealed that Agricultural Credit Guarantee Scheme Fund (ACGSF) had a higher impact on the crop sector than the livestock and fishing sectors within the period under study (1981-2016). To ensure long-term viability and accountability, the government should invest more in agricultural growth.

Theoretical Framework

The theoretical concept of this study is centred on the Theory of Financial Intermediation. Financial institutions, as explained by Shaw (1973) and Mickinnon (1973), are a channel through which huge amounts of credit are available for spontaneous economic expansion. This

theory was shown as the supply-leading role of financial institutions. Robison (2001) stated that the theory specifically postulates rural economic growth with an emphasis on agricultural financing. The implication is that the financial sector provides upfront loans for farm products through subsidized credits and other agricultural inputs. The hypothesis took into account the limitations farmers, growers, and tillers encounter in obtaining farm inputs and other agricultural implements, as well as bank interest while Robison (1952) argued that finance is a handmaid to economic expansion, that increase in productivity promotes the demand for the financial instrument. Through financial institutions, Nnamdi and Torbira (2015) asserted that resources are efficiently and effectively channelled to the needed sectors, such as agriculture, for optimal performance. A long-term association between economic growth and credit disbursement was cited by Nwakanma et al. (2014), showing that as more and more credits are made available to farmers, production increases leading to positive economic growth in Nigeria. The capacity of financial institutions the finance farm products via the banking system, according to Schumpeter (1934), promotes the growth and development of any nation. Demetriades and Hussein (1996), and Rajan and Zingalas (1996) found solid evidence that the expansion of the financial sector aids the growth of the country's economic sectors. Capiro and Demirguc-kunt (1998) cited long-term credit connection with strong production and growth. However, Obansa and Maduekwe (2013) noted, that the flow of credit to the agricultural sector via financial institutions became necessary due to dynamic changes in land tenure systems and new farming techniques.

METHODOLOGY

The study used a quasi-experimental research design and econometric methodology to evaluate the long-term relationship between gross domestic product(GDP) and agricultural credit guarantee scheme fund, commercial bank credit and advances and Community- Microfinance credit. The study employed a stationarity test, Johansen co-integration test, Error correction model and granger causality test were applied.

Operational Measures and Definition of Variables

Agricultural financing function is the independent variable of this study. The agricultural credit guarantee scheme (ACGSF) is the type of fund set out by the government through CBN to fund the agricultural sector in Nigeria. Community-Micro finance credits (CMFC) are those credits advanced by specialized financial institutions to the grass root with the aim of leveraging the economic pursuit of the active poor. Commercial bank loans and Advances (CBLA) are credit facilities programmed by commercial banks to assist various sectors of the economy including agriculture for the purpose of output growth while the gross domestic product (GDP)is the total value of goods produced in a country at a particular period of time. It is based on market value.

Method of Data Analysis

The impact of the long-term relationship between various forms of agricultural financing on Nigeria's economic growth as well as the causal relationship among the variables and to determine the magnitude to which these study variables support/promote Nigeria's economic growth.

Stationarity test: The stationarity test is necessary to measure the unit root properties of the time series. Furthermore, Augmented Dickey-Fuller (ADF) text is employed. The decision is to reject the null hypothesis if the ADF test statistics is absolutely higher than Mackinnon's critical values at 1%, 5% and 10% level of significance (Brooks, 2009).

Johansen's co-integration test: This test is used to ascertain the extent and level of long-run equilibrium relationship between employed study variables (Awe 2012). The decision rule is based on significance at the .05level, of the co-integrating equation.

Error Correction Model: According to Brooks (2009), tend to assess the long-run sensitivity of dependent variables to each of the explanatory variables. It more accurately estimates the time it takes for the dependent variable to return to long-run equilibrium following short-term distortions in the explanatory factors. Accept at a 5% level of significance, else reject, is the decision criteria for the null hypothesis.

