Credit policies and agricultural development: The Cross River State perspective

Otu, Christopher Awa[1]; Nsan, Kingsley Tiku[2]; Eyam, Nkang Enighe[3]; Onen, Margaret Ubi[4]; Okomisor, Ofem Lawrence[5]

[1]Department of Economics, University of Calabar, chrisotu2008@yahoo.com
[2]Department of political Science, University of Calabar, nsankingsley2018@gmail.com
[3]Department of Economics, University of Calabar, nkangeyam@unical.edu.ng nkangenigheeyam@gmail.com
[4]Department of Political science, University of Calabar, onenmargaret@gmail.com
[5]Department of Political Science, University of Calabar, okomisorofem@gmail.com

Abstract

This study on Agricultural Credit Policies and Agricultural sector Development: The Cross River State Perspective sought to determine the impact of agricultural credit policies on agricultural output in Cross River State. The study resorted to data on gross domestic product, government expenditure on agriculture and interest rate from the State Bureau of Statistics ranging from 1991 - 2017. The study adopted the Ordinary Least Square (OLS) method of analysis. Result from our findings indicated that Interest rate and Agricultural expenditure did not have significant impact on Gross Domestic Product (GDP) during the period under review. The author recommended for an expansion of capital investment to boost agricultural output in the State. Secondly deliberate policies should be implemented aimed at creating the enabling environment for private sector participation in the agricultural sector development ranging from: Farming, Processing, and Preservation, exporting, Tourism, Recreational and environmental services. This will increase the State Gross Domestic Product (SGDP) and showcase the states potentials to world.

Key words: Agricultural Credit Policies, Agricultural sector Development, State Gross Domestic Product

Introduction

Agriculture before and after independence has been the key to Nigeria's rapid economic growth, transformation, poverty alleviation, stable civil and good governance as well as national and food security (Azih, 2008). Agriculture in Nigeria is the most important component of the country's economy, employing over 60% of the labour force and contributing 21.4% to the GDP. Over 90% of Nigeria's agricultural output is owned by small-scale (less than 5 ha) resource-poor farmers who have for centuries sustained the national food supply through a considerable wealth of indigenous knowledge about how to harness both natural and socio-economic factors of production (Adedipe et al 2004; Oluwatayo et al, 2008). Although small-scale farmers play a dominant role in the Nigerian economy, their productivity and growth are hindered by limited access to credit facilities (Rahji et al, 2009).

Nigeria, is a country in West Africa, bordering Niger in the north, Chad in the northeast, Cameroon in the east, and Benin in the west. Its coast in the south is located on the Gulf of Guinea in the Atlantic Ocean. The federation comprises thirty-six states and one Federal Capital Territory, where the capital, Abuja, is located. The constitution defines Nigeria as a democratic secular state. Agriculture has traditionally been characterized as the "mainstay" of the Nigerian economy with many assigned roles to perform in the course of the country's economic development. Among the roles conventionally ascribed to the agricultural sector in a growing economy are those of: (i) Providing adequate food for an increasing population (ii) Supplying adequate raw materials to a growing industrial sector (iii) Constituting the major source of employment (iv) Constituting a major source of foreign exchange earnings and (v) Providing a market for the products of the industrial sector. The agrarian sector has a strong relationship with the economy; hence, concern for agricultural policies and the economy. Support for agriculture is widely driven by the public sector, which has established institutional support in form of agricultural research extension, commodity marketing, input supply and land use legislation, to fast-track development of agrarian sector to achieve the aim of economic development. The importance of the agrarian sector, also suggests the intervention of the

private sector through sponsorship of research and breakthrough on agricultural issues in Universities, capacity building for farmers and, most importantly, the provision of fund for farm businesses. International governmental and non-governmental agencies including the World Bank Fund and Agricultural Organization of the United Nations, also contribute through on farm and off-farm support in form of finance, input supply strengthening of technical capacity of other support institutions.

Agricultural credit is expected to play a critical role in agricultural development (Duong & Izumida, 2002). Farm credit has for long been identified as a major input in the development of the agricultural sector in Nigeria. The decline in the contribution of this sector to the Nigeria economy has been attributed to the lack of a formal national credit policy and paucity of credit institutions which can assist farmers among other things. The provision of this input is important because credit or loan able fund (capital) is viewed as more than just another resource such as labour, land, equipment and raw materials (Rahji & Fakayode, 2009). Financial constraint is a perennial problem confronting investors in both the upstream and downstream segments of agriculture. The overall constraint manifests in terms of poor access to credit and high lending rates. The two combined, along with bureaucratic bottleneck, lead to an inefficient agricultural finance market in Nigeria.

