Bank Credit and Economic Growth in Nigeria: A Study of Credit Allocations to Small and Medium Scale Enterprises in Nigeria

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DOI: 10.56201/ijbfr.v9.no3.2023.pg95.108

Abstract

This study examined bank credit and economic growth in Nigeria. Bank credit was proxied by credit to the agricultural sector SME's and credit to the manufacturing sector SME's. On the other hand, economic growth was measured using real gross domestic product. Relevant data were extracted from the annual Statistical Bulletin of the Central Bank of Nigeria. Unit root test was conducted using Augmented Dickey Fuller method which revealed that the variables were integrated at first difference except for loans to the manufacturing sector which was integrated at level. Cointegration test was also conducted to determine long run relationship. More so, the ARDL ECM test was carried out to ascertain the relationship among the variables. The results revealed that a significant relationship exist between back credits to the agricultural and manufacturing sectors SME's and economic growth; credit to agricultural sector SME's and economic growth; credit to manufacturing sector SME's and economic growth. Based on the findings of the study, the study recommends amongst others, the method, mechanisms and processes the banks use in giving and managing these loans to the agricultural and manufacturing sectors, must be maintained and improved on as they have been found to have a positive impact in the economy.

Keywords: *Bank Credit; Economic Growth; Agricultural Sector; Manufacturing Sector; Gross Domestic Product*

1.0 Introduction

The small and medium scale enterprises serve as sources of livelihood to the poor, create employment opportunities, generate income and contribute to economic growth. In Nigeria, available data from the Registrar General Department indicates that 90% of companies registered are micro, small and medium enterprises (Mensah, 2012). This target group has been identified as the catalyst for economic growth of the country as they are a major source of income and employment to many Nigerians. There is also the potential of small firms to turn economies with negative growth into vibrant ones, not to mention the fact that most large companies usually start as small enterprises, so the ability of SMEs to develop and invest becomes crucial to any economy wishing to prosper (Ifeakachukwu, 2013). Developing countries have also identified the potential of small firms to turn economies with negative growth into vibrant ones. For this reason, several governments in developing countries offer

funding to small firms either directly or by guaranteeing the payment of such loans as lack of funding is cited as one of the major challenges faced by small businesses (Olaoye, Adedeji & Ayeni-Agbaje, 2018).

Obert and Olawale (2010) argues that due to limited resources by governments, not all small firms receive funding from the government; therefore, the other option would be to go for bank lending. Despite its increasing roles, access to credit by SMEs remains one major constraint to Nigerians SMEs. Most SMEs in the country lack the capacity in terms of qualified personnel to manage their activities. As a result, they are unable to publish the same quality of financial information as those big firms and as such are not able to provide audited financial statement, which is one of the essential requirements in accessing credit from the financial institution. This is buttressed by the statement that privately held firms do not publish the same quantity or quality of financial information that publicly held firms are required to produce. As a result, information on their financial condition, earnings, and earnings prospect may be incomplete or inaccurate. Faced with this type of uncertainty, a lender may deny credit, sometimes to the firms that are credit worthy but unable to report their results (Coleman, 2000).

Another issue has to do with the inadequate capital base of most SMEs in the country to meet the collateral requirement by the banks before credit is given out. In the situation where some SMEs are able to provide collateral, they often end up being inadequate for the amount they needed to embark on their projects as SMEs assets- backed collateral are usually rated at 'carcass value' to ensure that the loan is realistically covered in the case of default due to the uncertainty surrounding the survival and growth of SMEs (Binks et al., 1992). This study therefore, examined bank credit and economic growth in Nigeria with specific emphasis on bank credits to Small and Medium Scale Enterprises in the agriculture and manufacturing sectors of the Nigerian economy.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 Small and Medium Scale Enterprises Credits and the Nigerian Economy

In Nigeria, the formal financial institutions have been organized to finance SMEs through venture capital financing in the form of a Small and Medium Industries Equity Investment Scheme (SMIEIS) Fund. This was in response to the Federal government's desire to promote SMEs as vehicles for rapid industrialization, sustainable economic development, poverty alleviation and employment generation. Venture capital financing supplements or takes the place of credit facilities that the conventional banks are unwilling to give. The provider of the funds may initially part with the funds as a loan, but specifically with the idea of converting the debt capital into equity at some future period in the enterprise (Afolabi, 2013). The return from such investment should be high to compensate for the high risk. Venture capital may be regarded as an equity investment where investors expect significant capital gains in return for accepting the risk that they may lose all their equity (Golis, 2010).