Granger Causality Test: This is conducted for the purpose of determining the extent to which the dependent variables and each of the explanatory variables do support or promote themselves in the growth process, granger causality will be executed to determine whether the variation in one variable (X) is caused by variation in another variable(y). Also to ascertain the extent to which they significantly support or promote each other in the economic growth process in the light of the inclusion of lag of the time series (Granger, 1981). A variable granger causes another if the F-statistic is significant at a p-value of 5% or less.

4.0. DATA ANALYSIS AND RESULTS INTERPRETATION

Stationarity (unit Root) Test

Table4.1. 1: Unit Root Output (Augmented Dickey-Fuller)

Variable	ADF T-statistics 1st Diff	Test Critical Values			Probability Level	Order of Integration
		1%	5%	10%		
GDP	-7.128740	-3.626784	-2.945842	-2.611531	0.0000	I(1)
ACGFS	-7.034533	-3.610453	-2.938987	-2.607932	0.0000	I(1)
CBLA	-4.475955	-3.621023	-2.943427	-2.610263	0.0010	I(1)
CMFLC	-6.037005	-3.689194	-2.971853	-2.625121	0.0000	I(1)

Source: Extracts from E-Views 11 output.

From the above, the result of the stationarity test revealed that all the predictor variables are integrated at the first difference, as the value of the ADF Statistical test is higher than Mackinnon's critical at 1%, 5% and 10% levels of significance respectively. Therefore, we proceed to the co-integration test to ascertain the level of long-run relationship among the employed variables..

