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EMPIRICAL ANALYSIS OF SMALL AND MEDIUM SCALE ENTERPRISES AS A CATALYST FOR DOMESTIC ECONOMIC GROWTH: AN EVIDENCE FROM NIGERIA (1993 - 2018)

Apeh, Ajene Sunday, Ph.D

Department of Economics, Nigeria Police Academy Wudil-Kano

Abstract

This study examined the impact of Small and medium scale enterprises (SMEs) as a catalyst to the growth of Nigeria's domestic economy for the sample period 1993 to 2018. The econometric technique adopted for the study was based on Error Correction Model. The estimated result revealed that the sign of the coefficients are in line with the a priori expectation. The magnitudes of the coefficients show that SMEO and INF are positively fairly inelastic both in the short run and in the long run. INF is statistically insignificant in the long run. This means that economic growth in Nigeria is relatively insensitive to changes in the mentioned explanatory variables based on available data. In order words relying purely on output from small and medium scale enterprises, bank credit to small and medium scale enterprises, interest rate and inflation for the economic growth may not yield the required result as expected. Therefore, there is need for policy mix in order to achieve the desired goal. In another dimension the amount of output from small and medium scale enterprises and bank credit to small and medium scale enterprises is grossly inadequate to stimulate economic development in Nigeria. Interest rate is found to have a negative fairly inelastic impact on economic growth both in the short run and in the long run in line with theoretical expectations. However, in the meantime, output of SMEs (SMEO) does not make any significant contribution to Nigeria's economic growth performance. The study concluded that poor government policies, on tariffs and incentives, bribery and corruption, non-existent entrepreneurial development centers and poor state of infrastructure act as impediments to the growth and development of SMEs in Nigeria. The study recommended amongst other (i) that governments at all levels in Nigeria should be encouraged to encourage microfinance institutions and commercial banking institutions to develop friendly loan policies in order to enable SMEs access enough funds for their businesses. This will enable the poor in their areas to have access to credit; (ii) Governments should introduce financial literacy in schools, establish entrepreneurial development centers for capacity building, provide enough infrastructures, especially electricity and road network, and finally establish agencies for control of bribery and corruption.

Key words: Real Gross Domestic Product, Output, Small and Medium Scale Enterprises, Bank Credit
Inflation rate, Interest rate

1. Introduction

The dynamic role of small and medium enterprises as engine of growth in developing countries has been recognized. As observed by Cook and Nixson (2001), the development of small and medium enterprises (SME's) should be seen as attempts towards the achievement of a wider economic and socio-economic objective, including poverty alleviation. As stated by Kuteyi (2013), small and medium Enterprise drives their country's development as they create employment

and contribute to the gross domestic product (GDP). In the opinion of Ariyo, (2008); Ayozie and Latinwo (2010) and Muritala, Awolaja, and Bako (2012), there is the greater likelihood that SMEs will utilize labor-intensive technologies thereby reducing unemployment particularly in developing countries and thus have an immediate impact on employment generation.

Small and Medium Enterprises are expected to facilitate the growth and development of human and capital resources towards general economic development and the rural sector in particular. In view

of these expected roles from SMEs, the Nigerian government had in the past devised policies and incentives for the development of small and medium scale Enterprises. Such efforts, according to Adebusi (1997), could be classified broadly into three, namely (i) Incentives (fiscal and export), (ii) Tariff regimes, and (iii) Financed support and technical assistance programme. The fiscal incentives include tax relief for small enterprises during the first six years of operation, granting of pioneer status for a period of five years with a possible extension of two years for enterprises located in economically disadvantaged areas, and provision of relief for investment in infrastructure capital allowances, and minimal local raw material utilization income of 20 percent. Export incentives include the introduction of import duty draw back, export credit and insurance schemes, etc.

