#### DETERMINANTS OF SMALL AND MEDIUM SCALE ENTERPRISES, POVERTY AND ECONOMIC GROWTH: A CASE STUDY OF NIGERIA

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#### ABSTRACT

Small and Medium-sized Enterprises (SMEs) have been the subject of increasing attention by policymakers in national governments and international institutions in both developed and developing countries. This article focuses on the determinant of small and medium scale enterprises, poverty and economic growth in Nigeria. Secondary data were tested for unit root. Correlation analysis, Autoregressive Distributed Lag model were adopted to test for the objectives of this study.

Results of analyses indicated that the major significant determinants of the growth rate of SMEs in Nigeria were bank loan to SMEs at two previous years, government expenditure to SMEs at previous year and three years after for interest rate. The findings also indicated that bank loan to SME, government expenditure and interest rate were also the determinants of real gross domestic product growth (RGDPG) with respect to the years under study. Results of ARDL also showed that SMEs contribution to gross domestic growth, bank loan to SMEs and government expenditure were all significant and exerted dominant impact on poverty level. Furthermore, results revealed a unidirectional causality between economic growth and poverty, between SME growth and poverty, and between SME growth and economic growth.

The study therefore recommends the setting up of enterprise development agencies in every state of the federation to serve as coordinating unit that will help business enterprises as well as reduce unemployment, poverty and its attendant effect on economic growth.

Keywords: SME growth rate, Poverty index, Economic Growth, ARDL, Nigeria

**JEL CLASSIFICATION: P33, J6, C1, I32, O47** 

### **1. INTRODUCTION**

The study on small and medium scale eenterprises (SMEs) have shown significant potentials in addressing many developing countries problems of unemployment and poverty with Nigeria inclusive. SMEs account for a lion's share of the enterprises in most economies, and employ significant numbers of people. They are also thought to be an engine of new growth and innovation. Thus, SMEs, as a group, account for a significant share of economic activity at any point of time.

Small and Medium Enterprises (SMEs) play a major role in most economies, particularly in developing countries. SMEs account for the majority of businesses worldwide and are important contributors to job creation and global economic development. They represent about 90% of businesses and more than 50% of employment worldwide. Formal SMEs contribute up to 40% of national income (GDP) in emerging economies. These numbers are significantly higher when informal SMEs are included. According to our estimates, 600 million jobs will be needed by 2030 to absorb the growing global workforce, which makes SME development a high priority for many governments around the world.

Small and medium scale enterprises have been defined differently by various individuals and organizations such that an enterprise that is considered small and medium in one place is seen differently in another area. Even within a country, the definition changes over time. Some common indicators employed in the various definitions include total assets, size of labour employed, values of annual turnover and capital investment. According to Organisation for Economic Cooperation and Development [OECD], (2016), SMEs are defined differently in the legislation

across countries, in particular because the dimension "small" and "medium" of a firm are relative to the size of the domestic economy. For statistical purposes, the OECD refers to SMEs as the firms employing up to 249 persons, with the following breakdown: micro (1 to 9), small (10 to 49) and medium (50-249).

Other threshold values such as 100, 200 are used less frequently. This definition of SME is the most common one, and also consistent with that used by the European Union, though EU definition also includes firm's turnover and asset value. In Nigeria for instance, the Central Bank's monetary and credit guidelines viewed small-scale industries as establishment whose annual turnover is less than N6million and capital not exceeding N10million. Similarly, a study by the Nigerian Federal Office of Statistic (2001) shows that 97% of all businesses in Nigeria employed less than 100 employees. The SME sector provides average of 50% of Nigeria's an employment, and 50% of its industrial output (Ariyo, 2008).

According to Gungbemi (2001) small businesses are types of industries owned and managed by individuals or groups of internationally people. **SMEs** are recognized as a means of reducing poverty and foster economic growth in both developed and developing countries. As the world economies are recovering from the financial crisis arising from Covid 19, many economies urgently need to create employment opportunities for their citizens. In this respect, creation and growth of SMEs is an important item on the policy significant agenda in view of its contributions to employment potentials.

Over the years, the Nigerian government has taken various measures in promoting development of small and medium scale enterprises (SMEs). Moreso, despite the large amounts of money spent on the development of SME growth policies, it has been observed that there had been no significant and improved changes in the growth of SMEs with respect to poverty alleviation and economic growth of Nigeria (Adejugbe 2002; Emordi 2008 and Sagagi 2006).

