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Charles Onyeiwu Ph.D  
*University of Lagos, Nigeria*

Obumneke Bob Muoneke  
*University of Lagos, Nigeria*

Udo Nkoyo  
*University of Lagos, Nigeria*

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## **FINANCING OF SMALL AND MEDIUM SCALE ENTERPRISES AND ITS GROWTH IMPACT IN NIGERIA.**

**Charles Onyeiwu (Ph.D., ACTI)<sup>1</sup>**

University of Lagos, Akoka-Yaba, Nigeria.

[chasonyeiwu@yahoo.com](mailto:chasonyeiwu@yahoo.com).

**ORCID ID:** <https://orcid.org/0000-0002-8308-6836>

**Obumneke Muoneke B.<sup>2</sup>**

University of Lagos, Akoka-Yaba, Nigeria.

[nnannamuoneke70@gmail.com](mailto:nnannamuoneke70@gmail.com).

**ORCID ID:** <https://orcid.org/0000-0001-7314-9832>.

**Udo Nkoyo<sup>3</sup>**

University of Lagos, Akoka-Yaba, Nigeria.

[imabelkoko@hotmail.com](mailto:imabelkoko@hotmail.com)

### **ABSTRACT**

We examined the extent to which SMEs financing influenced economic growth in Nigeria through the use of time-series data from 1999-2018. After a literature search, other factors possessing the potential to influence the dependent variable ASGDP was added to the research model. Relying on Ordinary Least Squares estimation using E-views 10.0, findings shows that lending rate reduces ASGDP by 7% and gross capital formation reduces ASGDP by 5%. On the other hand, surprisingly, credit to SMEs did not retain the massive effect on growth as seen in previous studies. We can attribute this to our choice of adopting SME contribution to GDP as our target variable. Electricity distribution increased ASGDP by 4.6%. Policy recommendations to the Federal Government and the apex bank are; capital inflows vis-à-vis affordable local loans to SMEs at single digit (interest rate) is necessary to enhance the performance of SMEs and growth simultaneously. Electricity tariffs should be heavily subsidized for small and medium scale enterprises to decrease their overhead cost.

**Keywords:** Commercial banks; SMEs financing; Electricity distribution, economic growth; Nigeria.

JEL Codes: G21, G32, L26, O4, M1, M13.

## 1. Introduction

Small and Medium scale enterprises are significant employment sources in the United States as more than half of the total human capital get employed through them. They also account for two-thirds of the European Union's aggregate human resources (Takats, 2004). SMEs are akin to an automatic instrument used in moving the engine of an economy forward to bring about growth and development (Oladele, Olowookere & Akinruwa, 2014). Ghandi & Amissah (2014) posited that SMEs' global relevance is vividly clear, positioning them as a fulcrum for economic growth and promoting private sector development. Beyond Nigeria, small and medium scale enterprises are types of businesses involved in numerous pursuits. These businesses include the construction of local agricultural tools, ownership of bars, automobile mechanics, tailors, transporters, iron manufacturers, internet cafés, washmen, and software development, to mention but a few. On the local scene, a vast number of SMEs resides in the private sector and constitutes over ninety percent of businesses in the Federal Republic of Nigeria and accredited to be responsible for over 50% of jobs generated.

National Statistics available for developing economies shows that SMEs possess varied contribution to economic growth depending on individual economic structure. Finance has been identified as one of the significant factors determining SMEs' survival and growth in developing and developed countries by many business surveys, and such research has come to stay (World Bank, 2019). However, it has been empirically proven that lack of financing has been identified as one impediment to SMEs' growth in Nigeria (Ikpor et al. 2017). The scarcity of capital impedes SMEs' capacity in resolving macroeconomic challenges, and not being able to access adequate funds from financial agencies is a significant challenge. Adequate funding is key to SMEs playing an active role in the host economy and small businesses' ability to access funds remains a subject of interest to business owners, researchers, government parastatals, commercial banks, and trade groups, to mention but a few.