To protect SMEs from dumping, the government adopted the use of high tariff rates to discourage importation of some of the industrial goods that could be produced domestically, and in some cases, completed with ban on a variety of industrial and agricultural products. To provide funds to small and medium scale enterprises by way of commercial loans, the Bank of Industry (BOI) and the Nigerian Agricultural Cooperative and Rural Development Bank (NACRAB) were established. Also established were National Economic agencies to provide loan scheme for SMEs.

In spite of all these efforts by the government, both at federal, state, and local government levels, to ensure the growth of SMEs in Nigeria, people such as Abereijo, Ilori, Taiwo, and Adegbite, (2007) have identified key factors which they claimed were responsible for their perceived failure of SMEs in Nigeria. Against the backdrop of the interest and belief in the SMEs as a catalyst towards the industrialization and economic growth of Nigeria, this study is aimed at determining the quantitative impact of SMEs in Nigeria's economic growth performance.

In many societies, small and medium scale enterprises are the engine of growth. Specifically, in countries such as Malaysia, Thailand, China, and India, SMEs have been responsible for more than 70 percent

of exports and this is why these countries, according to Duro (2013) have been growing in leaps and bounds.

In Nigeria, SMEs are beset with a myriad of challenges which are in no small measure affecting their growth. The most pronounced, however, is access to funds and effective infrastructure to operate, especially electricity. As observed by Sacerdoti (2005), even banks with retained liquidity levels in excess of what is required by law have shown reluctance in extending loans to SMEs, especially on long term basis as they are considered highly vulnerable with high credit risk. Small and medium scale Enterprises do not have the muscle to compete with the multinationals in terms of marketing because of what it takes in real terms to market a product. In addition, the amount one needs to produce in order to engage in profitable marketing to break even is not there for the local manufacturers.

SMEs by their very nature are supposed to be the bedrock of the nation's economy but the operating environment has been very harsh for them to thrive. Currently, most of them can scarcely fund their operations, and the issue of mass or large scale production is ruled out. Some manufacturers have gone under due to unhealthy operating environment occasioned by poor infrastructure, high cost of production, multiple levies and multiplicity of regulatory agencies. In terms of capacity building, very few, of SMEs can afford to attract and retain the right caliber of staff that will take charge of sensitive and high-tech positions in their companies.

In view of the problems confronting SMEs in Nigeria alongside the efforts the government has put in to ensure their growth for them to perform effectively the roles expected of them, this paper is aimed at quantitatively investigating the impact of SMEs on Nigeria's economic growth performance.

The broad objective of this study is to analyze the performance of small and medium scale Enterprises vis a vis Nigeria's economic growth performance. The Specific objectives are to:

(i) analyze the impact of SMEs on Nigeria's economic growth performance, and

(ii) examine the impact of changes in fiscal and monetary policies on the output of SME's in Nigeria.

2. Literature Review

2.1 Conceptual Issues

Small and Medium Enterprises (SMEs) as defined by the National Council of Industries refer to business enterprises whose total costs excluding land is not more than two hundred million naira (N200, 000,000.00) only. A lot has been said and written about SMEs the world over (Arewu & Adeyemi 2011).

A clear definition of small and medium scale enterprises (SMEs) is an essential element of government policy in any country, since it distinguishes the group of industries. Therefore, economic literature on the small and medium scale enterprises concede lack of uniformity in the accepted criteria or measure in the size and definition of SMEs, because the concept of small and sized industry is a relative concept, as it varies from country to country.

As Anyanwu (2001), rightly put it, (1) Cottage industry are the enterprises with total cost (including working capital but excluding cost of land) not more than N1million, with labour size of not than 10 workers. (11) Small scale enterprises are enterprises with total cost (including working capital but excluding cost of land) above N1million but not exceeding N40 million with labour size of between 11 and 35 workers. (111) Medium scale industry are enterprises with total cost (including working capital but excluding the cost of land) above N40million but not exceeding N150 million, with a labour size of between 35 and 100 workers.