Agricultural development is a subset of economic development, which implies a sustained increase in the level of production and productivity over a reasonable length of time and the subsequent improved wellbeing of farmers as reflected in their higher per capita income and standard of living. Agricultural development is a process that involves adoption by farmers (particularly small scale farmers) of new and better practices (Orebiyi, 1999). This is due to the fact that most of the new practices have to be purchased but few farmers have the financial resources to do so. It was in recognition of this fact that the Federal Government at various periods put in place finance policies and programmes and established credit institutions that could facilitate the flow of agricultural credit to farmers (Adegeye & Dittoh, 1985).

It was in recognition of credit needs of farmers that the Federal Government of Nigeria (FGN), at various periods, put in place financial policies and established credit institutions, schemes and programmes that could facilitate the flow of agricultural credit to farmers. One of such laudable schemes was the Agricultural Credit Guarantee Scheme Fund (ACGSF) of 1978 (Nwosu et al. 2010). Under this scheme, the Central Bank of Nigeria (CBN) guaranteed up to about 75% of the value of the principal and interest on loans granted to farmers by any commercial bank up to some stipulated maximum amount for individuals and corporate bodies (Manyong et al. 2003). ACGSF was not the first credit scheme that the FGN put in place to encourage agricultural development but was one of the successful agricultural credit policies in the country. According to Nwosu et al. (2010), other farm credit schemes, programmes and institutions included the NACRSB of 1972, Expansion of Commercial Bank of 1976, RBDA of 1979 and ADP of 1972.

However, the persistent failure of the above institutions and conventional banks to adequately finance agricultural activities in the mid-1970s was a clear evidence that the country was in need of further financial and institutional reforms that would revitalize the agricultural sector by encouraging the flow of institutional credit into it. Also, the unpredictable and risky nature of agricultural production, the importance of agriculture to our national economy, the urge to provide additional incentives to further enhance the development of agriculture to solve the problem of food insecurity and the increasing demand by lending institutions for appropriate risk aversion measures in agricultural lending provided justifications for the establishment of the Nigerian Agricultural Credit Guarantee Scheme Fund (ACGSF) by the Federal Government of Nigeria in 1977 (Mafimisebi et al. 2009).

All these were aimed at solving the problem of inadequate funding of agriculture by banks and other lending organisations and to cushion these financial institutions against the effects of high risks associated with investments in farm enterprises as well as to raise the productivity and earnings from farm investments so that the incidence of loan repayment defaults among farmers will be minimized (CBN, 1986; Ogwuma, 1985; Eyo, 1985; Oguoma, 2002).

Agricultural policies provide among others, for adequate financing of agriculture. The role of agricultural sector in diversification of economy cannot be over emphasized, given that it guarantees food security of any nation. Public expenditure on agriculture has, however, been shown not to be substantial enough to meet the objectives of Government agriculture policies (IFPRI, 2008). For a developing country with a mono-product oil economy such as Nigeria, Government's indifferent to agriculture portends great danger to the economy for many reasons. For instance, fluctuating food prices are a precursor of inflation. Secondly, from the expenditure approach to national income accounting, it is likely that Engel's Law that a large chunk of expenditure in developing economics goes to food-holds meaning that shocks to the domestic agricultural production and supply could be damaging to price stability. There is also the perspective of food security, in an era when food has been used as a weapon of War (United Nations Oil for food Deal in Iraq) and as bargaining tool (North Korea- United States Food Deal), even within Nigeria, the federal military government during Nigerian-Biafran war used blocking of food supply as a tool of war.

Literature review

Several studies have established a positive relationship between credit and agricultural productivity but yet, this necessary input has not been readily available to farmers in Nigeria (Ammani, 2012; Olaitan, 2006; Udoka, 2016). Agricultural credit has for long been recognized as a strong mover in agricultural transformation and economic development (Yusuf et al, 2015). Credit plays a major role in the transformation of traditional agriculture into a modern large-scale commercial type which enhances agricultural development. It is necessary for purchasing inputs needed for effective adoption of modem agricultural techniques. Many economists have identified the lack of basic assets major constraint to agricultural development (Abayomi and Salami, 2008). Oluwasanmi and Alao (1965) clearly stated the need for credit or the purchase of farm inputs such as improved seed varieties, breeds of livestock, fertilizers, insecticides, pesticides, modern implement, among others. They also stressed the suitability of terms of credit as a necessary condition for fostering agricultural development.

Oyatoye (1981) averred that credit is a major factor necessary for technological transfer in traditional agriculture. According to her, given the availability of inputs needed to improve technology, how rapidly farmers would adopt improved technology depend on additional factors. She further identified efficient source of production credit as one of these additional factors. Oni (1987) opined that the peasant farmers do not possess enough resources to purchase these farm investments. He further stressed that it is necessary to supplement the farmer's personal earnings to facilitate agricultural transformation. Hence the need for credit is universal. While it is needed by the less developed countries to increase productivity per farm worker and per hectare, the developed nations also need it to foster development (Jekayinfa, 1981; Abalu et al, 1981).