In Nigeria, commercial banks do not consider SMEs' financial needs due to information asymmetries leading to an adverse selection process, hence, favouritism towards large firms (Afolabi, 2013). This development makes financing the main compelling factor to SMEs' growth, thereby hindering their ability to contribute more significantly to the Nigerian economy. Information made available by the Central Bank of Nigeria (2018) shows that as of 1999, deposit-money bank loan to small businesses was over 46 billion naira. Later, it decreased to about 12 billion naira and remained at that level up to 2017. Therefore, many small businesses in Nigeria have relied continuously on the fund realized internally, which increasingly became inadequate due to frequent exchange rate devaluation, rising consumer price index, and grinding poverty, thereby limiting SMEs' growth and their contribution to the economy. The Nigerian

government has established several credit facilities and other support arrangements to finance SMEs. However, most of the funds are channelled through commercial banks who, for some reason or reasons, are not able to make such funds available to SMEs in a reasonable time limit. As a result of this development, SMEs' expected contribution to economic growth, employment creation, and poverty reduction is hampered.

Small and Medium Scale Enterprises, typically risk-assessed by organizations that make funds available as the "lower end" of the credit market, often face intolerance from formal credit vendors. The aforementioned emanates in strict credit control and high risk–instalment charges, even if they secure credit. The oppressive situation emanates from their inability to promise the traditional advocate securities such as; land, mortgages, sterling shares, or other high-grade bonds to back up credit proposals (CBN 2007). This is why government alternative financial arrangements and funds have been developed over the years in Nigeria compared to other developing countries. Financing is not the only challenge making the SME sector less attractive, certainly, it is the most daunting. It is appreciated that SMEs are high-risk businesses and lack acceptable collateral securities such as trade-able securities, first-class mortgages, and high-grade bonds. However, the authors of this study view that SMEs should be enabled to access commercial bank loans, and commercial banks should be made to see SMEs as viable loan applicants through government intervention. Since the government is required to play an essential role in SMEs' commercial financing, it is necessary to examine the extent to which SMEs financing influences growth in Nigeria, given the limited funds given to it so far. Therein lies the objective of this study.

## **2.0 Review of Related Literature**

### **2.1 Conceptual Framework**

In Nigeria, a small business is defined by Small and Medium Industries Equity Investment Scheme as a venture with a total capital base that is not less than ₦1.5 million and not more than ₦200 million. This capital base includes working capital with the exclusion of land cost and with the strength of staff not less than 10 and not above 300. National Council of Industries defines small businesses as ventures with aggregate costs pegged at two hundred million naira (N200,000,000.00) or below; more importantly, aggregate cost again excludes land (Oluwarotimi & Adamu, 2017). There has been continued support for entrepreneurs to invest in small and medium enterprises. The continuous support stems from its role in employment generation, poverty reduction, and Nigeria's economic growth. The Federal policy on MSMEs mirrors the small-scale enterprises in tandem with global practice.

The policy employs the size of assets and employment capacity as a yardstick in classifying enterprises into micro, small, and medium. To delineate the classification further, any business venture with an employment capacity of 0-10 persons and a total asset worth of ₦5 million or less is a micro venture. For small-scale ventures, an employment capacity within the range of 10-49 persons alongside an estimated asset worth within the range of 5 to 50 million naira defines the boundary. Medium-scale ventures possess an employment capacity within the range of 50-199 persons alongside an estimated asset worth within the range of 50 to 500 million naira. Significantly, the assets form-up for the above classification excludes building and land. Also, Mordi et al. (2014) posited that in a possible conflict between the classification criterion of asset size and employment, the federal policy on MSMEs deems fit the number of employees supreme over asset size. For this study's purpose, the SMEs categorization is captured by the nomenclature provided by Nigeria's federal government represented by the Central Bank of Nigeria.

## **2.2 Theoretical Framework**

### **A The Agency Theory**

According to Jensen and Meckling (1976), agency theory centres on the conflict between management and shareholders of the firm and debt holders. Financing and borrowing are agreements that facilitate financial obligations on the two parties. Hence, the funds' supply to businesses is usually impacted by contracts that build suitable incentive for both the supplier and funds user. The perfect contract in the view of the researcher is one that is fully based on trust. Such contract will induce the borrower to act in the best interest of the funds' supplier. The banker-customer contracts surface through the supply of and demand for funds since there is a mutually beneficial relationship between the user of funds and the supplier (Mensah, 2004). The agency paradox is hence applicable in financing circumstances, mostly where default risk poses a significant challenge.

