International Journal of Economics and Financial Research
ISSN(e): 2411-9407, ISSN(p): 2413-8533
Vol. 2, No. 4, pp: 74-78, 2016
URL: http://arpgweb.com/?ic=journal&journal=5&info=aims

Bank Credits to Agricultural and Manufacturing sectors and Economic Growth in Nigeria, 1970 – 2013

Ipalibo Watson Sogules University of Port Harcourt, Port Harcourt, Rivers State, Nigeria

Emeka Nkoro* University of Port Harcourt, Port Harcourt, Rivers State, Nigeria

Abstract: This study examined the impact of Bank credits to agricultural and manufacturing sectors on economic growth in Nigeria using annual time series data from 1970-2013. Using co-integration and error correction mechanism for the analysis, the study revealed that a long run relationship exists between Bank credits to agricultural and manufacturing sectors and economic growth. Given the error correction mechanism results, the study showed that Bank credits to agricultural sector exhibited an insignificant negative impact on economic growth while Bank credits to manufacturing sector exhibited a negative significant impact on economic growth in Nigeria. Based on these findings, the study recommends among others: Bank Credits to the Agricultural and Manufacturing Sectors should be properly monitored to ensure that funds meant for agricultural and manufacturing activities are not diverted for other purposes, Intending recipients of these Bank credits to the agricultural and manufacturing sectors should be made to undergo entrepreneurial training and how to pay back as at when due, so as to reduce the risks associated in giving out these Credits to the Agricultural and Manufacturing Sectors entrepreneurs.

Keywords: Bank Credits; Agricultural Sector; Manufacturing Sector; Economic Growth.

1. Introduction

No nation can achieve economic growth and development without efficient and viral financial institution-Banking sector. The Banking sector mobilizes and channels resources to potential investors that lack adequate capital. In turn the potential investors use it to generate additional wealth in the economy. As the banking sector lives up to its expectation of mobilizing and channeling credits to the productive sectors such as manufacturing and agriculture, it will provide an immense deal of services that will stimulate economic growth. That is, if credits are properly mobilized and channeled to both sectors it will enhance growth of the economy through increase in capital investment, foreign exchange, job creation, food production, income generation and as well as improvement in the standard of living of the populace.

Despite the credit guidelines and regulations of Central Bank of Nigeria such as The Agricultural Credit Guarantee Scheme Fund of 1979, The SME/Manufacturing Refinancing and Restructuring Fund of 2010, which are aimed at stimulating the growth of the agricultural and manufacturing sectors, both sectors still suffer deficient access to credits (Akinleye *et al.*, 2003). Also, in terms of job creation, income generation, productivity, foreign exchange earnings and standard of living, both sectors have not performed well. Therefore, the question is, does Bank credits to the agricultural and manufacturing sectors impact on economic growth in Nigeria. There is a shortage of literature on the impact of Bank credits to the agricultural and manufacturing sectors on economic growth in Nigeria. Hence, the need to contribute to the scanty literature motivated this work. It is against this backdrop that the study examines the impact of Bank credits to agriculture and manufacturing sectors on economic growth in Nigeria.

The rest of the work is structured as follows; Section two provides reviews of the related and relevant literature; Section three explains the methodology; Section four focuses on results and discussions while section five covers the conclusions and recommendations.

2. Empirical Literature

Ijaiya and Abdulraheem (2000) investigated the impact of commercial Banks credits to agricultural sector on poverty reduction in Nigeria for the period 1980-1996 using ordinary least squares technique. The result of the analysis revealed that commercial Banks credits to agricultural sector variable appeared with its expected negative sign. The result indicated that commercial Banks credits to agricultural sector significantly impacted on poverty reduction, also demand deposits significantly impact on poverty reduction. Banks credits to agricultural sector also