Cole (2008) integrated theories of political budget cycles with theories of tactical electoral redistribution to test for political capture in a novel way. Studying banks in India, he found that government-owned bank lending tracks the electoral cycle, with agricultural credit

increasing by 5-10 percentage points in an election year. There is significant cross-sectional targeting, with large increases in districts in which the election is particularly close. This targeting does not occur in non-election years, or in private bank lending. He showed that capture is costly: elections affect loan repayment, and election year credit booms do not measurably affect agricultural output.

Gonzalez-Vega and Graham (1995) examined the potential role of state-owned agricultural development banks as a source of micro-financial services. It first discusses elements of a new consensus on microfinance, including the importance of formal and informal finance for the poor, the consequences of credit rationing, and progress in micro-financial technologies. While key lessons are identified from past experiences of government intervention in financial markets and from new experiments in microfinance, no dominant organizational model emerges among examples of best practice. They provided a conceptual framework to interpret the failure of state-owned agricultural development banks, their lack of success in reaching the poor, and their lack of viability. Key defining dimensions deserve special attention: (a) their specialization in agricultural credit, with the accompanying instances of market failure and high monitoring costs as well as the negative impact of policies that penalize agriculture; (b) their development orientation and lack of profit motive; (c) their possession of a bank charter which authorizes deposit mobilization; and (d) state ownership, with the resulting inadequate level of internal control and incentive problems.

Swinnen and Gow (1999) assessed the problems of financing Central and Eastern European agriculture during the present transitionary period and the role of government in this process. Initially the paper looks at why credit markets work imperfectly, even in well-developed market economies, focusing on problems related to asymmetric information, adverse selection, moral hazard, credit rationing, optimal debt instrument choice and initial wealth. It shows why these and related problems may cause transaction costs to be so high that credit rationing and high interest rates are rational and efficient responses by lenders to the imperfect information problems of the agricultural sector. A series of specific, transition-related issues are then discussed which have worsened these problems within the Central and Eastern European agricultural sector. The potential roles of governments in solving these issues and actual observed interventions by Central and Eastern Europe governments through credit subsidies, loan guarantees and specialized agricultural lending institutions are analysed. Finally, they discussed how financial market innovations have solved some of the credit market problems and derived the implications for government policies.

Rahji and Adeoti (2010) identified the determinants influencing Commercial banks decision to ration agricultural credit in South-Western, Nigeria. Data for the analysis were sourced from the agricultural credit transactions of the banks. Evidence, from the estimated logit model indicated that farm size of the farmers; previous year's income, enterprises type, household net worth and level of household agricultural commercialization are significant but negative factors influencing the banks decision to ration credit. Higher values of these factors decrease the probability that the borrowers will be credited rationed. The number of dependents in the household has a positive significant impact on the probability of being credit constrained by the banks. Hence higher values of this variable increase the likelihood of being credit rationed. The results also indicate that the larger the magnitude of the coefficient estimated, the bigger is its impacts on the odds of being credit-ration per unit change in its variable. On the other hand, the larger the parameter, the lower the percentage changes in the odds per unit

change in the variable. Based on the results obtained farmland redistribution, farm income improvement, gender specific and credit allocation policies to the crop sub-sector were recommended.

Anjoum (1973) stated that the Agricultural bank of Pakistan had not met the credit requirements of agriculture sector in Peshawar Tehsil. He found that 72% borrowers obtained credit as package of mix inputs. However the recovery position was found satisfactory. The author suggested an effective supervised credit system in order to meet the requirements of agriculture in the project area. Khan (1981) found several measures to improve the flow of formal credit to agricultural sector, the situation was still unfavorable. The study reported that various problems are associated with formal credit system and recommended large number of measures for system improvement but still the situation is out of the control. The reason is the political interruption in banking system which affects all the activities of the banker.

Aladejare (2013), utilized the analytical technique of Vector Error Correction Model (VECM) and Granger Causality test due to the properties of most times series based on annual data covering the period 1961-2010 to identify the direction of the relationship within the variables of interest that is, Gross domestic product, Government expenditure and government capital expenditure. The study pointed to the agreement that the Wagnerian and Rostow Musgrave hypothesis were applicable to the relationship between the fiscal variables. The results showed that the Wagnerian hypothesis of economic growth spurring increase in aggregate government expenditure in the economy holds to be valid for Nigeria – and recommended that government consumption spending should be well coordinated at all arms of government investment which will have assignment impact on economic growth and development.