### **B The Pecking Order Theory**

Myers and Majluf (1984), their Pecking Order Theory, state that firms designate their sources of financing (from financing within to equity) going by the proposition of least effort (that is least resistance) tending to increase equity as a means of financing of last resort. Hence, funds within are deployed, and when that is exhausted, debt surfaces as a last resort, and when it is not wise issuing debt, there is a need for equity. The theory clarifies that businesses stick to a ranking source of financing and prefer the availability of financing within; hence credit is preferred to equity if there are requirements for external sources of financing.

### **C Information Asymmetries theory**

The major proponents of this theory are Joseph Stiglitz (1961), George Akerlof (1970) and Michael Spence (1973). This theory focuses on the information gap ever present in the business of borrowing and lending. Majority of small businesses in Nigeria and some developing economies find it difficult to maintain good business transaction records. This anomaly is due to low financial literacy level and the inability to employ professional accountants or even certified bookkeepers. As such, lending institutions do not usually have accurate information about their assets and liabilities and sales performance. Many such businesses trade on their capital without lodging their takings into the business bank account. This situation partly accounts for the reluctance of most financial institutions to grant them credit.

### **D Adverse Selection and Moral hazard theory**

The proponents for the adverse selection and moral hazard theory are; Akerlof (1970), Rothschild & Stiglitz (1976), Stiglitz & Weiss (1983) and Stiglitz (1990). The adverse selection theory hinges on the assumption that banks are not certain of picking credit-worthy borrowers from the available pool of borrowers and to compensate for the risk of selecting a bad borrower, they increase the interest rate and high-risk borrowers take up such facilities which in turn will increase the rate of loan default (Ezeoha, 2011 & Atoi, 2018). Another potential source of moral hazard stems from the failure of management of small and medium scale enterprises to meet expectations and banks term the aforementioned situation “poor managerial quality”. Atoi (2018) documents that the problem of moral hazard stems from the assumption that a borrower will likely engage in activities that endanger the position of the lender by denying ex-post verification and if there is, banks bear the charges of monitoring and evaluating projects.

### **2.3 Empirical Review**

Oluwarotimi and Adamu (2017) assessed deposit money bank financing to SMEs regarding social, economic performance, and economic growth in Nigeria (from 1992 and 2015). The study used Pearson correlation and Ordinary Least Square; the result showed a negative and significant connection between the variables. Similarly, Richard (2016) examined how SMEs' financing and economic growth relate in the Nigerian context (from 1981 to 2014). He used the ordinary least squares technique, and the results of the study showed that both the financing levels and interest rate impacted economic growth and are both statistically significant. Ezeaku et al. (2017) assessed SMEs' financing and its influence on the growth of Nigeria's industrial sector from 1981 to 2014. The study used various credit variables to small and medium enterprises, manufacturing output, inflation, and exchange rate in the analysis. The study showed that SMEs' financing impacted manufacturing positively, but the interest rate and inflation rate had a negative effect on manufacturing.

Benson (2017) investigated bank lending and its influence on Nigerian economic growth from 1992 to 2015. The study used the OLS method to measure GDP as explained variable and bank lending to small businesses, money supply, lending to the private sector, and interest rate as explanatory variables. The findings showed an insignificant relationship between the explained and explanatory variables. Onyeiwu (2014) examined the impact of SMEs' financing on Nigeria's economic growth and found that SMEs have a significantly higher impact on growth than such variables as a loan to the private sector, capital formation, and money supply in the model. Muganda et al. (2016) assessed the effect of business finances on SMEs' performance in Kenya. The descriptive statistics result clearly showed that business financing, deposit money bank loan financing, retained earnings financing, and trade credit finances significantly influenced SMEs' financial performance.

Okey (2016) examined deposit money banks' lending and the growth of small businesses in Nigeria. Small and medium enterprises' output was used as a dependent variable while commercial bank credit, lending rate, exchange rate, inflation rate, and bank density were used as independent variables. The regression result indicated an insignificant relationship existing among deposit money bank credit and small businesses' growth. Hence, bank credit to small businesses, aggregate government expenditure, and bank density has a direct but insignificant effect on small business production. Iloh and Chijioke (2015) examined the impact of credit availability from banks to small businesses in Nigeria. RGDP was used as a dependent variable, while small and medium enterprises activities, deposit money bank credit, exchange, and lending rates represent independent variables. The findings revealed that deposit money bank credit to SMEs has a significant positive effect on Nigerian economic growth. Imoisi and Ephraim (2015) researched the association between small businesses and Nigerian growth (1975 to 2012). GDP stood as the dependent variable, finance availability to SMEs, inflation, and the interest rate was used as stimulus variables. Findings from the ordinary least square (OLS) showed that SMEs' financial availability had a positive and significant relationship with GDP. Hence, inflation and interest rate showed a positive and negative influence on GDP, respectively.