Microfinance is about providing financial services to the poor who are traditionally not served by conventional financial institutions. Soludu (2005) observed that these major features distinguished Microfinance from other financial products. These are (A) The smallness of Loans advanced and /or Savings collected; (B) Simplicity of operations, and (C) Absence of asset-based collaterals.

According to CBN (2006), the practice of microfinance in Nigeria is culturally rooted and dates

back centuries where the traditional microfinance institutions provide access to credit for the rural and urban low income earners, which are mainly the informal self-help groups (SHG) or Rotating savings and credit associations (ROSACAS) types. Other providers of microfinance services include savings collectors and co-operative societies; the informal financial institutions generally have limited outreach due primarily to paucity of loanable funds. Microfinance schemes were not developed by international agencies or non-governmental organizations (NGO's). Many such schemes have long histories in the developing world. One of such microfinance schemes is known variously as ESUSU, box money, Partners hand in Caribbean and Titian in Senegal.

In the Tition (Senegalese) version of the scheme, interest is paid back to the group by the borrowing members, so that the amount of money in the "Pot" grows at a faster rate. There are numerous ways in which this type of scheme can be organized, with variants based on the frequency and length of the cycle period, the contributors' amount, and mode of selecting the person who will receive the payout. The advantages of this form of microfinance is that it offers an opportunity for members to save and at the same time such savings fairly liquid, facilitates the availability of a lump-sum of money which allows for higher investment to be made earlier than accumulation of savings. The disadvantages are the risk of mismanagement and fraud on the part of the group organizer who in theory could abscond with the group's fund.

2.2 Empirical Review

Using the descriptive research method, Adoyi and Agbo (2009) employed both primary and secondary data to determine the extent to which small business firms have developed Benue sate of Nigeria, and found that 86.3 percent of the small business firms pay their taxes regularly. These taxes increase the revenue base of the state which is used for development purposes.

Akingunola (2011) assessed the specific financing options available to SMEs in Nigeria and

their contribution to economic growth performance. The Spearman's Rho correlation was employed to determine the relationship between SMEs financing and investment level. At 10 percent level of significance, the Rho value of 0.643 indicated a significant and positive relationship between SMEs financing and economic growth in Nigeria.

Safiriyu and Njogo (2012) employed primary data instruments, questionnaire and interviews to study the impact of small and medium scale enterprises on employment generation in Lagos state, Nigeria. The results of simple percentages and chi-Square (X^2) tests conducted show that small and medium scale enterprises and sustainable development of Nigerian economy are positively related, just as promotion of SMEs and improvements in employment generation are positively related and significant.

Availability of finance has been widely viewed as a constraint to the growth of SMEs. Azende (2011), in an empirical evaluation of the performance of small and medium scale Enterprises, Equity Investment Scheme (SMEEIS) in Nigeria used Benue and Nassarawa states as case studies. Using total credit to SMEs as a percentage of Banks' total credit for the period 1993 to 2008, the T-test conducted to determine the extent of relationship between bank loans before and after the introduction of SMEEIS indicated no significant difference between loans disbursed by banks to SMEs. This result, according to him, was due to the fact that the conditions for accessing SMEEIS funds were beyond the reach of the targeted SME

3. Methodology

The study used both analytical and descriptive design using Error correction estimation techniques.

$$RDDP_t = \beta_1 \Delta \ln RGDP_{t-1} + \sum_{i=0}^{N2} \beta_2 \Delta \ln SMEO_{t-i} + \sum_{i=0}^{N3} \beta_3 \Delta \ln GRBC_{t-i} + \sum_{i=0}^{N4} \beta_4 \Delta \ln INT_{t-i} + \sum_{i=0}^{N5} \beta_5 \Delta \ln INF_{t-i} \\ + \lambda_1 \ln RGDP_{t-1} + \lambda_2 \ln SMEO_{t-1} + \lambda_3 \ln GRBC_{t-1} + \lambda_4 \ln INT_{t-1} + \lambda_5 \ln INF_{t-1} + \varepsilon_t \quad (2)$$

Where:

SMEO = Output of Small and Medium Scale Enterprises

GRBC = Bank Credit to SMEs

The Error Correction Model (ECM) is specified as follows:

The kinds of data required for this study is secondary data and these includes; The variables included in this model are; Growth rate of Gross Domestic Product (GDPGR), Real Interest Rate (RIR), and Growth Rate of Bank Credit (GRBC). These data were sourced from Central Bank of Nigeria (CBN) statistical Bulletin for various years, Central Bank of Nigeria Economic and statistical Review from 1993-2018 various years, Nigerian Bureau of Statistics (NBS) for 1993-2018, Central Bank of Nigeria Annual Report and Statement of Accounts for 1993-2018 and. Internet surfing. The data for this study were analyzed using both descriptive statistics and analytical tools. The descriptive statistics shows the mean of the variables, their standard deviations the median, maximum and minimum values and test for normality of the variables. The analytical tools involve the use of the Augmented Dickey-Fuller (ADF) test, stability test, Johansen Co-Integration Test, Error Correction Model,

3.1 Model Specification:

In order to give empirical content to the stated objectives the following structural equation is specified:

$$RGDP_t = \beta_0 + \beta_1 SMEO_t + \beta_2 GRBC_t + \beta_3 INF_t + \beta_4 INTR_t + \mu_t \quad (1)$$

The following variables – INF and INTR have been included in the model on the consideration that they are among the proximate determinants of output in any economy. To be able to make more robust conclusions concerning the performance of SMEs in response to changes in some macro policy variables (Fiscal and Monetary policy variables), the parameters of the following is modified as:

INF = Inflation rate

INTR = Interest rate

β_1 - β_4 ; λ_1 - λ_3 = Estimated Parameters

μ_i and ε_i = Stochastic error terms

$$\Delta \ln RGDP_t = \beta_0 + \sum_{i=1}^{N1} \delta_i \Delta \ln RGDP_{t-1} + \sum_{i=0}^{N2} \phi_i \Delta \ln SMEO_{t-1} + \sum_{i=0}^{N3} \lambda_i \Delta \ln GRBC_{t-1} + \sum_{i=0}^{N4} \Omega_i \Delta \ln INT_{t-1} + \sum_{i=0}^{N5} \theta_i \Delta \ln INF_{t-1} + \psi ECM_{t-1} + V_t \quad (3)$$

A priori expectations

Theoretically, the relationship between Small scale enterprises and Nigeria Economy is positive. On apriori ground, it is expected that the independent variables should have positive impact on the dependent variables. (That is, the coefficient of Output of Small and Medium Scale Enterprise and Bank Credit to SMEs are expected to be positive so as to be consistent with the theoretical a priori expectation. Symbolically it is as: $\beta_1 \beta_2 \beta_3 > 0$ and $\beta_4 < 0$

4. Results and Discussion

This chapter deals with the presentation and analysis of data. The research is set out to examine the impact of

small and medium scale enterprises on the growth of Nigerian economy from 1993-2018. The time series data on real gross domestic product, output of small and medium scale enterprises, bank credit to small and medium scale enterprises, inflation rate and interest rate were obtained through secondary sources from Central Bank of Nigeria Statistical Bulletin (2019). The data were analyzed using econometric software (E-view 9.0). The chapter is divided into Pre-test, Estimation and Post- Estimation Test as follows:

4.1 Descriptive Statistics

The results of descriptive statistics for the five variables are shown below:

Table 1: Descriptive statistics results

	RGDP	SMEO	GRBC	INT	INF
Mean	41791.75	36005.08	31974.68	5.259792	11.05775
Median	38735.23	37979.00	23133.10	4.120000	10.49077
Maximum	69799.94	69062.00	90176.50	16.66000	23.26000
Minimum	19927.99	12439.00	10747.89	1.410541	4.899284
Std. Dev.	18735.15	18075.14	22100.54	3.876164	3.727273
Skewness	0.258901	0.197071	1.071037	1.733197	1.261341
Kurtosis	1.511883	1.713470	3.500193	4.944766	5.684473
Jarque-Bera	2.689494	1.961383	5.241893	17.11450	14.70117
Probability	0.260606	0.375052	0.472734	0.830192	0.923642
Sum	1086585.	936132.0	831341.8	136.7546	287.5015
Sum Sq. Dev.	8.78E+09	8.17E+09	1.22E+10	375.6162	347.3141
Observations	26	26	26	26	26