Etale and Ayunku (2015) investigated the effect of agriculture spending on economic growth in Nigeria over a period from 1977 to 2010 with particular focus on sectional expenditure analysis. The paper used ex-post factor research design and employed the Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root tests, as well as Johansen Co integration followed by Error Correction Model (ECM) tests. It found out that Real GDP was particularly influenced by changes in agriculture expenditure, inflation rate, interest rate, and exchange rate. The paper recommended that an increase spending on agriculture by the government, since most of the poor but active people reside in the rural areas and their main source of livelihood is agriculture as it could provide food security, generate employment for the teeming youths and create wealth for the citizens in Cross River State and Nigeria as large.

Wahab (2011) examined an analysis of government spending on agricultural sector and its contribution to Gross Domestic Product (GDP) in Nigeria, using trend analysis and a simple linear regression to analyse the time series data, the result obtained shows that such spending does not follow a regular pattern and that the contribution of the agricultural sector to the GDP is indirect relationship with government funding to the sector. Iganiga (2011) examined the impact of federal government agricultural expenditure on agricultural output in Nigeria, they used the Cobb Douglas Growth Model, Descriptive Statistics and Econometrics Model were used to analyze the time series data. Co-integration and Error Correction methodology were employed to draw out both long-run and short- run dynamic impacts of these variables on the value of agricultural output. Federal government capital expenditure was found to be positively related to agricultural output. With a one-year lag period, it shows that the impact of

government expenditure on agriculture is not instantaneous. The policy import of the study is that investment in the agricultural sector is very imperative and this should be complemented with monitored credit facilities.

Lambe (1983) attributed low agricultural productivity to problem of manpower development in agricultural sector, parochialism in the aspect of training, lack of appraisal and demoralization of agricultural staff, proffering solution; he offered that training should be made available to agricultural personnel. He also recommended for availability of funds to the staff, that the sector should harness its resources and opted that service conditions be made more favourable and competitive so as to attract the right type of personnel into the sector as to him, the low rate of Nigeria's agricultural production is due to lack of sufficient personnel. Makinde (2016) examined the impact of deposit money banks' loan and advances on the growth of mining and quarrying, manufacturing and the building and constructions sectors, service sector and agriculture sectors from 1986 to 2014. By employing regression analysis, the study found that unlike mining and quarrying, manufacturing and the building and constructions sectors and service sector which have benefited in a little way from the deposit money banks credit, it has significant positive effect on agricultural sector, implying that agricultural sector has benefited from the funds thereby driving economic growth of Nigeria.

Ileka, Sabina and Onyeze (2014) explored the impact of intermediation roles of banks on the performance of the manufacturing sector in Nigeria for the period of 8 year covering 2005-2013. Descriptive and inferential statistics results showed that the intermediation process of commercial bank positively contributed to real sector. The study concluded that there is competitiveness in the intermediation role of banks. Ajibola, Ishola and Samuel (2014) discussed the effect of commercial bank lending on Nigeria's aggregate economic growth for the period 1970-2011. The study concluded through regression analysis that previous term's credit to service sector positively influenced the growth of Nigeria whereas lagged and current loan and advances to other sectors related negatively with growth of Nigerian economy.

Nnamocha and Charles (2015) employed error correction mechanism to study the influence that bank loan and advances have on agricultural production in Nigeria between 1970 and 2013. Revelation from the study indicated that there existed presence of longrun relationship among the variables. The study revealed that bank loans and advances and industrial output positively contributed to agricultural output in Nigeria on the long run while industrial output was only found to affect agricultural production in the short-run. Adewole, Adekanmi and Gabriel (2015) investigated sectoral distribution of commercial banks' loans and advances to agricultural sector, liquidity ratio, cash reserve ratios and money market minimum rediscount rates from for the period of 2002-2014 in Nigeria. The study applied multiple regression of ordinary least square and discovered that cash reserve requirement, liquidity ratio and discount rate have no significant effect in financing agricultural sector. Hence, the study concluded that discount rate, liquidity ratio and cash reserve lower the degree of agricultural credit in Nigeria. Agunwa, Iyanya, and Proso (2015) evaluated the effect of deposit money banks on agricultural output in Nigeria, using least square regression estimation technique. They found that commercial banks credit and government expenditure have positive and significant influence on agricultural productivity while interest rate has negative effect on agricultural output.

Theoretical framework

Three approaches to government expenditure theory or models were employed in discussing this work .Wagner's Law, Rostow-Musgrave model and the Keynesian theory. According to Wagner, social progress has led to increasing state activity with resultant increase in public expenditure. He predicted an increase in the ratio of government expenditure to national income as per capital income rises. It is the result of growing administrative and protective actions of government in response to more complex legal and economic relations, increased urbanization, and rising cultural and welfare expenditures (Ogba, 2011).