Poverty is a global problem that affects socio-economic and political aspects of lives of about 2 billion people across the globe. However, Poverty refers to a situation of lack of access to the basic of life. necessities Poverty and unemployment have been major problems in many developing countries around the world and Nigeria especially in recent years (Essien and Udofia, 2006). Barnes (2010), Omadjohwoefe (2011), and USAID (2011) have shown evidences of how poverty penetrates very high majority of those living in rural areas of Nigerian society.

"Poverty encompasses different dimensions of deprivation that relate to human capabilities including consumption and food security, health, education, rights, voice, security, dignity and decent work. Reducing gender inequality is key to all dimensions of poverty (OECD, 2016). World Bank (2011), defined poverty as distinct deprivation in the living condition which comprises of multiple dimensions, these include inability to have access to basic needs, low income necessary for human existence. Chambers (2006), a leading scholar on poverty and development, clusters poverty definitions into four groups: (i) Income poverty (or its common proxy, consumption poverty, (ii) Material lack or want: besides income, this includes absent, limited or low quality assets (such as shelter, clothing, furniture, personal means of transport, radio, etc.). It also includes inadequate access to services, (iii) Capability deprivation, referring to what people can or cannot do, or can or cannot be. This goes well beyond material lack to include human capabilities, such as

skills and physical abilities, and also selfrespect in society, (iv) Multidimensional deprivation, with material lack or want, as only one of several mutually reinforcing dimensions.

Most successive administrations have instituted poverty reduction programs schemes, some of these programs include Subsidy Re-Investment Program (SURE-P) in 2012, Micro Crediting Plan in 2015 in addition to 300 billion Naira, 339 billion Naira and 338.9 billion Naira allocated from the budget in 2016, 2017 and 2018 respectively for free meal for school children, N-Power in 2017 etc. (Hussaini, 2014). Despite the huge amounts spent on the development of these policies for SMEs growth, Sagagi (2006) noted that not much changes and improvements have been achieved in respect of poverty reduction and economic growth of Nigeria. This connotes that SMEs have not played the significant role they are expected to play in Nigeria economic growth and development.

Poverty is most peculiar in developing countries of Latin America, Asia, Africa and Nigeria specifically (Oshewolo, 2010). Studies revealed that Nigeria is the richest and most populated country in sub-Saharan Africa with an estimated of over 200 million people, but the alarming magnitude of Poverty in the country has reached a troublesome dimension as witlessness, unemployment, undernourishment, sickness and inadequate access to credit scheme are apparent among the citizens (Bakare & Edozie, 2015). Also of note is that Nigeria is also referred to as the world poverty capital and economic growth has been sluggish over the past decades.

Economic growth is the increases in the market value of goods and services produced by an economy over time. It is conventionally measured as the percent rate of increases in real gross domestic product or the increase in the production of economic goods and services over a period of time. Generally, the study found that there is a strong relationship between small and medium scale enterprises, poverty and economic growth in Nigeria. Gebremariam et al. (2004) suggested that small businesses contributed to poverty reduction through job creation and economic growth. SMEs are recognized as catalysts in the socio-economic development of anv country. In many developing countries, the Small and Medium Enterprises (SMEs) constitute the bulk of the industrial base and contribute significantly to their exports as well as to their Gross Domestic Product, (GDP). According to Eniola (2004), SMEs in Nigeria account for more than 95% of productive activities, employ over 70% of Gross Domestic Product. Globally, the small and medium scale industries are wellknown for their immense contributions to poverty reduction, development process and as engines of economic growth (Umogbai et al., 2016).

Despite the extensive literature on SMEs and economic performance (Bakare, & Edozie, 2015, and Kareem, 2015), relatively little is known about SMEs, poverty level and economic growth in Nigerian context. Moreso, scholars have observed that the literature suffers from a weak theoretical base (Leitch *et al.*, 2010) and limited empirical evidence (Blackburn *et al.*, 2013). Researchers in this line of work are still facing the challenge of theorizing SMEs' growth and performance as well as poverty level.