Source; Author's Computation (2021) (E-Views 9.0 Software)

With the total observation of 26, real gross domestic product (RGDP), output from small and medium scale enterprises (SMEO), bank credit to small and medium scale enterprises (GRBC), interest rate (INT) and inflation (INF) have the mean values of 41791.75, 36005.08, 31974.68, 5.259792 and 11.05775 respectively. The minimum values and the mean values are not the same. Their minimum values are

69799.919927.99, 12439.00, 10747.89, 1.410541 and 4.899284 respectively. Their maximum values are 69799.94, 69062.00, 90176.50, 16.66000 and 23.26000 respectively. There seems to be evidence of significant variations as shown by the huge difference between the minimum and maximum values for the variables under consideration. This is reflected in their

respective standard deviation of 18735.15, 18075.14, 22100.54, 3.876164 and 3.727273.

In terms of peakness, real gross domestic product, and output from small and medium scale enterprises are platykurtic while bank credit to small and medium scale enterprises, interest rate and inflation are leptokurtic. The skewness results indicate that real gross domestic product, and output from small and medium scale enterprises mirrors a normal distribution while bank credit to small and medium scale enterprises, interest rate and inflation are positively

skewed. This seems to suggest a spread that is not normal. The probability values for Jarque- Bera test seem to suggest a rejection of the null hypothesis of normality. This calls for a formal test using unit root test.

4.2 Unit Root Test

The prominent Augmented Dickey-Fuller test for unit root is used in this work. The summary of the results is presented in table 2.

Table 2: Summary of Unit Root Test Result Using Augmented Dickey – fuller (ADF) Test

Augmented Dickey – fuller (ADF)							
Variable	LEVELS			FIRST DIFFERENCED			
	t-statistic	Critical value	p-value	t-statistic	Critical value	p-value	I(d)
Log(RGDP)	-1.312412	-2.991870	0.6067	-6.623791	-2.957110	0.0001a***	I(1)
Log(SMEO)	-1.559560	-2.991870	0.4871	-3.737853	-2.957110	0.0048a***	I(1)
Log(GRBC)	-0.044866	-2.998064	0.7190	-6.200173	-2.991878	0.0000a***	I(1)
Log(INT)	-2.425486	-2.986225	0.1453	-4.340963	-2.991878	0.0025a***	I(1)
Log(INF)	-2.652716	-3.533971	0.1540	-5.139066	-2.998064	0.0004a***	I(1)

Source; Author's Computation (2021) (E-Views 9.0 Software)

Note: *** implies statistical significance at 1% levels respectively. Also, 'a' denotes model with constant.

All the variable has unit root problem when tested at levels. However, the variables are stationary at first difference. This calls for cointegration test to determine the appropriate estimating technique. Importantly, none of the series is I(2) or more. It is important to note that Johansen Cointegration Test is very suitable when variables are of the same order of integration. This is

case with the behavioural characteristic of our data series in this study. Therefore, cointegration test will be conducted using Johansen Cointegration Test.