#### **2.4 Commercial Banks Promoting Access to financing SMEs Growth: The Nigerian Experience.**

The decreasing rate of SME funding remains a limiting factor undermining its contribution to Nigeria's economic growth and development. More precisely, four key issues affecting SMEs in Nigeria are mentioned; thus, an unfriendly business environment, insufficient funding, poor managerial skills, and lack of access to modern technology. There is a noticeable dependence by SMEs on financial institutions to

acquire funding, business expansion, and the latest technology acquisition to sustain competitiveness and contribute to economic growth. Other limiting factors stem from infrastructural deficiencies, multiple taxations, and a hostile macroeconomic environment. Among these, a shortage of finance occupies a very central position.

Over time, there is a rich history of community finance, microfinance, and government based SME finance arrangements in a bid to provide financial services to the SME sector outside the commercial banking system. However, performance is still in doubt. The critic-laden performance spurred the government to strengthen the financial sector through its long-term strategic plan: *The Financial System Strategy ("FSS, 2020")*. SME financing in Nigeria is heavily constrained by the scarcity of data on SME operations, regulations, the absence of credible assets, and incomplete credit information. Policies concerning small-scale enterprises suffer continuous setbacks due to the scarcity of data required to understand existing government SME-based initiatives' problems and operations. The available credit information system does not align with the SME sector's needs. If the narrative must change, the Nigerian government and the organized private sector must create a platform where private-owned credit bureaus alongside the Credit Risk Management System (CRMS) can effectively cover the SME subsector.

In the past seven years, the CBN has increased pressure on financial institutions, most significantly, commercial banks to increase their lending threshold to SMEs. The increased risk, coupled with the already existing loan defaults, deters banks from giving loans to small-scale enterprises. Banks prefer to pay penalties to the CBN than giving out loans to these SMEs. They have target sectors whose interest accrues to a more significant margin and at a commensurate risk characterized by global shocks. Past attempts to promote SME finance have had mixed results, but the Nigerian authorities are still forging ahead with new initiatives and policies for the sector.

## 2.5 Research Gap

The result of numerous empirical and theoretical discussions on the effect of commercial bank financing of small and medium scale enterprises' on economic growth in Nigeria show mixed outcomes from various researchers on the topic. The position on the impact small and medium scale enterprises' yields on economic growth led by commercial bank financing is yet inconclusive. It can be noted that the results arising from the different arguments are as a result of the proxy indicators and data used in analysing the outcome of the research. Electricity distribution and provision is germane in the discussion as it pertains small and medium scale enterprises due to its high cost of installation and necessity to the going concern of SMEs in Nigeria. Capital formation which indicates the critical position of infrastructure in Nigeria without which most small

businesses fail to perform. The aforementioned critical variables are omitted in the research model put forward by past studies. Our research fills the lacuna by including the omitted variables into our research model in an attempt to establish a causal relationship between variables of interest.

The existing gap justifies the validity of further investigation on the subject matter. Hence, the need to undertake this research to strengthen the literature's depth on this matter and probably influence economic decisions on this matter positively.

### **3.0 Research Methodology**

This section reiterates the study's research methodology through a succinct description of the research design, data collection instruments, the procedure of data collection, and the technique of data analysis.

#### **3.1 Research Design**

For this research, the chosen research design is the ex-post facto research design. This selected research design implies a systematic process where the researcher cannot manipulate data due to its occurrence.

#### **3.2 Justification of Methodology**

The choice of the secondary data coincides with the choice of information alongside the time constraint. Furthermore, it was chosen over other possible alternatives due to its accessibility and reliability reinforced by the verifiable sources through which the data was harnessed.