Rostow and Musgrave also carried out a research on the growth of public expenditure on changes in the income elasticity of demand for public services and concluded that, at the early stages of economic development, the rate of growth of public expenditure will be very high, because government provides the basic infrastructural facilities that is, social overhead. And most of these projects are capital intensive; therefore, the spending of the government will increase steadily. The investment in education, health, roads, electricity, and water supply are necessities that can launch the economy from the traditional stage to the take off stage of economic development making government to spend an increasing amount with time in order to develop an egalitarian society (Ogba, 2011).

Keynes regards public expenditures as an exogenous factor which can be utilized as policy instruments to promote economic growth. Hence, an increase in government expenditure is likely to lead to an increase in employment, profitability and investment through multiplier effects on aggregate demand (Emerenini & Ihugba 2014). This study is based on the Wagner's model of the determination of public expenditure because it is the principle of increasing state activities that can effectively boost agricultural output, and thus employ workers.

Agricultural financing and the role of credit in agricultural output.

Agricultural finance is a risky and expensive business. However, the problem does not lie with the unchangeable risks and costs which can be avoided by not providing access to rural smallholders but with the accurate management of the risks and costs (Fiebig, 2001). Generally speaking, agricultural finance differs from other kinds of finance in that there is a large number of small loans involved. This tends to increase the operational costs of lending; the principal reason for this being that the scale of farming operations is generally small. For instance, the cultivated land area of more than two-thirds of tillers is less than one hectare. Furthermore, the drive towards urbanization has led to labour shortages in rural areas as well as insufficient investments in agriculture. Added to this, farmers, when contacted by industrial lenders, tend to lack appropriate collateral to secure their borrowing to the extent that unsuitable items, including land, reservations and woodland, are frequently offered as collateral.

The demand for agricultural finance is also seasonal, since agricultural activities tend to follow a seasonal pattern, and then natural disasters and the spread of contagious diseases among animals also exert significant impacts. Furthermore, farmers are not highly educated and they lack coherent strategies when it comes to making plans to borrow money, using the funds appropriately and arranging to pay them back. It is, therefore, very easy for funds to be misappropriated and for abuses to exist. In this way, the process of repaying agricultural loans becomes much slower and more complicated than in the case of loans for industrial purpose. It is also very easy for the repayment process to be delayed to the extent that the number of overdue loans significantly increases (Yi Lin, 1998).

Agricultural credit plays an enormous role in the agricultural production sub-sector of the Nigerian economy. Agricultural credit enhances productivity and promotes standard of living by breaking the vicious cycle of poverty of small scale farmers. Adegeye and Ditto

(1985) describe agricultural credit as the process of obtaining control over the use of money, goods and services in the present in exchange for a promise to repay at a future date. Various studies have shown that credit plays an important role in enhancing agricultural production by farmers (Okorji & Mejeha, 1993; Nweze, 1991; Mafimisebi et al. 2008). The general purpose of agricultural finance policy is to encourage farmers to borrow in order to boast agricultural production and agro-processing activities. Thus, credit serves as input to agriculture with which farmers procure farming inputs for agricultural production. According to Shepherd (1979) credit determines access to all of the resources on which farmers depend.

Consequently, provision of appropriate macroeconomic policies and enabling institutional finance for agricultural development is capable of facilitating agricultural development with a view to enhancing the contribution of the sector in the generation of employment, income and foreign exchange (Olomola, 1997). Oyeyinka (2002) estimates that improved access to credit enables households to invest in farm assets and, therefore, increases income levels of beneficiaries. This finding is consistent with Zeller et al. (1997) and Oyeyinka and Bolarinwa (2009) who found that income of loan beneficiaries was about N70, 000 and non-beneficiaries was just N30, 000 per annum among maize farmers in rural Oyo State. The increase in income was as a result of the increase in output which is as a result of better access to farm input brought about by the loan obtained from Nigerian Agricultural Credit and Rural Development Bank (NACRDB). Agricultural credit enhances productivity and promotes standard of living by breaking the vicious cycle of poverty of small scale farmers (Adebayo, and Adeola, 2008). Agricultural credit access has particular salient roles in the context of agricultural and rural development in Nigeria. Oyeyinka and Bolarinwa (2009) observed that loan beneficiaries have a higher mean index of 1,467 than non-beneficiaries among 600 maize producers in rural areas of Oyo State. Generally, the productivity of beneficiaries in terms of maize production was higher than non-beneficiaries.