4.3 Johansen Cointegration Test

The long run relationship between and among the variables is tested using ARDL bound Johansen Cointegration Test. The result is presented in table 3:

Table 3: Johansen Test Result of Co-integration

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.858719	105.4571	69.81889	0.0000
At most 1 *	0.751982	58.48903	47.85613	0.0037
At most 2	0.487648	25.02694	29.79707	0.1605
At most 3	0.305963	8.977097	15.49471	0.3675
At most 4	0.008777	0.211588	3.841466	0.6455
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				

* denotes rejection of the hypothesis at the 0.05 level				
***MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.858719	46.96806	33.87687	0.0008
At most 1 *	0.751982	33.46209	27.58434	0.0078
At most 2	0.487648	16.04985	21.13162	0.2219
At most 3	0.305963	8.765510	14.26460	0.3062
At most 4	0.008777	0.211588	3.841466	0.6455
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
***MacKinnon-Haug-Michelis (1999) p-values				

Source; Author's Computation (2021) (E-Views 9.0 Software)

The result as presented in Table 3 shows that the trace statistic indicates 2 cointegrating equations at 5% level of significance. The maximum eigenvalue test also indicates 2 cointegrating equations.

This is an evidence of strong long-run relationship between and among real gross domestic product, output from small and medium scale enterprises, and bank credit to small and medium scale enterprises, interest rate and inflation in Nigeria based on the data used. In order words, there is long-run co-integration between and among the variables.

4.4 Error Correction Model

If a linear combination of non-stationary series is found to be stationary (cointegrated), one can go ahead and interpret the result of a static model without paying further attention to the time series properties and short-run dynamics of the model. However, a major argument has been that since equilibrium is rarely observed, it may be necessary to consider the short-run evolution of the series and dynamics of the adjustment. The result of the estimation from error correction model is presented in table 4.

Table 4: Result from Error Correction Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.025088	0.011729	2.138930	0.0520
DLOG(RGDP(-1))	0.471398	0.237746	1.982778	0.0689
DLOG(SMEO)	0.084042	0.038431	2.186818	0.0076
DLOG(SMEO(-1))	0.000959	0.044091	0.021753	0.9830
DLOG(GRBC)	0.012022	0.018671	0.643857	0.5309
DLOG(GRBC(-1))	-0.001419	0.017726	-0.080048	0.9374
DLOG(INT)	-0.619972	0.525576	-1.179605	0.0084
DLOG(INT(-1))	-0.022262	0.032466	-0.685699	0.5049
DLOG(INF)	0.197955	0.104191	1.899917	0.0082
DLOG(INF(-1))	0.033590	0.024293	1.382715	0.1900
ECM(-1)	-0.619972	0.525576	-1.179605	0.0084

Source; Author's Computation (2021) (E-Views 9.0 Software)

The short-run result of the estimation is presented in table 4. The Statistical Interpretation presents that out of four regressors, three regressors in the model (SMEO, INT and INF) are statistically significant at one percent level. This means that their inclusion in the model is relevant. It is an indication that when modeling for economic growth in future, the variable should be included in the model. Specifically a one percent increase in output of small and medium scale enterprises will result to about 8 percent increase in economic growth and it stand to be inelastic. This is in confirmation of the works Arewu and Adeyemi (2011). Interest rate is also statistically significant in explaining economic growth in Nigeria in the short run. A one percent increase in interest rate will result to about 61% decrease in economic growth in Nigeria in the short run. It also stands to be inelastic. In another dimension a one percent increase in inflation will cause the Nigerian economy to grow by about 19 % in the short run and stand to be inelastic.

Interestingly, the speed of adjustment as revealed by the coefficient of ECM is highly recommendable. This

shows that a disequilibrium in the short run can quickly revert to equilibrium by about 62% speed of adjustment. This means that it will take the economy less than one year to correct the short falls that might occur in the short-run. Consequently, output of small and medium scale enterprises, bank credit to small and medium scale enterprises, interest rate and inflation will play important roles to absorb any negative shock to real gross domestic product.

Economic Interpretation: Economic theories posit a positive relationship between gross domestic product and availability of fund in the economy as well as inflation. Economic theories on the other hand posit a negative relationship between gross domestic product and interest rate. The result as presented above is in agreement with these theories; the coefficients of SMEO, GRBC and that of INF are positive. This is in line with the findings of Azende (2011). The coefficient of INT on the other hand is negative. Based on these values the null hypothesis of no significance is rejected in favour of the alternative hypothesis of significant of the variables.