It is also important to stress that one of the most critical challenges confronting development in the world today, especially countries in the developing world is the quest to eradicate poverty. Little wonder, poverty eradication occupied the number one position in Millennium Development Goals (MDGs) document. Worthy of note is that the issues that are relating to SMEs development is now important in most of

the third world countries development. No country has ever developed without the appreciable contributions from SME sector of the country. Understanding the statistical relationships between poverty and economic growth has been the interest of many researchers and the study therefore, examines the impact of SMEs on poverty level and economic growth in Nigeria from 1981 to 2018. This research is very germane for improving the efficiency and effectiveness of SMEs towards alleviating poverty and the economy progress in general. It will also be beneficial to government and the policy makers in Nigeria especially on those policies that are meant to promote the performance of SMEs on poverty and economic growth of Nigeria.

## 2.0 LITERATURE REVIEW

The SMEs performance literature is full with theoretical lenses that are geared towards improving our understanding of why some firms perform better than others. These theoretical lenses include: the resource-based view which argues that firms possessing resources that are rare, valuable, non-imitable and unique will have a stronger competitive advantage over rivals (Amit and Schoemaker, 1993, Thornhill and Amit, 2003), efficiency theory which argues that firms learn to be efficient and thus reduce cost giving them competitive edge (Jovanovic, 1982). limited portfolio theory which posits that firms that perform well have a larger portfolio of products and markets and as such can gain economies of scale and reduced cost of production (Hall, 1995); organizational ecology and which postulates that, it is internal management decisions that result in firm success or failure rather than other factors external to the firm (Hannan 1997, Hannan and Freeman, 1988).

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**Scholars** have articulated different theoretical prepositions in an attempt to proffer a workable solution to the phenomenon of poverty, these include, Participatory theory, Power, Naturalcircumstantial, Underdevelopment theory, individual deficiency and Basic needs theory (Akpomuvie, 2010; Hussaini, 2014). However, this study adopted the Power theory in order to explore the attitude of the ruling class, specifically in the Federal Republic of Nigeria. The theory proposes that the composition of leaders regulates the level of resources and subjected the poor hardship. They decided on the allocation of wealth, chance, opportunity, revenue and jobs. This attitude led to the misuse of state resources by the few and the masses or citizens have insignificant access to basic needs. Therefore, people are subjected to poverty on the basis of weak economic, political and social programs imposed on the citizens by the political office (power) holders.

In view of different outcomes from various scholars on the above subject matter, there is a need to x-ray various findings, for instance, Yusuf (2008) evaluated the poverty situation of urban farm families in Ibadan metropolis of Oyo State, Nigeria and the results from logistic regression revealed that urban farming reduces poverty in the study area.

Tambunan (2008) investigated the effects of SMEs in Indonesian and found that both real gross domestic product per capita and government development expenditure had positive impacts on SMEs growth. Jibril (2009) also examined the level of poverty among small businesses in Bauchi State using descriptive statistics and the Foster, Green and Thorbecke index (FGT) and results showed that the average annual income of entrepreneurs was 25 percent below the poverty line.

Akingunola (2011) examined financial options available to SMEs in Nigeria and

their contributions to economic growth. The Spearman's Rho correlation test was used and the result concluded on a significant positive relationship between SME finances and Nigerian economic growth in Nigeria. Aremu and Adeyemi (2011) focused on the role of small and medium enterprises in economic growth of Nigeria. The study concludes on the growth of the SME potential sector in manufacturing and value chains as well as multiplier effects on the rest of the economy.

Kadiri, (2012) also conducted research on the contributions (SMEs) in the fight against poverty in Nigeria. Binomial logistic regression analysis was used but concluded that the sector was unable to achieve the set goal. Similarly, Ben-Caleb, Faboyede, and Fakile (2013) investigated the potentials of SMEs in Nigeria as an important strategy to eradicate poverty. The findings revealed inadequate funding, poor infrastructure, inability to access finance and technical support as the factors hindering the realization of the set goals.

Onakoya, Fasanya, and Abdulrahman (2013) examined the impact of financing small businesses on economic growth of Nigeria. Results showed that small business lending has a positive impact on economic performance while interest rates have a negative impact on economic growth. Thus, the biggest problems facing SMEs in Nigeria were administrative capacity and access to finance.