#### **3.3 Data Sources and Collection Instrument**

Secondary data spanning 1999 to 2018 extracted from the Central Bank of Nigeria Statistical Bulletin is the source of data for this study. The secondary data collected include; the contribution of SME to Gross Domestic Product, deposit money bank loan to SMEs, gross capital formation, lending rate, and electricity distribution. The choice of the secondary data is informed by the fact that such data cannot be obtained through the primary source because they have to be collected over a long time. The data were analysed using the descriptive analysis to identify the frequency distributions, means, and standard deviations. A regression analysis was also employed in determining the magnitude and direction of impact of commercial banks financing of SME on the economic growth of Nigeria.

### 3.4 Model Specification

Multiple regression analysis was used to determine whether the independent variable represented by credit to SMEs and control variables given as gross capital formation, lending rate, and Electricity Distribution impacts the dependent variable (aggregate of SME contribution to Gross Domestic Product). As measured by the aggregate of SME contribution to Gross Domestic Product, SME growth was regressed against the independent variables. The model and the moderating variables used mutates most studies in literature but is declared unique by adding electricity distribution and capital formation to the model and adopting a different measure for the dependent variable rarely used by previous authors in the Nigerian context. The moderating variables used were found in the literature to be the main factors affecting SMEs' growth other than credit financing. The hypotheses formulated for this study shall be tested with the use of multiple regressions. The tool of multiple regression was used to examine the relationship between dependent variables and independent variables.

The estimated determinant of

$$\text{LASGDP}_t = \beta_0 + \beta_1\text{GCF}_t + \beta_2\text{CSME}_t + \beta_3\text{LR}_t + \beta_4\text{ED}_t + \mu_t$$

Where:

LASGDP = Natural Logarithm of the aggregate of SME contribution to Gross Domestic Product

GCF = Gross capital formation.

CSME = Commercial Bank Credit to SME.

LR = Lending Rate.

ED = Electricity Distribution.

According to the economic priori of the signs of parameters, it is expected that  $\beta_1$  &  $\beta_2 > 0$ ,  $\beta_3 < 0$  and  $\beta_4 > 0$ .

### 3.5 Technique for Data Analysis

Econometric software (E-Views version 10.0) was employed to analyse the data collected. Descriptive statistics for all study variables were extracted from an E-views 10 output and presented herein in Table 1. Furthermore, the researcher employed the Augmented Dickey-Fuller Test to test for stationarity and the Ordinary Least Square for regression. Model diagnostics followed suit through test for multicollinearity, heteroskedasticity, normal distribution, stability and serial correlation.

#### 4.0 Data Presentation and Discussion

**Table 1. Descriptive Statistics of Study Variables (1999-2018)**

	LOGASGDP	GCF	LR	CSME	ED
Mean	10.45362	22.52240	18.39500	9259.835	19.27400
Median	10.63689	20.57100	16.92000	8044.400	18.42000
Maximum	11.66124	38.34200	24.77000	24109.21	25.96000
Minimum	8.576850	14.90400	15.14000	431.1700	8.360000
Std. Dev.	0.997190	7.183282	2.607793	8470.832	5.326045
Skewness	-0.477400	0.615053	1.039571	0.472870	-0.323732
Kurtosis	1.931870	2.254146	3.165301	1.775789	2.179652
Jarque-Bera	1.710454	1.724548	3.625129	1.994263	0.910151
Probability	0.425187	0.422201	0.163235	0.368936	0.634400
Sum	209.0724	450.4480	367.9000	185,197	385.4800
Sum Sq. Dev.	18.89336	980.3912	129.2111	1.36E+09	538.9683
Observations	20	20	20	20	20

**Source: Authors Computation**

Due to the adoption of a log-linear econometric model specification, the maximum and minimum values for all variables selected do not differ by a wide margin except the CSME variable. The deviations reported from the mean, as seen in Table 1, show that data points, as seen in LOGASGDP, LR, and ED, are close to the mean; also, the GCF variable pegged at 7.18 is not far from zero either. Facing the skewness and kurtosis section in Table 1, the standard rule of thumb posits that a reported value of less than 3 is regarded as platykurtic. Sighting the reported kurtosis statistic in Table 1 depicts that all variables except the LR variable are platykurtic. Following the established rule of thumb, the LR variable's kurtosis statistic is greater than 3, giving the researcher the wit to describe the LR variable as leptokurtic. The reported skewness statistic is within the range of -0.5 to 0.5 and 0.5 to 1, implying authoritatively that the distribution is approximately symmetric. The majority of the variables fall between the -0.5 to 0.5 band. However, the GCF and LR variables are moderately skewed. The test for normal distribution is imminent, and sighting the reported Jarque-Bera statistic in Table 1 is supported adequately by the p-values, all significant at the 5% level. The above result prompts the non-rejection of the null hypothesis, concluding that all the variables contained in Table 1 are normally distributed.