The Nigerian government's version of venture capital financing of SMEs -SMIEIS, requires all licensed banks in Nigeria to set aside 10% of their pre-tax profit for equity investment and to promotion of small and medium-scale enterprises. The goal is to reduce interest rate burden and other financial service charges imposed under normal bank lending. The reason for the inability of the SMEs to avail themselves of this fund is as a result of conditions beyond most predominant SMEs Aruwa (2012). According to Sanusi (2012), a breakdown of the SMIEIS fund investment by sectoral distribution shows that 68.82% went to the real sector while

service-related investment accounted for 31.18%. This, he noted, is a sharp reversal from the initial trend recorded under the scheme.

The Banker's Committee has allocated the investment of banks with respect to the fund as 60%, 30%, and 10% of their fund in core/real sector, service-related and micro-enterprises respectively. Analyzing the geographical spread of the SMIEIS fund, Sanusi (2012) reported that Lagos-based investments have gulped 56.63% of the fund, and Abuja and 18 states received the balance 43.47%. The point is about the model of growth of SMEs and financing options available. Golis (2010) submit that venture capitalists do not seek enterprises on the start-up and survival stage but only in the stability and rapid growth stages did the venture capitalists appear. Yet the method of financing remains a critical success factor for SMEs. To be eligible for equity funding under the scheme, a prospective beneficiary shall:

i). Register as a limited liability company with the Corporate Affairs Commission and comply with all relevant regulations of the Companies and Allied Matters Act (1990) such as filling of annual returns, including audited financial statements;

ii). Comply with all applicable tax laws and regulations and render regular returns to the appropriate authorities (Bankers Committee Revised, 2011). Aruwa (2011) laments that, given the developmental stage of Nigeria's dominant SMEs; it is difficult for them to meet any of these requirements.

Consequently, SMEs in Nigeria do not have the capacity to access funds from SMEEIS. It is pertinent to recognize government efforts at improving the capital base of SMEs through creation of specialized and developed institutions and specific directives of these and other formal financial institutions, as well as the Central Bank of Nigeria (CBN), targeted towards increased lending to indigenous (SMEs) borrowers (Gbandi & Amissah, 2014). Other efforts are the non-governmental organizations (NGOs) finance supply targeted at the informal sector especially the SMEs sector. The recent government efforts at meeting the needs of the sector include the following:

i. The reconstruction of the former NIDB in the year 2011 to Bank of Industry (BOI) and the merger of Nigerian Bank for Commerce and Industry (NBCI) and the National Economic Reconstruction Fund (NERFUND) with the newly created Bank of Industry.
ii. ii. As part of government efforts at addressing the financing needs of micro entrepreneurs, a micro-finance policy was launched by the Federal Government in December, 2011.

The government of Nigeria coupled with assistance of World Bank and the African Development Bank have tried in the past to really assist SMEs through their various loans and credit schemes designed to finance SMEs; some of which are: World Bank SME loan scheme, African Development Bank Export Stimulation Loan (ADB/ESL) scheme; CBN Re-discounting and Re-financing Facility (RRF); National Economic Reconstruction Fund (NERFUND), Bank of Industry (BOI) and the Graduate Employment Loan Scheme (GELS) initiated by the National Directorate of Employment (NDE). Lately, the Federal Government of Nigeria (FGN) introduced the Small and Medium Industries Equity Investment Scheme (SMIES) for or to the Banker's Committee requiring all licensed banks in the country to set aside 10% of their Profit Before tax (PBT) for equity investment in promotion of SME's.

2.2 Theoretical Review

2.2.1 Neo-Classical Theory

The classical school is of the view that interest determines savings and investment. They asserted that aggregate investment has a negative relationship with interest rate. But this assertion tends to be weak since investment is said to be fairly interest-inelastic due to the fact that it is influenced by investor's expectation and its yield is estimated within a particular range. Therefore, a unit rise in the cost of borrowing will have little or no long-term effect on the firm's performances. To the neo-classical theory, interest rate is the function of marginal efficiency of capital and savings. That is, demand and supply.