Kareem (2015) studied the impact of entrepreneurship on poverty alleviation using Chi-Square, descriptive statistics and correlation analysis but concluded that there was a significant relationship between entrepreneurship and poverty alleviation at 1 percent level of probability. Orugun (2016) focused on the problem of poverty and entrepreneurship in small businesses in Nigeria. Research adopted descriptive statistics, correlation and regression analyses. The findings showed positive correlation between entrepreneurship and level of poverty, as well as significant positive correlation between poverty and unemployment rate in Nigeria. Dimoji and Onwuneme (2016) conducted research on SMEs and sustainable economic development in Nigeria and found that SMEs enhances sustainable economic freedom in Nigeria.

Gebremariam *et al.* (2004) empirically investigated the critical role of the SME in growth and poverty reduction in West Virginia. They employed OLS and 2SLS regression, they observed a positive relationship between the small businesses and economic growth. There exist strong inverse relationship between incidence of poverty, small businesses and the economic growth. Therefore, the results found the connections between the small businesses, economic growth, and incidence of poverty.

Beck, Demirguc-Kunt & Levine (2005) explored the association between relative size of SME, growth and poverty reduction employing a new data-base on the share of SME in entire manufacturing labour-force. Employing 45 countries as the sample, the study found a positive and strong association between the importance of the SMEs and the GDP per capita growth.

Usaini *et al.* (2020) empirically investigated the small businesses criticalroles in the economic development and reduction of poverty in the northwest of Nigeria. The study found

a positive association existing between the small enterprises and economic growth in their analysis of OLS regression. The study's empirical results, therefore, established the connections between the small business, economic growth and the incidence of poverty.

## **3. METHODOLOGY**

### Data source

This study used time series data. Data collected covered a period of 38 years. Data

on growth rate was used to measure economic growth; growth rate of the contribution of trade to GDP was used to capture small and medium scale enterprises output while commercial bank loans to SMEs, government total expenditure on economic services were independent variables. Unemployment rate, national poverty index used as proxy for poverty variable and maximum lending rate for interest rate obtained from the CBN Statistical Bulletin and Nigerian Bureau of Statistics (NBS) of various years.

### Model specification

The model is as specified below following Oba and Onuoha (2013), SGDP = SMEs Gross Domestic Product calculated as 55% of non-oil GDP (SMEDAN, 2012)

Model 1: is as defined:

 $SMEGDPG_t = f(BSME_t, GEXP_t, LR_t)$ 

Equation 3.1

Where;

SMEGDP = SMEs Gross Domestic Product Output (Contribution of Trade to GDP)

SMEGDPG = SMEs Gross Domestic Product growth rate calculated by d (log (SMEGDP)

BSMEs = Bank loan to SMEs ( $\mathbb{N}$ ' billion)

GEXP = Government expenditure to SMEs (N<sup>+</sup> billion)

LR= Interest rate (%)

f = functional form

t = time period (1981-2018)

Econometrically, Equation 3.1 is formulated thus:

 $\begin{aligned} SMEGDPG_t &= \theta_0 + \theta_1 BSME_t + \\ \theta_2 GEXP_t + \theta_3 LR_t + \mu_t \text{Equation 3.2} \end{aligned}$ 

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Where,

 $\theta_0$  = the intercept

 $\Theta_1$ -  $\theta_3$ = the coefficients of the explanatory variables

 $\mu_t = error term$ 

Taking natural logarithm of variables with large numbers in Equation 3.2 gives:

 $lnSMEGDPG_{t} = \theta_{0} + \theta_{1}lnBSME_{t} + \theta_{2}lnGEXP_{t} + \theta_{3}LR_{t} + \mu_{t}$  Equation 3.3

Where,

ln = Natural Logarithm

## A Priori expectation

From Equation (3.3) the a priori expectations are:

- The intercept should be positive (i.e. θ<sub>0</sub>>0); this means that SMEGDPG will be positive when the impact of BSME, GEXP and LR are zero.
- The effects of BSME and GEXP on SMEGDPG are expected to be positive, that is  $\theta_1$  and  $\theta_2 > 0$ . This implies that higher bank loan to SMEs and increase in government expenditure on SMEs is expected to have positive impacts on SMEs output growth rate.
- Finally, the effects LR on SMEGDPG is expected to be negative, that is θ<sub>3</sub><0 or positive. This implies that lending rate will reduce or increase SMEs output growth rate depending on the rate.