The implication of this is that credit disbursement had enhanced the lives of farmers in Fasola community of the state. This finding supports the outcome of the study by Williams (1985), Bologun and Otu (1992) and Oyeyinka (2002) who observed positive and significant relationships between agricultural credit and productivity. Fakayode et al. (2009) explored On-lending credit scheme to crop farmers in Ekiti State Agricultural Credit Agency (ESACA) among one hundred and sixty farmer households comprising 80 beneficiaries and 80 non-beneficiaries. The result indicates that although the loan disbursed to each beneficiary was low, the resulting gross margin was also low. However, gross margin of beneficiaries was higher than that of non-beneficiaries because beneficiaries diversified crops including a mixture of food and cash crops as a result of the credit they obtained. In a study of impact of farm credit on farmer's socio-economic status in Ogun State, Nigeria, among beneficiaries and non-beneficiaries of credit, Kolade and Fakoya (2011) observed that beneficiaries recorded 80,000 tons of cocoa production compared to lower than 21,000 tons of cocoa production by non-beneficiaries. There is a positive and significant correlation between performance of farm production operations and securing of credit for crop production level (r=0.382). The crucial role of credit in agricultural production and development can be appraised from the perspective of the quantity of problems emanating from lack of it. In modern farming business in Nigeria, provision of agricultural credit is not enough but efficient use of such credit has become an important factor in order to increase productivity.

Methodology

This study examines agricultural credit policies and agricultural output in Cross River State. To achieve this, the study adopted the Ordinary Least Square (OLS) regression technique under the framework of multiple regression modeling. The study area is the economy of Cross

River State of Nigeria, with peculiar agricultural potential and a fitting economic analysis of the developmental progress in the region is the goal of this study. Appropriate government expenditure in the sector is poised to drive industrialization and invariably increase economic growth.

The model specification

This study adopts empirical and theoretical analysis with a view to determining how government expenditure impact on economic growth in Cross River State, Nigeria. The model adopted for this study is the Keynesian theory of public expenditure. Because government expenditure as a policy instrument is an exogenous factor which drives aggregate demand and overall output. We specify that the growth of gross domestic product is a function of public expenditure on interest rates and government expenditure.

This is given as:

GDP = f (INT, EXP)..... (1)

Where:

GDP = Gross Domestic Product;
INT = Interest rates;
EXP = Government expenditure on agriculture

Therefore, incorporating other determinants of economic activities which include the key variables to be considered in this study: interest rates, government expenditure and gross domestic product.

The empirical model for this study is specified as:

The equation above can be transformed into an econometric model of the form:
$LogGDP = bo - b_1INT + b_2 EXP + U$..... (2)
B_1 to b_2 are the coefficients of the parameters to be estimated.

Presentation of findings

Dependent Variable: GDP
Method: Least Squares
Date: 01/28/20 Time: 12:56
Sample: 1991 2017
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	82609838	67265170612.132	12.281	0.000
INTR	-4954154	1217850570.345	-4.068	0.000
EXP	-8579532	2209406848.215	-3.883	0.001

R-squared	0.918	Mean dependent var	183382750329.66
Adjusted R-squared	0.912	S.D. dependent var	177912815807.19
S.E. of regression	14461309	Akaike info criterion	35.91366
Sum squared resid	6.90E+15	Schwarz criterion	36.08781
Log likelihood	-660.4027	Hannan-Quinn criter.	35.97505
Durbin-Watson stat	0.817	Prob(F-statistic)	0.00000
		F-statistic	134.945

Analysis of data

The result of the ordinary least square (OLS) regression model was presented in this chapter. The analysis of the result was subjected to econometric tests, economic criteria, and statistical tests. An OLS model was estimated to check the impact of government expenditure on agriculture.

Economic criteria

The OLS regression applied the Log Linear Model in order to determine the relative change in the dependent variable from a relative change in each of the explanatory variables.

The result has established a negative and significant relationship between interest rates and the gross domestic product.

The result also has established a negative and significant relationship between government agriculture expenditure and the gross domestic product.

Statistical criteria

Coefficient of determination R^2

This measures the goodness of fit of the regression model. It shows how the variation in the dependent variable is explained by the explanatory variables. From the table, R^2 =0.918. This implies that about 91% variation in gross domestic product is explained by the explanatory variables.

T-test

This tests the explanatory power of the independent variables; the result shows that the variable interest rates (INTR) has a significant correlation with GDP. This is because its absolute t-statistic of 4.068 is greater than the critical t-statistic of 2.954021 at 5% level of significance. Its coefficient of 4954154 implies that a percentage increase in interest rates will affect GDP by 4954154%. The result shows that the variable government agricultural expenditure (EXP) has a significant correlation with GDP. This is because its absolute t-statistic of 3.883 is less than the critical t-statistic of 2.954021 at 5% level of significance. Its coefficient of 8579532 implies that a percentage increase in government agricultural expenditure will affect GDP by 8579532%.

F-Statistic.