*Corresponding Author

appeared with its expected positive sign. Nwanyanwu (2008) examined the effect of banks' credits and economic growth in Nigeria employing an ordinary least square (OLS). The result indicated that, despite the volume of credits granted, bank credits did not significantly impacted on economic growth of Nigeria. This insignificant impact could be attributed to diversion of bank credits for personal use. Anthony (2010) examined the effect of agriculture credit on economic growth in Nigeria for the period 1986-2007 using macro-econometric model. The finding of the study showed that agricultural credit significantly impacted on economic growth and also their contribution to export growth was encouraging. Tawose (2012) analyzed the effect of Bank credit on industrial performance in Nigeria for the period 1975-2009 using co-integration and Error Correction technique. The results of the study revealed that industrial sector performance (Real Gross Domestic Product Manufacture) exhibited a long run relationship with Commercial Banks' Loan and Advances to Industrial Sector, Aggregate Saving, Interest rate, Inflation Rate. The study also revealed that commercial Banks' loan and advances to industrial sector, aggregate saving, interest rate and inflation rate exerted positive significant impact on industrial sector performance (Real Gross Domestic Product Manufacture) in the short run while in the long run Banks' Loan and Advances to Industrial Sector exerted insignificant negative impact. These conflicting evidences could be as a result of lack of entrepreneurship skills in the part of Bank credit recipients which could have prejudiced the result. Akujuobi and Chima (2012) examined the impact of commercial Bank credit to the production sector on economic development in Nigeria for the period 1960-2008 using ordinary least square technique. The commercial Banks' credit to the following sub sectors of the production sector - agriculture, forestry and fishery, manufacturing, mining and quarrying and real estate and construction were examined against the gross domestic product. The finding of the study revealed that a long-run relationship exists between Bank credit to the production sector and economic growth. Also, the finding showed that, there was a high evidence of bi-directional causal relationship between two of the explanatory variables and the gross domestic product (GDP) with only the commercial Banks' credit to the mining and quarrying sub-sector appearing to be a significant contributor at 1% significant level. Hence, the study concludes that, commercial Banks' lending to the production sector has not performed well in relation to contribution to economic growth.

Obansa and Maduekwe (2013) investigated the effect of agricultural financing and economic growth in Nigeria using Ordinary Least Square (OLS) technique. They examined different equations, but this study focuses on growth-agriculture financing equation. The result revealed that Treasury bill ratio of agric to RGDP, Multilateral debt source ratio of agric to RGDP, Development stocks ratio of agric to RGDP, Foreign Direct Investment ratio of agric to RGDP and debt services are statistically significant while Official Development Assistant ratio of agric to RGDP, Domestic Savings ratio of agric to RGDP, Paris and London clubs ratio of agric to RGDP and Agric. Capital were not statistically significant in explaining growth of output (i.e. RGDP growth rate). The coefficients Treasury bill ratio of agric to RGDP, Multilateral debt source ratio of agric to RGDP and Development stocks ratio of agric to RGDP inflows are negative and statistically significant. This suggests that an increase Treasury bill ratio of agric to RGDP, Multilateral debt source ratio of agric to RGDP and Development stocks ratio of agric to RGDP inflows adversely affect growth of output. The coefficient on Foreign Direct Investment ratio of agric to RGDP inflows is positive and statistically significant, suggesting that an increase in Foreign Direct Investment ratio of agric to RGDP inflows will cause increases in growth of output. Also, the study revealed that the coefficient on debt services is positive and statistically significant. Chinweoke *et al.* (2015) investigated the impact of commercial Banks' loans and advances to the agricultural and manufacturing sectors on the economic growth in Nigeria for the period 1994 – 2013 using Ordinary Least Square (OLS) technique. The result of the study shows that Banks' loans and advances to agricultural and manufacturing sectors have a statistically significant impact on economic growth.

However, to the best of our knowledge there is scanty empirical literature on the impact of Bank credits to agricultural and manufacturing sectors on economic growth in Nigeria. Previous studies analyzed used techniques such OLS and co-integration and Error Correction. The findings from the reviewed works showed mixed results. It is difficult to generalize the results because each study is unique in terms of its own proxy variables for growth/output and the time period covered. Hence, this study intends to contribute to the existing literature. This is done by extending the time period of the study backward and as well as adopting a more sophisticated technique-cointegration and error correction mechanism as against previous studies reviewed. This backward looking is to capture historical facts or previous policies change which likely affected the relationship between Bank credits to agriculture manufacturing sectors and economic growth in Nigeria. Also, in analyzing the impact of Bank credits to agricultural and manufacturing sectors on economic growth this work follows Anthony (2010) and Chinweoke *et al.* (2015) but with some modifications in the area of method of analysis and variables included in the model.

3. Methodology

The study adopted a factorial experimental design. The reason is that it allows the examination of the impact of two or more independent variables simultaneously on the dependent variable and strengthens the validity of the study.

The data for this study are basically from secondary sources. Specifically, the data are sourced from Central Bank of Nigeria (CBN) statistical bulletins. The data covers the period 1970 to 2013. This period present a considerable time frame that is necessary to capture the effect of Bank credits to agricultural and manufacturing sectors on economic growth of Nigeria.