A rise in Savings which is not influenced by the rate of interest will reduce the cost of borrowing which will increase the level of borrowing. This is due to the fact that any addition to investment will lead to diminishing return which will probably influence firms to move away from labor-intensive technique of production to adopt the use of heavy machines in production. The classical theory also tries to show that availability of loan narrows the gap between firm's available capital and the needed capital. Firm's demand for loans is due to the imbalance between available financial assets and required assets of firms.

2.2.2 Loan Pricing Theory

The loan pricing theory by Thompson Reuters in 1965 posits that banks cannot always set high interest rates by trying to earn maximum interest income. According to Zhang, Liu and Liu, (2019), if banks set interest rates too high, they may induce adverse selection problems because high-risk borrowers are willing to accept these high rates, but once these borrowers receive the loans, they may develop moral hazard behaviour or so-called borrower moral hazard since they are likely to take on highly risky projects or investments.

2.3 Empirical Review

Khalid, & Begam and Noman (2019) conducted a study to determine the potential role of SME's financing in GDP growth for Pakistan. The study considered some macroeconomic variables. The data from 1980 to 2017 was used in the study and the ARDL bound testing approach was employed to include the dynamic perspective in the study. The GDP growth rate was considered as a dependent variable in model estimation, while, the output of small sale industry, unemployment rate, government expenditure, interest rate, domestic investment, foreign direct investment and finance provided by banks to private sector were considered as predictor variables. The findings of dynamic model established that there is a direct and significant relationship between SMEs financing and GDP growth in Pakistan.

Carree, Van Stel, Thurik and Wennekers (2017) investigated the effect of SMEs financing on GDP growth in 23 OECD countries. The study employed A pooled OSL was employed to analyse the time series data for the 23 OECD countries over the period 1976–2016 in the study. The results of the study confirmed direct and positive association between GDP growth and financing of entrepreneurial activities of SMEs in all the 23 OECD countries which included the United States, Italy, United Kingdom and Belgium among others.

Macerinskiene, et al. (2016) qualitatively analysed the knowledge of EU member states to developing an insight on the role of SMEs financing in the context of advanced economies. The study used pooled OLS regression to model the bearing of SMEs financing on GDP growth in European Union (EU) member economies using monthly data for the period from 2010 to 2012. The authors found that financing the SMEs sector in Europe had an immense potential to promote GDP growth in the EU member economies. Furthermore, the study showed that the

SMEs sector was highly receptive to the changes in the supply and demand and in the interim revealed very quick adjustment indicating market diversification in given time period.

Vijayakumar (2013) carried out a study to analyse the impact of SMEs financing on economic growth and poverty eradication in Sri Lanka. The study used secondary data as a source of information. The results of this study revealed that SMEs financing had an insignificant impact on economic growth and poverty alleviation.

Bamidele (2012) studied that financing of small and medium scale enterprises (SMEs) in Amuwo Odofin Local Government of Lagos state, Nigeria. The study examined how government and other agencies finance SMEs in Amuwo Odofin Local Government area of Lagos State. The study was guided by network theory. The major concern of the theory is the objective pattern of ties linking the agencies, individual and group of the society. The agencies in this study include banks, cooperative societies, and government, among others. Quantitative and qualitative method was used to collect data for the study. Fifty (50) samples of respondents were selected from the Local Government Area. The data gathered was analysed using descriptive statistics such as frequency distribution, while the qualitative data was subjected to content and descriptive analysis. The study shows that government and other financial institutions have not done enough in supporting SMEs. In what need to be done by government and other financial institutions saddle with the responsibility of funding SMEs, in order for SMEs to play their role of improving the economy; more loan should be giving with an appropriate extension of deadlines for payment, create good job for people in order for them to save some amount of money and become self-employed, encourage and support existing SMEs, by making policies that would be beneficial to SMEs, create enabling investment environment, such as infrastructural development.

2.4 Hypotheses

$H0_1$: There is no significant relationship between bank credit to SMEs in the agricultural sector and economic growth in Nigeria

$H0_2$: There is no significant relationship between bank credit to SMEs in the manufacturing sector and economic growth in Nigeria

3.0 Methodology

3.1 Research Design

The expo-factor quasi-experimental research design is adopted for the research due to its suitability for use in timeseries related research study (Angrist & Pischke, 2010). Consequently, the data used for this study were obtained from the Central Bank of Nigeria Statistical Bulletins, and the period covered by the study is 1990-2022 on annual basis.