#### 4.1 Unit Root Tests

The researcher chose the Augmented Dickey-Fuller Test to ascertain stationarity and decipher the order of integrating selected study variables. The null hypothesis of the ADF test posits unit root's presence; on the other hand, the alternative hypothesis posits stationarity. The ADF unit root results are reported in Tables 2 and 3. Furthermore, all variables possess unit root after testing them at level except the LASGDP variable

reported stationary at level. After testing the remaining variables, as seen in Table 3, LR, ED, GCF, and CSME, were reported stationary after the first difference. The order of integration of the five variables selected represents the mixture of I(0) and I(1), where the dependent variable is stationary at level, and the independent variables are stationary after first difference.

**Table 2. Unit Root Test (Variables at Level)**

Variable	1%	5%	10%	ADF	Order of integration
LR	-3.831511	-3.029970	-2.655194	-1.553785	
LASGDP	-3.831511	-3.029970	-2.655194	-5.486774***	I(0)
ED	-3.831511	-3.029970	-2.655194	-1.819963	
GCF	-3.831511	-3.029970	-2.655194	-2.677035	
CSME	-3.831511	-3.029970	-2.655194	-1.649480	

Source: Authors Computation

**Table 3. Unit Root Test (Variables after first difference)**

Variable	1%	5%	10%	ADF	Order of integration
LR	-3.857386	-3.040391	-2.660551	-4.853809***	I(1)
ED	-3.857386	-3.040391	-2.660551	-5.724269***	I(1)
GCF	-3.857386	-3.040391	-2.660551	-4.103192***	I(1)
CSME	-3.857386	-3.040391	-2.660551	-3.117983**	I(1)

Source: Authors Computation

\*\*\* represents significance of the computed ADF statistic at 1%, 5% and 10% level

\*\* represents significance of the computed ADF statistic at 5% and 10% level

## 4.2 OLS Estimation

**Table 4: Ordinary Least Squares Estimation Output**

Variable	Coefficient	Std. Error	t-statistic	Prob.
Constant	11.80959	0.69912	16.89201	0.0000
GCF	-0.05184	0.01437	-3.607294	0.0026
ED	0.04688	0.02212	2.119491	0.0511
CSME	0.00002	1.01E-05	2.937384	0.0102
LR	-0.07426	0.0224	-3.302064	0.0048
R <sup>2</sup> = 0.977 Adj. R <sup>2</sup> = 0.970 F-stat= 159.5514 Prob(F-stat)= 0.0000 D.W stat= 1.68				

Source: Researchers' Computation, 2020.

Sighting the E-views 10.0 regression output in Table 4, the adjusted R-squared reported is pegged at 97%, positing a strong linear relationship between LASGDP and the independent variables selected. Supporting the above declaration, the F-statistic ( $F=159.55$ ,  $p\text{-value}=0.000$ ), clearly significant at the 5% level positing that the independent variables (LR, ED, CSME, and GCF) jointly explain the variations in the dependent variable (LASGDP). The F-statistic reported in Table 4 reaffirms the study’s model significance. The Durbin-Watson Stat suggests that there is no serial correlation basing this declaration on an established rule of thumb saying that values of the DW within the range of 1.5-2.5 are relatively normal. To instill reliability on the model estimated, the researcher embarks on holistic diagnostics around issues of serial correlation, heteroskedasticity, model stability, and normal distribution.