The F-statistic is used to determine the overall significance of the entire variable in the model. The calculated F-statistic is 134.945 and this implies that the entire variables joined together are significantly different from zero.

Discussion of findings

The findings obtained in this research shows that, interest rates and government expenditure on agriculture have a significant correlation with the Gross Domestic Product (GDP). The resultant effect of this is that economic growth is both possible and plausible when spearheaded by agricultural credit schemes. That is to say that it can be empirically stated that a measurable level of investment in agriculture under reasonable interest rate levels can produce an estimated level of overall increase in the wider economy. The targets and goals of agricultural credit schemes on the wider economy can be met effective and directed fiscal controls, which can make the economic environment able to properly incubate agriculture-based ventures and interests. Therefore, it is worth stating that in order for the state and national at large to translate itself into an agricultural hotbed, agricultural credit schemes should be rolled out with measures that are not disproportionate to the prevailing interest rates in the economic sphere.

This study has attempted the evaluation of the impact of agricultural credit policies on agricultural sector development. The study reviewed various government agricultural policies in Nigeria with the aim of ascertaining their impact on the overall economic output. In addition, the study covered the key issues in formulating, implementing and evaluating agricultural policies which are the broad objectives of the policies. It is from assessing the outlined objectives of agricultural policies that led to other key issues on the subject matter such as the funding of agricultural policies and programmes, especially from the budgetary allocations in the agricultural sector, the Gross Domestic Product (GDP) from Nigeria's agricultural sector, agricultural policies in relation to rural farmers in Nigeria, the role of credit in agricultural production. It was thereby found that agricultural development is feasible given that the other determinants of economic growth are well aligned.

Conclusion and recommendations

The role of agricultural finance in the agricultural sub-sector of the Nigerian economy cannot be overemphasized. Government has put in place various policies aimed at financing agriculture. However, rural farmers remain poor and small scale farm operations are still rudimentary. Agricultural credit in particular provides farmers with better access to farm inputs such as improved seeds, chemicals, labour and machinery, among others, which can translate to increased agricultural production. Delivering financial services to rural communities, however, is still a major challenge in Nigeria considering geographic dispersion and that unit operating costs were often higher. Efforts of the FGN towards guarantying of loans through the CBN are commendable. The issue of corruption is also another important factor; funds made available for rural farmers as loans so often than not can be diverted to industrial use by top government officials.

Recommendations

- Government should maintain the credibility of macroeconomic policy that will make borrowing pro-investment in order create economic growth through such investments.
- Expansion of capital investment and increase in productivity of agricultural investment should be more appropriately financed with domestic savings, foreign private loan, share capital, foreign direct investment and development stocks.
- Programmes should also be monitored and their efficacies evaluated in terms of a specific geographical impact of that programme. This provides a highly useful approach for gauging the direct and indirect impact of different programmes and project interacting simultaneously. Policy makers/planners should also identify and evaluate alternative or different intervention programmes in terms of both their immediate and long term impacts and of their implications to the communities and society at large.
- The philosophy of policy/programme consistency should be adopted in Nigeria. This is the easiest way to streamline, direct and focus to agricultural development. This philosophy should be a critical issue our future policies and programmes should address.
- The government should provide enabling environment for private sector involvement in agricultural development especially in areas like processing, preservation, exportation, tourism, recreational and environmental services. This will promote agricultural development and project us to the entire world.

References

Adesoye A. B., Maku E. O. & Atanda, A. A. (2011). "Strategic Development Financing Mix and Economic Growth in Nigeria". *Pakistan Journal of Social Science,* 8(1), 8-12.

Adesoye, A. B., Maku E. O. & Atanda, A. A. (2011): Non-Debt Development Financing Mix and Implications on Nigerian Economic Growth. *Pakistan Journal of Business and Economic Review,* 1(1), 1-13.

Ajayi, S. I (1991). "*Macroeconomic Approach to External Debt: The Case of Nigeria".* Research paper 8, African Economic Research Consortium, Kenya.

Akpansung, A.O. & Gidigbi, M.O. (2014). Recent banking reforms in Nigeria: Implications on sectoral credit allocation and economic growth. *International Journal of Business and Social Science,* 5(13), pp. 91-104.

Akujuobi L. E. & Onuorah A. C. (2007): "Debt and Economic Growth in Nigeria". *Journal of Research in National Development,* 5(2).

Althukorala, P. & S. Rajapatirana (2003): "Capital Inflows and Real Exchange Rate: A Comparative Study of Asia and Latin America". *The World Economy,* 26(4), 613-637.

Anyanwu, J. C. et al (1997). *The structure of the Nigerian economy (1960-1997).* Onitsha: Joanee Educational Publishers Ltd.