3.2 Model Specification

The functional form of the model is stated below:

$RGDP = f(LAGR_t, LMAN_{t,})$

The econometric estimation form of the functional specification of model above is presented as follows:

$$RGDPs = \beta_0 + \beta_1 AGR + \beta_2 MAN + \mu$$

Where:

RGDP = Real Gross Domestic Product

LAGR = Loans to SMEs in the agricultural sector

LMAN = Loans to SMEs in the manufacturing sector

u_t = Stochastic Term

A prior expectation = $\beta_1 > 0$, $\beta_2 > 0$, $\beta_2 > 0$.

3.3 Data Analysis Technique

3.3.1 Pre-estimation Tests

The research conducts pre-estimation tests: descriptive analysis, tests of stationarity using the Augment Dickey-Fuller (ADF) method and bounds test for cointegration. These tests were to find out if the data used are suitable for the research work. The stationarity test reveals the reliability of the timeseries data used for the study while the cointegration test shows the presence of long run relationships between the variables (Mushtaq, 2011).

3.3.1.1 Model Estimation

To effectively estimate the model of the research and answer the research questions, either the simple regression analysis, vector regression or the Autoregressive Distributed Lag (ARDL) econometric technique is adopted (Nkoro & Uko, 2016). The adoption of any of the techniques is based on the results of the unit root tests analysis (Nkoro & Uko, 2016). Simple regression analysis becomes a better fit if all the variables are stationary at levels. If the variables are stationary at both levels and first difference, ARDL becomes a better fit (Nkoro & Uko, 2016). Vector regression is used when all or any of the variables do not satisfy the conditions for ARDL and simple regression (Nkoro & Uko, 2016).

The ARDL model is an ordinary least square (OLS) based model, which is applicable for both non-stationary time series as well as for times series with mixed order of integration. The selected ARDL (k) model long run equation is stated thus:

$$Y_t = \delta_0 + \sum_{i=1}^{k} \alpha_1 X_{1t} + \sum_{i=1}^{k} \alpha_2 X_{2t} + \ldots + \sum_{i=1}^{k} \alpha_n X_{nt} + \nu_{1t}$$

Where:

$Xs(X_{1t}, X_{2t}, \ldots, X_{nt})$ = explanatory or the long run forcing variables

k = number of optimum lag order.

The best performed model provides the estimates of the associated Error Correction Model (ECM) (Nkoro & Uko, 2016).

3.3.2 Post-estimation Diagnostic Tests

The research study conducts serial autocorrelation test and heteroskedasticity test. According to (Drukker, 2003), these are the key post estimation tests analysis for timeseries analysis. The serial correlation test checks for the presence of interrelationship among the independent

variables while the heteroskedasticity tests checks for the constants of the variance of the model. Non constant variance results in high standard error and spurious, unreliable results (Drukker, 2003). Finally, the research conducts CUSUM to understand the strength of the model and granger causality test to determine the causal relationships between the variables used (Drukker, 2003).

The research uses Eviews version 10 to conduct this analysis.

4.0 Results and Data Analysis

4.1 Descriptive Analysis

	RGDP	LARG	LMAN
Mean	24897.22	4170.623	52.44533
Median	24897.22	4170.623	51.43562
Maximum	32913.78	8176.396	84.15000
Minimum	17331.56	399.7100	25.05000
Std. Dev.	0.214373	0.606494	1.112644
Skewness	-0.010489	-0.003142	0.313213
Kurtosis	1.785674	1.757897	3.421829
Jarque-Bera	0.798973	0.835716	0.308940
Probability	0.670664	0.658456	0.856869
Sum	323663.8	54218.09	681.7893
Sum Sq. Dev.	3.26E+08	81525747	2745.709
Observations	31	31	31

The descriptive statistic is an important tool in economic studies as it helps the researcher to unravel the type of data they are using briefly (Lawless et al., 2010). From the table above, the researcher focused on the skewness, kurtosis and Jarque-Berra (JB) of the data set to determine whether they are normally distributed or not. Based on the results of the JB, All the variables are normally distributed as shown by their respective JB probability ratios (Prob>0.05). The skewness and kurtosis also show that the mean of the variables is close to their true mean.