#### 4.2.1 Model Diagnostics

In a bid to prevent a possible violation of the CLRM assumption, the researcher deems it fit to present a Breusch-Pagan-Godfrey heteroskedasticity test. Vividly presented in Table 5, the researcher opts for non-rejection of the hypothesis stated in the null form that error variances are all equal. Considering Table 6, the F-statistic of the BGSC LM test alongside its p-value prompts the decision of non-rejection of the null hypothesis, positing that there is no serial correlation in the residuals. Cusum of Squares is graphically shown in Figure 1.0, and the CUSUMQ blue lines are well within the 5% level region, suggesting the model estimated is stable. Fears of multicollinearity is reduced as the variance inflation factors test is displayed in table 7 and no variable possess a VIF beyond the 10 threshold, justifying that our model estimated results is free from the issue of multicollinearity. The yoke of interdependence amongst independent variables is broken as outlined in section 2.5, the reason why they are adopted, their relevance in the present discussion and model suitability.

**Table 5: Breusch-Pagan-Godfrey Heteroskedasticity Test**

Test Statistic		Probability value	
F-statistic	0.516603	Prob F(4, 15)	0.7248
Obs R-squared	2.421612	Prob. Chi-Square (4)	0.6587
Scaled explained SS	2.413917	Prob. Chi-Square (4)	0.6601

Source: Authors’ Computation

**Table 6: Breusch-Godfrey Serial Correlation LM Test**

Computed statistic		p-value	
F-statistic	0.461191	Prob (2, 15)	0.6405
Obs R-squared	1.325035	Prob. Chi-Square(2)	0.5156

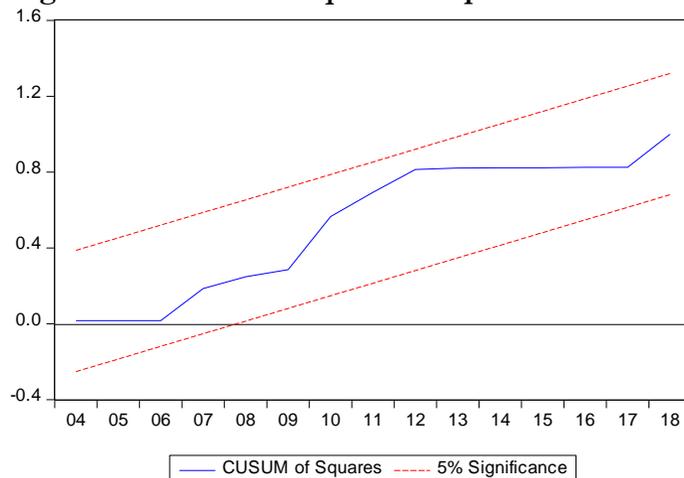
Source: Authors’ Computation

**Table 7: VIF Test Output**

Variable	Centered VIF
GCF	7.000
ED	9.118
CSME	4.784
LR	2.259

Source: Authors' Computation

**Figure 1.0: Cusum of Squares Graph**



Source: Authors computation (E-views 10).

### 4.3 Interpretation of Regression Coefficients

The LR coefficient's reported sign is in tandem with the set a-priori expectation and significant at the 5% level. The above statistical declaration prompts the researcher to conclude that the lending rate has a negative impact on the aggregate contribution of SME to GDP in that a 1% increase in lending rate leads to a reduction in the aggregate contribution of SME to GDP by 7%. Commercial bank credit to SMEs represented by the acronym (CSME) in Table 4, the reported coefficient sign of CSME variable is in tandem with the set a-priori expectation suggesting that commercial bank credit to SMEs increases their contribution to economic growth. Accordingly, the CSME variable is positively signed and significant at the 5% level, in that a 1% increase in CSME leads to an increase in ASGDP by 0.002%.

Electricity distribution was brought into the model as identified by the researcher as sublime factors that affect the aggregate contribution of SME to GDP other than SME financing. The reported coefficient sign of the ED variable is in tandem with set a-priori expectation positing that availability of electricity will increase SMEs'

contribution to economic growth. The ED variable's coefficient is positively signed and significant at the 5% level, in that a 1% increase in electricity distribution will prompt an increase in the aggregate contribution of SMEs to GDP by 4.6%. Surprisingly, the Gross capital formation variable differed from the status quo as the reported coefficient sign conflicts with the set a-priori expectation. However, the GCF variable is negatively signed and equally significant at the 5% level, in that a 1% increase in gross capital formation will lead to a reduction in the aggregate contribution of SMEs to GDP by 5.2%. This could be attributed to high deficiency in infrastructure corruption that attend infrastructural expenditure, white elephant projects as well as abandoned projects. If all the variables are kept constant, SMEs' aggregate contribution to GDP will increase by 1180%.