3.1. Model Specification

3.1.1. Economic Growth Model

$$GDP = f(BCA, BCM) \quad (1)$$

Equation (1) states that gross domestic product (GDP) is a function Bank credits to agriculture (BCA) and Bank credits to manufacturing (BCM).

The above equation is transformed into log form in order to reduce variability. Equation (1) is being operationalized for the purpose of estimation into the following equation:

$$LogGDP = Loga_0 + a_1 LogBCA + a_2 LogBCM + U_t \quad (2)$$

Equation (2) shows a single-equation regression model (SERM) which seek to explain the relationship between Bank credits to agriculture and manufacturing sectors and economic growth in Nigeria. The apriori expectations of the equation estimates are as follows: $a_1 > 0$, $a_2 > 0$.

3.2. Method of Data Analysis

The study employed the ordinary least square method (OLS) technique in estimating the relationship between Bank credits to agricultural and manufacturing sectors on Economic Growth of Nigeria. The reason for the adoption of OLS method is based on its Best, Linear and Unbiased Estimates (BLUE) of the parameters of SERM. Nevertheless, before estimating the model, the properties of the variables were examined to substantiate the stationarity and long term relationship of the variables. This is as a result of most time series data being prone with unit roots problem. The econometric tools that were employed for these verifications are the Augmented Dickey-Fuller test for stationarity and Johansen co-integration test for long term relationship.

4. Results and Discussions

4.1. Unit Roots Test

Due to high serial correlation, unreasonable F-statistic and coefficient of determination values observed in the OLS results which could be informed by non-stationarity of the variables, hence unit roots tests were carried out on the series to ascertain the stationarity of the variables.

Table-1. Unit Root Test Results of the GDP Model from 1970 -2013

Variables	ADF Test Statistic	1% Critical level	5% Critical level	10% Critical level	Order of Integration
D(LOGGDP,2)	-4.7518	-3.5973	-2.9339	-2.6048	1(1)
D(LOGBCA,2)	-7.1259	-3.5973	-2.9339	-2.6048	1(1)
D(LOGBCM,2)	-6.2691	-3.5973	-2.9339	-2.6048	1(1)

Source: Author's computation using- E-views 7.1

The ADF unit roots test result in Table 1 shows that all the series were stationary at first difference. This now led to the tests for the long-run relationship between Bank credits to agricultural and manufacturing sectors and economic growth using the Johansen-Juselius cointegration test (Johansen and Juselius, 1990). The results of the Johansen co-integration test are reported below:

4.2. Cointegration Tests

The Johansen cointegration test in Table 2 shows that there is one integrating equation, suggesting that Bank credits to agricultural and manufacturing sectors and economic growth are cointegrated. This satisfies the condition for fitting in the short run error correction model (ECM).

Table-2. Johansen Co-integration Test Result of the GDP Model from 1970 – 2013

Hypothesized No. of CE(s)	Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value
None **	0.463395	40.55328	29.68	35.65
At most 1	0.241822	14.40861	15.41	20.04
At most 2	0.064079	2.781439	3.76	6.65

*(**) denotes rejection of the hypothesis at 5%(1%) significance level
L.R. test indicates 1 cointegrating equation(s) at 5% significance level
Source: Author's computation using- E-views 7.1

Given that the variables are integrated of the same order, I(1) and the long run relationship established, the Error Correction Model (ECM) was estimated and used for analysis.

4.3. Error Correction Mechanism

Table 3 shows that Bank credits to agricultural and manufacturing sectors variables failed to conform with the apriori expectations except current period of Bank credits to manufacturing sector that is positively statistically significant. All Bank credits to agricultural sector variables are negatively statistically insignificant except two period lag of Bank credits to agricultural sector that is statistically significant at 5 percent level. This fall in economic growth when there is an increase in Banks credits to the agricultural sector can be attributed to misappropriation of these credits provided by the Banks. Current period and one period lag of Bank credits to manufacturing sector are positively and negatively statistically significant respectively, while two period lag is negatively statistically insignificant in explaining variation in economic growth. This fall in economic growth when there is an increase in Banks credits to the manufacturing sector after the current period when there is an increase in growth can be attributed to the enthusiasm in the young manufacturers to venture into business as a result of access to government backed micro-finance loan. These young manufacturers venture into business without proper scanning of the environmental factors such as power, road, tax system and inflation which cumulated to high cost of production. Couple with this is the dearth of entrepreneurial skills and inseparable business and private finance attitude among the young manufacturers. All these lead to fall in productivity after first or second year of business establishment. This fall in productivity in turn leads to fall in economic growth.