4.2 Unit Root: ADF Tests

Test at levels	Variables	P - Value	Order of Integration
	RGDP	0.7923	Not Stationary
	LAGR	0.7098	Not Stationary
	LMAN	0.0060	I(0)
Test at First Difference	**Variables**	**P-Value**	**Order of Integration**
	RGDP	0.0000	I(1)
	LAGR	0.0560	I(1)
	LMAN	0.0596	I(1)

Source: Authors computation using Eviews

The statonarity test results as shown in in the table above reveals that LMAN is stationary at levels while RGDP and LAGR are not. At first difference, the result shows that all the variables are stationary. The mix of the variables in the ADF analysis satisfies for the use of ARDL model in the regression analysis.

4.3 Bounds Test for Cointegration

F-Bounds Test — Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	4.831008	10%	2.75	3.79
K	5	5%	3.12	4.25
		2.5%	3.49	4.67
		1%	3.93	5.23

Source: Authors computation from E-views

The test of cointegration adopted for the model is the ARDL Bounds Cointegration test. This is used to test if there is a long-term relationship between the variables used (Atkins & Coe, 2002). The result of the test shows that there is a long run relationship between the dependent and the independent variables over the period.

4.4 ARDL Model Estimation

LONG RUN RESULTS

Dependent: DMB

Variable	Coefficient	Std. Error	t-Statistic	Prob.
@TREND	0.016594	0.006962	2.383321	0.0254
RGDP(-1)*	0.578051	0.203848	-2.835691	0.0091
LAGR**	1.065679	0.128858	8.270181	0.0000
LMAN**	5.334369	1.162590	4.588334	0.0000

Dependent: DMB **SHORT RUN RESULT**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP (-1)	0.265679	0.128858	2.061797	0.0009
LAGR	1.004369	0.162590	6.177311	0.0000
LMAN	11.42209	0.128858	2.061797	0.0009
CointEq(-1)*	-0.615251	0.136447	4.236441	0.0003
R-Squared =0.705612	F-Stat = 9.896152	Prob(F-stat) 0.000529	D-W stat=2.191892	

The results above present both the long run and short run tests results of the ARDL model. The coefficient of determination, which tests the goodness-of-fit, shows that the independent variables explain the 71% of the changes in the dependent variable. The F-test, which tests for the overall significance of the model, is also statistically significant at 5% level of significance while the speed of adjustment between the short run and the long run is 0.61 (61%) annually.

4.5 Serial Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.181883	Prob. F(2,22)	0.1675
Obs*R-squared	2.476123	Prob. Chi-Square(2)	0.1172

Source: Author's computation from Eviews

The serial or autocorrelation helps to determine if the variables are serially correlated or not. As the result shows using the Prob of F-stat (0.1675), there is no problem of serial autocorrelation.

Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	5.392499	Prob. F(7,24)	0.5632
Obs*R-squared	23.00632	Prob. Chi-Square(7)	0.3317
Scaled explained SS	32.55961	Prob. Chi-Square(7)	0.1270

Source: Author's computation from Eviews

The variance of the model is also constant based on the results of the heteroskedasticity test, using the prob (0.5632).

4.6 Granger Causality Test

Pairwise Granger Causality Tests

Date: 04/30/22 Time: 04:08

Sample: 2009 2021

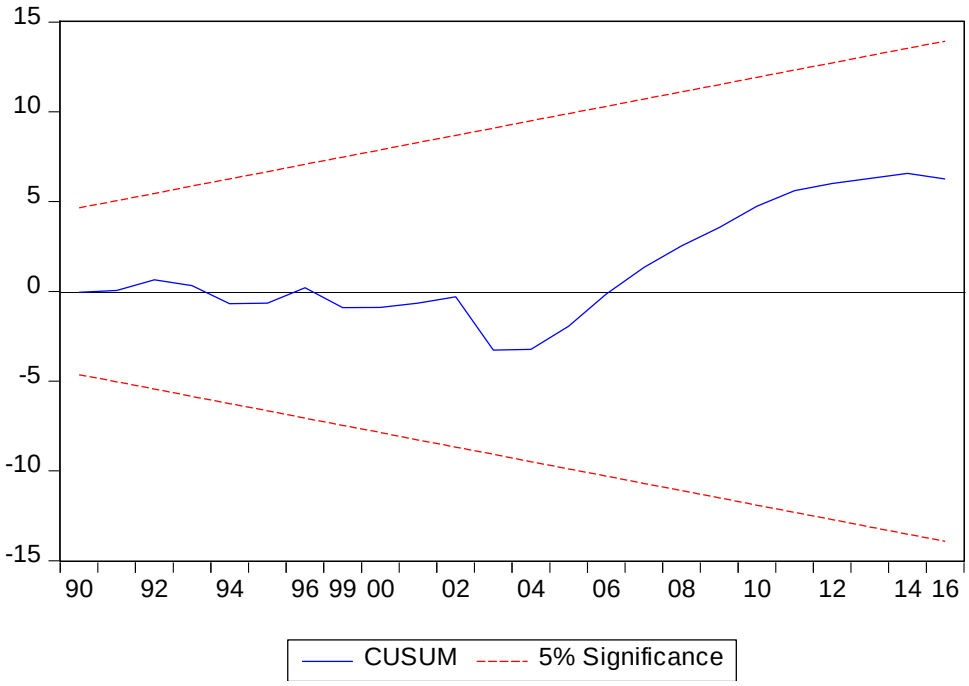
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LAGR does not Granger Cause RGDP	11	3.52914	0.0970
RGDP does not Granger Cause LAGR		47.0322	0.0002
LMAN does not Granger Cause RGDP	11	1.54305	0.2880
LMAN does not Granger Cause RGDP		12.4898	0.0073