## **5.0 Summary of Findings, Conclusion and Recommendations**

### **5.1 Summary of Findings**

After estimating the OLS regression, the researcher discovered that electricity distribution, lending rate, and gross capital formation wields a significant impact on Nigeria's growth from 1999-2018. Indeed, it is established that apart from SME financing, the above-introduced variables also contribute to variations in the target-dependent variable. Notwithstanding, all variables obeyed set a-priori expectations except the GCF variable, which simultaneously turned out negative and significant. The lending rate also wields a negative impact on growth for the period under study. This reaffirms commercial banks' rigidity and their outright refusal to lend to SMEs without interventions from the apex bank. In line with empirical evidence on this topic, the CSME variable wields a positive impact on Nigeria's growth for the period under study. Electricity distribution wields a positive impact on growth in Nigeria in tandem with set a-priori expectation.

### **5.2 Conclusion**

This research examined the effect of small and medium scale enterprises' financing on Nigeria's growth for the period 1999-2018. The variables employed by the researcher in this study include; Aggregate contribution of SMEs to GDP, Gross capital formation, Electricity distribution, Lending rate, and Credit to SMEs. All variables were subjected to ascertain the order of integration, and all independent variables were stationary after first difference. The OLS regression results suggest that gross capital formation and lending rate negatively impact the aggregate contribution of SMEs to GDP. On the other hand, electricity distribution and credit to SMEs have a positive and significant impact on SMEs' aggregate contribution to GDP in Nigeria. This study's findings shed light on the dwindling level of capital formation, and the high lending rate

banks impose on funds-seeking SMEs. Our estimated model highlights the sacrosanct role of finance in the sustainability of small and medium scale enterprises contribution to economic growth in Nigeria.

### **5.3 Recommendations**

The apex bank should create a database management system where viable and fully registered SMEs are housed for proper credit risk assessment by commercial banks to lower the exorbitant lending rate to small-scale and medium enterprises. The government should avail SMEs with the existing pre-paid meters and be accompanied by a subsidy in electricity tariffs for growing SMEs in Nigeria. In view of the enormity of deposit liability of banks, the SMEs should be given access to such large pool of funds through government guarantee of the commercial bank loans to them and provision of interest rate subsidy by government.

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**Appendix 1**

**Data Presentation**

The Table below presents yearly data collected on aggregate of SME Gross Domestic Product (ASGDP), Gross Capital Formation (GCF), Lending Rate, Credits to SMEs (CSME) and Electricity Distribution (ED) and its relationship for the periods of (1999 - 2018).

**Data Presentation**

YEAR	ASGDP (N'B)	GCF (% of GDP)	LR	CSME(N'B)	ED(B'Kilowatts)
1999	5,307.36	38.342	20.29	431.17	8.36
2000	6,897.48	34.11	21.27	530.37	11.18
2001	8,134.14	30.926	23.44	764.96	11.73
2002	11,332.25	27.583	24.77	930.49	16.34
2003	13,301.56	29.387	20.71	1,096.54	15.28
2004	17,321.30	27.118	19.18	1,421.66	18.36
2005	22,269.98	26.19	19.95	1,838.39	17.82
2006	28,662.47	27.866	16.89	2,290.62	17.43
2007	32,995.38	21.245	16.94	3,680.09	18.48
2008	39,157.88	19.897	15.14	6,941.38	16.98
2009	44,285.56	22.05	18.99	9,147.42	15.86
2010	54,612.26	17.562	17.58	10,157.02	20.97
2011	62,980.40	16.361	16.02	10,660.07	21.67
2012	71,713.94	14.959	16.79	14,649.28	23.00
2013	80,092.56	14.904	16.72	15,751.84	23.14
2014	89,043.62	15.803	16.55	17,129.68	25.8
2015	94,144.96	15.49	16.85	18,675.47	25.96
2016	101,489.49	15.367	16.87	1,082.72	25.46
2017	113,719.05	15.474	16.05	23,908.33	25.79
2018	115,987.27	19.814	16.90	24,109.21	25.87

Sources: Central Bank of Nigeria and National Bureau of Statistics.