Ayatse, O.F. & Akura, I. I (2010) "Agricultural Programmes and Rural Development in Nigeria: A Revisit of Agricultural Programmes in Nigeria Between 1999-2007". In Egbo, E.A. et al (eds) *Rural and Community Development: Critical Issues and Challenges.* Onitsha: Austino Publishing Company.

Bada, O.T. (2017). The effect of banks' credits on the development of manufacturing and agricultural sectors of Nigeria's Economy. *International Journal of Advanced Studies in Economics and Public Sector Management,* 5(1), 114-130.

Bayoumi, T. & Melander, O. (2008). *Credit matters: Empirical evidence on US macro financial linkages.* IMF Working Paper.

Beck, T. & Levine, R. (1998). Industry growth and capital allocation: Does having a market or bank based system matter? *Journal of Financial Economics,* 36(4), 763-781.

Bencivenga, V.R. & Smith, B.D. (1991). Financial Intermediation and Endogenous growth. *Review of Economics Studies,* 58(6), pp. 195-209.

Central Bank of Nigeria (2007) Annual Report and Statement of Accounts, Abuja, Nigeria.

Driscoll, J. (2004). Does bank lending affect output? Evidence from U.S. *Journal of Monetary Economics,* 51, 451–471.

Federal Government of Nigeria (2004) National Economic Empowerment and Development Strategy (NEEDS), National Planning Commission, Abuja.

Federal Ministry Agriculture (2004) Nigeria's Agricultural Policy Guide 2004. Abuja, Ministry of Agriculture.

Federal Ministry of Agriculture and Rural Development (2000) Agriculture in Nigeria: The New Policy Thrust. Abuja.

Federal Ministry of Agriculture and Rural Development (2001) National Fadama Infrastructure Survey Report, Sheda-Abuja; World Bank/Projects Coordinating Unit.

Ijaiya, G.T. & Abudulraheem, A. (2000). Commercial bank credit to the agricultural sector and poverty reduction in Nigeria: A calibration analysis. *Nigeria Journal of Agricbiz and Rural Development,* 1(1), 143-157.

Ijere, M. O. (1983) Readings in Nigeria Agricultural Policy and Planning: Port Harcourt. University Press, Prot-Harcourt.

Ikelegbe, A. O. (1996). *Public policy making and analysis*. Benin City. Uri Publishing Ltd.

Itodo, A.I.; Apeh, S. & Adeshina, S. (2012). Government expenditure on agricultural sector and economic growth in Nigeria. *Journal of Humanities and Social Science,* 8(4), 62 –67.

Kerlinger, F.N. (1973). *Foundations of Behavioural Research.* New York: Holt Rinehart and Winston.

King, R. & Levine R. (1993). Finance and growth: Schumpeter might be right. *The Quarterly Journal of Economics,* 108, 681-7737.

Kolapo, T.F.; Oke, M.O. & Ayeni, R.K. (2012). Credit risk and commercial banks' performance in Nigeria: A panel model approach. *Australian Journal of Business and Management Research,* 2(02), 31-38.

Kwanashie, M. I. Ajilima, L. & Abdul-Ganiyu, G (1998). *The Nigeria Economy: Response of Agriculture to Adjustment Policies.* AERC Research Paper 78, African Economic Research Consortium, Nairobi, March 1998, http://www.aercafrica.org/DOCUMENTS/Rp78.PDF.

Makinde, H.O. (2016). Implications of commercial bank loans on economic growth in Nigeria (1986-2014). *Journal of Emerging Trends in Economics and Management Sciences (JETEMS),* 7(3), 124136.

Mohammed, Y. (2012). Monitoring bank performance in the presence of risk. *Journal of Finance,* 3(4), 11-28.

National Bureau of Statistics (NBS) (2007) Nigeria Poverty Assessment 2007. A Report Submitted to the World Bank.

Nnamocha, P.N. & Eke, C.N. (2015). Bank credit and agricultural output in Nigeria: An error correction model (ECM) approach. *British Journal of Economics, Management & Trade,* 10(2), 1-12.

Obilor, S. I. (2013). The impact of commercial banks' credit to agriculture on agricultural development in Nigeria: An Econometric Analysis. *International Journal of Business, Humanities and Technology,* 3(1), 85-94.

Ogar, A.; Nkamare, S.E. & Effiong, C. (2014). Commercial bank credit and its contributions on manufacturing sector in Nigeria. *Research Journal of Finance and Accounting*, 5(22), pp. 188-196.

World Bank (2006) "Nigeria: Competitiveness and Growth" A Joint Paper Prepared with DFID, Africa Region, 20 September 2006, Report No. 36483-NG. Abuja Nigeria.

World Bank (2006) Getting Agriculture Going in Nigeria: Framework for a National Growth Strategy (Main Report) 27 March 2006, Report No. 346 18-NG.