**Model 2:** The study adopts a modified version of the model by Gebremeskel *et al* (2004) as specified below;

 $RGDPG_t = f (SMEGDPG_t, BSME_t, GEXP_t, LR_t)$ Equation 3.4

Where;

RGDP= real gross domestic product. All other variables remained as defined above.

Econometrically, Equation (3.4) is formulated thus:

 $\begin{aligned} RGDPG_t &= \beta_0 + \beta_1 SMEGDPG_t + \\ \beta_2 BSME_t + \beta_3 GEXP_t + \beta_4 LR_t + \\ \mu_t \end{aligned}$ 

Equation 3.5

Taking natural logarithm of BSME and GEXP to avoid the problem of large numbers and also to enable the coefficients to be interpreted in percentages gives:

 $\begin{array}{ll} RGDPG_t \ = \ \beta_0 + \beta_1 SMEGDPG_t \ + \\ \beta_2 lnBSME_t + \beta_3 \ lnGEXP_t + \beta_4 LR_t \ + \\ \mu_t & \text{Equation 3.6} \end{array}$ 

Where;

 $\beta_0$  = the intercept

 $\beta_1 - \beta_4 =$  parameters of the model to be estimated

## A Priori expectation

From Equation (3.6) the a priori expectations are:

- The intercept should be positive (i.e. β<sub>0</sub>>0); this means that RGDPG will be positive when SMEGDPG, BSME, GEXP and LR are all zero.
- The effect of BSME and GEXP on SMEGDPG are expected to be positive, that is β<sub>1</sub>, β<sub>2</sub> and β<sub>3</sub>>0.
- Finally, the effects LR on RGDPG is expected to be negative, that is β<sub>4</sub><0. This implies that higher lending rate will reduce SMEs output growth rate.

**Model 3:** The model is explicitly defined as:

 $NPI_{t} = f (SMEGDPG_{t}RGDPG_{t}BSME_{t}, GEXP_{t}, UNR_{t})$ Equation 3.7 Where;

NPI= National Poverty Index (%)

UNR= Unemployment Rate (%)

And all other variables remained as defined above.

Equation 3.7 is formulated explicitly as follows:

$$\begin{split} NPI_t &= \delta_0 + \delta_1 SMEGDPG_t + \\ \delta_2 RGDPG_t + \delta_3 BSME_t + \delta_4 GEXP_t + \\ \delta_5 UNR_t + \mu_t & \text{Equation 3.8} \end{split}$$

As done earlier, taking natural logarithm of BSME and GEXP will change Equation (3.8) to:

$$\begin{split} NPI_t &= \delta_0 + \delta_1 SMEGDPG_t + \\ \delta_2 RGDPG_t + \delta_3 lnBSME_t + \\ \delta_4 lnGEXP_t + \delta_5 UNR_t + \\ \mu_t & \text{Equation 3.9} \end{split}$$

Note:

 $\delta_0$  = the intercept of the model

 $\delta_1 - \delta_5 = \text{coefficients}$  of the explanatory variables

From the above, the *apriori* expectations are:

- The intercept should be positive (i.e.  $\delta_0 > 0$ ); this is the level of poverty in the country when the effects of the explanatory variables are all assumed zero.
- Also, the effects of SMEGDPG, RGDPG, BSME GEXP on NPI are all expected to be negative, that is  $\delta_1$ ,  $\delta_2$ ,  $\delta_3$  and  $\delta_4$ <0. This implies that the higher the growth rate of SMEs output, bank loan to SMEs and government expenditure, the lower NPI is expected to be.
- Finally, the effects UNR on NPI is expected to be positive, that is  $\delta_5 > 0$ . This implies that higher unemployment

rate will increase national poverty index.

### Method of data analysis

The ADF and PP unit root tests were adopted to ascertain the stationarity properties of the variables. Bounds test established the existence or otherwise of long run relationship (co-integration) among the variables in the models. Diagnostics checks were conducted on the estimated ARDL model to determine their robustness. The diagnostics tests conducted were; serial correlation test, stability test and heteroscedasticity test.