Co-integration Test

Johansen's co-integration tests the long-run association between the employed variables which are agricultural finance instruments and economic growth in Nigeria. The result is showed below:

```
Date: 07/03/21   Time: 15:17
Sample (adjusted): 1995 2019
Included observations: 25 after adjustments
Trend assumption: Linear deterministic trend
Series: D(GDP) D(ACGFS) D(CBLA) D(CMFC)
Lags interval (in first differences): 1 to 1
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Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.751455	75.68732	47.85613	0.0000
At most 1 *	0.673194	40.88408	29.79707	0.0018
At most 2	0.289469	12.92433	15.49471	0.1176
At most 3 *	0.160736	4.380757	3.841466	0.0363

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.751455	34.80324	27.58434	0.0050
At most 1 *	0.673194	27.95975	21.13162	0.0047
At most 2	0.289469	8.543574	14.26460	0.3261
At most 3 *	0.160736	4.380757	3.841466	0.0363

Max-eigenvalue test indicates 2 cointegratingeqn(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 using E-views 11*

The results of the co-integration test result presented in table 4.1.2 above shows two variables co-integrating equation. This confirms the presence of a long-run relationship among employed variables.

Error Correction Model

The test is used to indicate the correlation and the celerity between short-run and long-run movement.

Dependent Variable D(GDP)
Method: Least Squares
Date: 07/03/21   Time: 17:22
Sample (adjusted): 1993 2019
Included observations: 27 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1676.395	3829.323	0.437778	0.6658
D(ACGFS)	0.003838	0.000798	4.807783	0.0001
D(CMBLA)	28.08475	6.654322	4.220528	0.0004
D(CMFC)	3.073900	0.881951	3.485341	0.0021
ECM(-1)	0.101833	0.229717	0.443296	0.6619

R-squared	0.929892	Mean dependent var	43992.53
Adjusted R-squared	0.917145	S.D. dependent var	43897.47
S.E. of regression	12635.66	Akaike info criterion	21.89201
Sum squared resid	3.51E+09	Schwarz criterion	22.13198
Log likelihood	-290.5421	Hannan-Quinn criter.	21.96337
F-statistic	72.95059	Durbin-Watson stat	1.946405
Prob(F-statistic)	0.000000		

Source: *Author's computation using E-views 11*

The result from table 4.1.3 above shows a positive coefficient of error correction model of 0.101833, indicating the extent to which gross domestic product can be corrected after being distorted in the short run. This reveals that 10.18% of disequilibrium in the gross domestic product (GDP) is corrected within the period by variations in agricultural credit guarantee scheme fund(ACGSF), commercial bank loan (CMBLA) and community-microfinance credit(CMFC). Furthermore, the analysis shows that the coefficient determination of R^2 stands at .929892 revealing that in the long run about 92% of changes in Nigeria's gross domestic product are attributed to changes in the employed predictors' variables. However, the result evidence that all the explanatory variables employed in the model significantly influence the economy of Nigeria as a nation at a 5% level. More so, the findings disclose that the level of

significance in agricultural credit guarantee scheme fund(ACGSF) is 0.0001, Commercial bank loan (CMBLA) 0.0004 and community-microfinance credit (CMFC) 0.0021. This result is in line with the apriori expectation and that all the variables contribute to the economies of Nigeria as a country.

4.1.3 Pairwise Granger Causality Tests
Date: 07/03/21   Time: 17:37
Sample: 1981 2019

Pairwise Granger Causality Tests
Date: 07/12/21   Time: 06:28
Sample: 1981 2019
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause ACGFS	37	3.24142	0.0523
ACGFS does not Granger Cause GDP		0.53584	0.5903
GDP does not Granger Cause COMBL	37	5.72898	0.0075
CMBLA does not Granger Cause GDP		0.70691	0.5007
GDP does not Granger Cause COMMF	37	6.67221	0.0057
CMFC does not Granger Cause GDP		2.57274	0.1001

Source: *Author's computation using E-views 11*

According to the results of the pair-wise granger causality test, there is a bidirectional causal relationship between Nigeria's gross domestic product and ACGFS, CMBLA, and CMFC, as expected at a probability level of 5%. Changes in GDP produce changes in the explanatory variables, as evidenced by the causation flow from GDP to ACGFS, CMBLA, and CMFC. The foregoing findings support the Robison 1952 Enterprises led finance- growth hypothesis.

DISCUSSIONS, CONCLUSIONS AND POLICY RECOMMENDATION

The findings of this study give compelling evidence that a long-term relationship exists between Nigeria's gross domestic product and ACGFS, CMBLA, and CMFLC. The results of the unit root test reveal that all of the variables used are stationary at first. According to the results of the error correction model, all of the variables used in the study were positive and had a significant impact on Nigeria's gross domestic product. This backs up the findings of Nwakamma et al. (2014), Fintan and Lema (2018), Tiamiyu et al. (2017), and Udoka et al. (2016). The granger causality results evidence the fact that changes in Nigeria's gross product (Economic growth) cause changes in agricultural credit guarantee scheme fund (ACGSF), commercial bank loan and advances (CMBLA) and Community/Microfinance credit (CMFC). The implication is that as the output levels increases in the economy, more funds are demanded by farmers for mechanization and to increase productivity. This provides valuable evidence of the Demand following role hypothesis as against supply leading role propounded by mickinomin 1973 and Shaw 1973.

CONCLUSION

The main focus of this study is on the long-term impact of agricultural financing on Nigeria's economic growth. The research spans the years 1981 through 2019. The agricultural credit guarantee scheme fund (ACGSF), commercial bank loan/advance (CMBLA), and community–microfinance credit (CMFLC) are used as explanatory factors in the study, with the gross domestic product as the criterion variable. The unit root test, co-integration test, error correction model, and granger causality test are all part of the study's methodology. At the initial difference, all of the variables used were stationary. A long-term relationship exists. The long-run relationship shows that all of the variables used during the study period had a positive and efficient impact on Nigerian economic growth. Furthermore, the speed at which gross domestic product disequilibrium is being corrected is 10%, while the granger causality flows from gross domestic product to ACGSF, CMBLA, and CMFC, indicating a demand following a role as opposed to a supply following role. It also reveals that it is the rise in farmer production, which in turn increases productivity that supports agricultural finance, rather than the other way around.

POLICY RECOMMENDATION

1. The federal government should motivate commercial banks to give adequate credit facilities to the Agricultural sector through moderate bank lending rates for ease of farming business in Nigeria.

2. Proactive campaign on the availability of credit facilities for farmers to enable them to have access to loans at a single-digit interest rate. This could be achieved through social media, door-to-door vibes, town hall meetings and market square awareness.

3. Government should create an enabling environment for farmers through the provision of adequate security, pest control measures and seedlings.

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