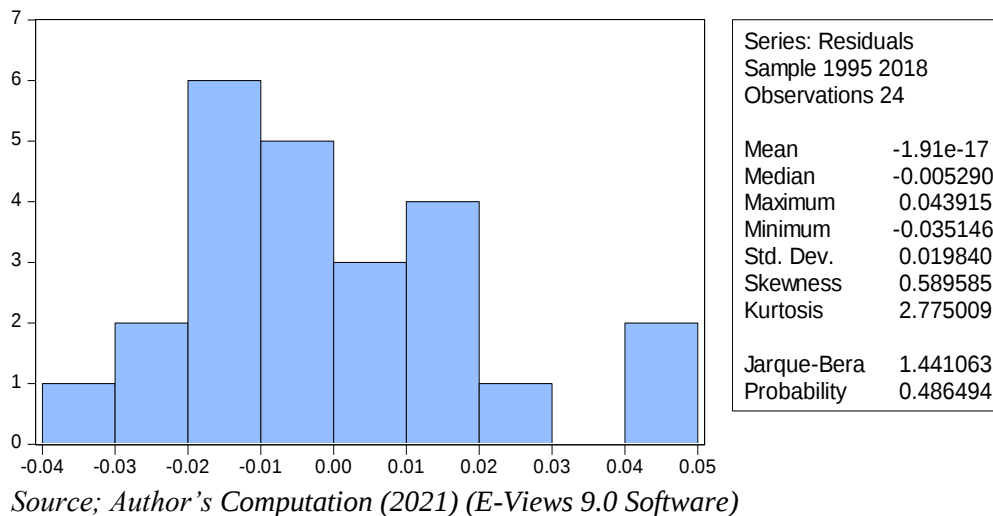
4.5 Long-Run Results of the Estimation

Table 5: The result of the long-run estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.368949	1.718072	4.871127	0.0001
LOG(SMEO)	0.442919	0.114222	3.877706	0.0009
LOG(GRBC)	-0.219502	0.068094	-3.223524	0.0041
LOG(INT)	-0.232833	0.116510	-1.998386	0.0588
LOG(INF)	0.064883	0.169426	0.382956	0.7056
R-squared	0.882751	Mean dependent var		10.53694
Adjusted R-squared	0.860418	S.D. dependent var		0.471775
S.E. of regression	0.176258	Akaike info criterion		-0.462691
Sum squared resid	0.652407	Schwarz criterion		-0.220749
Log likelihood	11.01498	Hannan-Quinn criter.		-0.393020
F-statistic	39.52658	Durbin-Watson stat		1.948798
Prob(F-statistic)	0.000000			

Source; Author's Computation (2021) (E-Views 9.0 Software)

The long run estimates as presented in table 5 revealed that output from small and medium scale enterprises and inflation has positive relationship as theoretical expected. However, bank credit to small and medium scale enterprises and interest rate have negative relationship in explaining economic growth in Nigeria in the long run. This is in agreement with the findings of Ogwuma (1995). Furthermore, three out of the four explanatory variables (output from small and medium scale enterprises, bank credit to small and medium scale enterprises and interest rate) are statistically significant in explaining growth behavior in the long run in the Nigerian economy. Specifically speaking, a one percent increase in output from small and medium scale enterprises will result to about 44% increase in economic growth in Nigeria in the long run and it stand inelastic. This confirms the works of Aremu (2010). However, a one percent increase in bank credit to small and medium scale enterprises will rather decrease economic growth by about 22% and it stand inelastic. In like manner, a one percent increase in interest rate will reduce economic growth by about 23% in an inelastic manner.



The Jarque-Bera probability value of 0.489276 shows that the null hypothesis of normality cannot be rejected since it is greater than five percent level of significance. Therefore, the series is obtained from a normal distribution.