Source: Author's computation from Eviews

The pair-wise granger causality test shows the direction of cause between the dependent and the independent variables (Atkins & Coe, 2002). This does not necessarily connote a relationship between the variables (Atkins & Coe, 2002). As shown above, there is a bidirectional causality between the RGDP and LAGR, and LMAN. The result shows that RGDP granger causes LAGR and LMAN. Again, LMAN and LAGR granger cause RGDP.

4.7 CUSUM Test



The CUSUM Test shows that the model is well specified.

4.8 Tests of Hypotheses

H_{01}: There is no significant relationship between LAGR and RGDP.

The result shows that there is a positive relationship between RGDP and LAGR as expected apriori. As LAGR increases by a unit, RGDP increases by 1.065679 and vice versa. Again, LAGR is statistically significant at 5% level of significance based on the t-test. We will therefore accept the alternative hypothesis, reject the null and conclude that there is a significant relationship between RGDP and LAGR over the period.

H_{02}: There is no significant relationship between LMAN and RGDP in Nigeria.

Further, the result shows that there is a positive relationship between RGDP and LMAN as also expected apriori. As LMAN increases by a unit, RGDP increases by 5.334369 and vice versa. Again, LMAN is statistically significant at 5% level of significance. We will therefore accept the alternative hypothesis, reject the null and conclude that there is a significant relationship between LMAN and RGDP over the period.

5.0 Summary, Conclusion and Recommendations

5.1 Summary

Loans to SMEs in Nigeria have been part of every government and administration over the years (Gbandi & Amissah, 2014). Various studies have shown that these loans have contributed positively and negatively to the growth of the economy (Gbandi & Amissah, 2014). The analysis above contributes to the body of existing literature as it reveals that bank loans to SMEs in the agricultural and manufacturing sectors have positive and significant relationship with RGDP. This finding agrees with the findings of (Saidi et al., 2019) and (Ifeakachukwu,

2013) who found that there is a positive and significant relationship between loans to SMEs and the growth of the Nigerian economy.

However, this study negates the findings of (Afolabi, 2013) who found that there is negative but significant relationship between RGDP and loans to SMEs in the manufacturing sector. Olaoye et al (2018) argue that the bank loans to SMEs have not yielded the desired results and therefore, have negatively impacted on the real gross domestic product of Nigeria over the years.

5.2 Conclusion

The research study critically analyses the impact of loans to SMEs in agriculture and manufacturing sectors between 1990 and 2022. The study found that these loans have both positive and significant relationship with the economy of Nigeria. This agrees with the findings of (Saidi et al., 2019; Ifeakachukwu, 2013). Loans to SMEs in the agricultural and manufacturing sectors are found to be efficiently utilized as it contributes to the growth of the economy.

5.3 Recommendations

In view of the above therefore, the research recommends thus;

(i) Maintained loans to SMEs in the agricultural sector: The method, mechanisms and processes the banks use in giving and managing these loans must be maintained and improved on as they have been found to have a positive impact in the economy.

(ii) Loans to the manufacturing sectors should also be maintained and improved upon just like in the agricultural sector. These loans to the manufacturing sector have been found to be positive in the economy over the years.

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