Table-3. The Error Correction Model of the GDP model from 1970 - 2013

Variable	Coefficient	T-statistic	Probability
C	-0.450814	-1.01142	0.2046
ΔLogBCA	-0.003780	-1.40223	0.1231
ΔlogBCA(-1)	-0.089269	-0.51797	0.2004
ΔlogBCA(-2)	-0.406990	-2.46585	0.0434
ΔlogBCM	0.009255	2.23706	0.0362
ΔlogBCM(-1)	-0.328589	-3.62848	0.0472
ΔlogBCM(-2)	-0.170430	0.92782	0.2411
ECM(-1)	-0.296875	-2.14641	0.0339

R^2 = 0.71; Adjusted R^2 = 0.70; F – statistic = 50.36; Durbin Watson = 1.93
Source: Author's computation using- E-views 7.1

Table 3 also shows that the coefficient of ECM(-1) has right negative sign and is statistically significant. This provides important information about the short run relationship between Bank credits to agricultural and manufacturing sectors and economic growth in Nigeria. The coefficient of ECM(-1) specifies that changes in BCA and BCM respond to a deviation from the long run equilibrium. With the coefficient of -0.30, it means that about 30 percent of disequilibrium in the previous year is correct or adjusted in the current year.

5. Conclusions and Policy Recommendations

Bank credits to agricultural and manufacturing sectors remain crucial to the growth of both sectors. The performance of both sectors is key to economic growth and therefore the sectors require sufficient credits allocation in order to enhance productivity. The findings from the work show that Bank credits to agricultural and manufacturing sectors exerted conflicting and retarding impact on economic growth in Nigeria within the period under study.

Based on the findings, the following recommendations were made:

- Bank credits to the agricultural and manufacturing sectors should be properly monitored by the institutions responsible to ensure that funds are not misappropriated for other purposes in order to boost economic growth.
- Recipients of agricultural and manufacturing sectors Bank credits should be made to undergo entrepreneurial training before the credits are granted so as to reduce risks associated in giving out these credits on economic growth.

References

Akinleye, S. O., Akanni, K. A. and Oladoja, M. A. (2003). An appraisal of the agricultural credit guarantee scheme in Nigeria. *Department of Agricultural Economics, Olabisi Onabanjo University, Ago Iwoye, Nigeria,* 1(1): 1–14.

Akujuobi, A. B. C. and Chima, C. C. (2012). The production sector credit and economic development of Nigeria. A Cointegration Analysis. *IJEMR,* 2(11): 1.

Anthony, E. (2010). Agricultural Credit and Economic Growth in Nigeria: An Empirical Analysis. *Business and Economics Journal,* 2010(BEJ-14): Available: http://connection.ebscohost.com/c/articles/59899539/agricultural-credit-economic-growth-nigeria-empirical-analysis

Central Bank of Nigeria (CBN) Statistical Bulletin, Abuja. Various Issues.

Chinweoke, N., Egwu, C. C. and Nwabeke, E. C. (2015). Impact of Commercial Banks' Loans and Advances to Agriculture and Manufacturing Sectors on the Economic Growth of Nigeria (1994 – 2013). *International Journal of Arts and Sciences,* 08(05): 29–36.

Ijaiya, G. T. and Abdulraheem, A. (2000). Commercial Banks Credits to Agricultural Sector and Poverty Reduction in Nigeria: A Calibration Analysis. *Nigerian Journal of Agribusiness and Rural Development*, 1(1): 43-57.

Johansen, S. and Juselius, K. (1990). Maximum likelihood estimation and inference on cointegration – with application to the demand for money. *Oxford Bulletin of Economics and Statistics*, 52(2): 169-210.

Nwanyanwu, O. J. (2008). An analysis of banks' credit on the nigerian economic growth (1992-2008). *JAS Journal of Economics*, 4(1):

Obansa, S. A. J. and Maduekwe, I. M. (2013). Agriculture financing and economic growth in Nigeria. *European Scientific Journal January Edition*, 9(1): 168-204.

Tawose, J. O. B. (2012). Effects of Bank Credit on Industrial Sector Performance in Nigeria. *International Business and Management*, 4(2): 158-68.