The R-square statistic shows that the explanatory variables in the model (output from small and medium scale enterprises, bank credit to small and medium scale enterprises, interest rate and inflation rate) account for about 88 percent of the variation in the dependent variable (real gross domestic product). The adjusted R-squared which is sensitive to the relevance of variables in the model shows that the three explanatory variables account for about 86 percent variation in gross domestic product. The F-statistic being significant implies that the overall goodness of fit of the model is satisfactory. Using the rule of thumb, the Durbin-Watson statistic of approximately 2 shows the absence of serial correlation.

4.5.1 Normality Test

Normality test is conducted to see whether each disturbance term is independently and identically distributed with mean zero and constant variance. This test is carried out using Jarque-Bera test and testable hypothesis is that data in question are from a normal distribution. The result is as presented below:

4.6 Discussion of Result

The pre-test analysis seems to suggest that the series are not stationary. This position is confirmed by a formal test for normality called unit root test. The results of the test shows that the series are integrated of order one ($I(1)$).

In order to determine whether or not there exist a long run relationship between the variable in the model Johansen cointegration test was conducted. The cointegration result shows that the variables are cointegrated. This means that any of the variables can be used as a policy variable to achieve the desired level in the economy. The economic growth model is found to be reliable because it passed the post estimation tests for serial correlation and heteroscedasticity tests. Both the joint test and the individual components indicate no element of heteroscedasticity of the series meaning that the variance is constant over time.

The estimated result revealed that the sign of the coefficients are in line with the a priori expectation. The magnitudes of the coefficients show that SMEO and INF are positively fairly inelastic both in the short run and in the long run. Although INF is statistically insignificant in the long run. This means that economic growth in Nigeria is relatively insensitive to changes in the mentioned explanatory variables based on available data. In other words relying purely on output from small and medium scale enterprises, bank credit to small and medium scale enterprises, interest rate and inflation for the economic growth may not yield the required result as expected. Therefore, there is need for policy mix in order to achieve the desired goal. In another dimension the amount of output from small and medium scale enterprises and bank credit to small and medium scale enterprises is grossly inadequate to stimulate economic development in Nigeria. Interest rate is found to have a negative fairly inelastic impact on economic growth both in the short run and in the long run in line with theoretical expectations. Policy makers are therefore expected to place interest rate at an acceptable height to encourage small and medium scale enterprises to access money from commercial banks. In other words, the prevailing interest rate at moment is a discouraging factor to small and medium scale enterprises to borrow. The rate has to be reviewed downward in order to encourage small and medium scale enterprises to borrow from commercial banks in Nigeria.

5. Conclusion and Recommendations

The study investigated the impact of small and medium scale enterprises on the growth of Nigerian economy using the following variables: real gross domestic product, output from small and medium scale enterprises, bank credit to small and medium scale enterprises, interest rate and inflation rate. The research concludes that there is a long run relationship between and among all the variables used in the analysis. Furthermore, output from small and medium scale enterprises is found to be positive and statistically significant in explaining the growth behavior in Nigeria.

In view of the findings so far, the recommendations are that:

- (1) Government at all levels in Nigeria should be encouraged to encourage commercial banking institutions to develop friendly loan policies in order to enable SMEs access enough funds for their businesses. This will enable the poor in their areas to have access to credit.
- (2) The central Bank of Nigeria (CBN) should hasten up its proposal to introduce financial literacy in in school's curriculum. The ability of SMEs to keep appropriate and up to date records are what banks require for extension of their credits to individuals and groups.
- (3) The CBN as the apex financial institution should establish entrepreneurial development centers across the country to encourage and build capacity for business-minded youths.
- (4) Government should increase its efforts towards the provision of infrastructure such as electricity, and transport without which government cannot thrive efficiently, and
- (5) Government in Nigeria should establish more agencies to assist the existing ones such as the EFCC and ICPC to tackle bribery and corruption headlong, as businesses cannot thrive in an environment where bribery and corruption thrive.

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