# Autoregressive Distributive Lag (ARDL) with Bound's Test Models

The study was able to establish that the variables of interest are of mixed order of integration (mainly I (0) and I (1)) and that there was no I (2) series. This, therefore, made the ARDL with Bound's test estimation techniques appropriate for the equations.

For Equation 3.3, co-integration could not be established from Bound's test, only the short run model was estimated. The estimated short run model is stated as follows:

$$\begin{split} \Delta smegdpg_{t} &= \sum_{i=1}^{l} \omega_{i} \Delta smegdpg_{t-i} + \\ \sum_{i=0}^{m} \iota_{i\Delta} \Delta bsme_{t-i} + \sum_{i=0}^{n} \Omega_{i} \Delta gep_{t-i} + \\ \sum_{i=0}^{o} \Psi_{i} \Delta lr_{t-i} + \varepsilon_{t} & \text{Equation 3.10} \end{split}$$

 $\Delta$  Represents first difference operator,  $\varepsilon$  is error term.  $\omega_i$ ,  $\iota_i$ ,  $\Omega_i$ , and  $\Psi_i$ , are short-run dynamic coefficients. The Schwarz Bayesian information criterion was used in selecting the optimal lag lengths.

However, the study was able to establish co-integration among the variables in Equation 3.6 the ARDL models were then estimated.  $rgdpg_{t} = \alpha + \beta_{1}rgdpg_{t-1} + \beta_{2}smegdpg_{t-1} + \beta_{3}bsme_{t-1} + \beta_{4}gexp_{t-1} + \beta_{5}lr_{t-1} + u_{t}$  Equation 3.11

 $\begin{aligned} \Delta rgdpg_t &= \varphi ECM_{t-1} + \\ \sum_{i=1}^{p} \pi_i \Delta rgdpg_{t-i} + \\ \sum_{i=0}^{q} \vartheta_{i\Delta} \Delta \text{smegdpg}_{t-i} + \\ \sum_{i=0}^{r} \rho_i \Delta \text{bsme}_{t-i} + \sum_{i=0}^{s} \sigma_i \Delta \text{gexp}_{t-i} + \\ \sum_{i=0}^{t} \gamma_i \Delta \ln_{t-i} + \varepsilon_t & \text{Equation 3.12} \end{aligned}$ 

 $\alpha$  is the drift term,  $\varphi$  is the speed of adjustment and u and  $\varepsilon$  are the error terms.  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$  and  $\beta_5$ , are the long-run multipliers, while  $\varepsilon$  is the error term.  $\pi_i$ ,  $\vartheta_i$ ,  $\rho_i$ ,  $\sigma_i$ , and  $\gamma_i$  are short-run dynamic coefficients. The Schwarz Bayesian information criterion was used in selecting the optimal lag lengths.

Like 3.3, the study was also unable to establish co-integration in Equation 3.9 with Bound's test. Consequently, only its short run form of the ARDL was estimated and it is presented below as:

$$\begin{split} \Delta npi_{t} &= \sum_{i=1}^{a} \delta_{i} \Delta npi_{t-i} + \\ \sum_{i=0}^{b} \gamma_{i} \Delta rgdpg_{t-i} + \\ \sum_{i=0}^{c} \mu_{i} \Delta smegpdg_{t-i} + \\ \sum_{i=0}^{d} \theta_{i} \Delta bsme_{t-i} + \sum_{i=0}^{e} \lambda_{i} \Delta gexp_{t-i} + \\ \sum_{i=0}^{f} \phi_{i} \Delta unr_{t-i} + \varepsilon_{t} \quad \text{Equation 3.13} \end{split}$$

Where,  $\delta_i$ ,  $\gamma_i$ ,  $\mu_i$ ,  $\theta_i$ ,  $\lambda_i$  and  $\emptyset_i$ , are short-run dynamic coefficients. The Schwarz Bayesian information criterion was used in selecting the optimal lag lengths (a, b, c, d, e, and f).

### **Granger Causality models**

The following causality models are as stated below:

## Causality between SMEGDPG and NPI Model

smegdpg<sub>t</sub> =  $\alpha_1 + \sum_{i=1}^{p} \gamma_i$ smegdpg<sub>t-i</sub> +  $\sum_{i=1}^{p} \delta_i$ npi<sub>t-i</sub> +  $\varepsilon_{1t}$  Equation 3.14  $npi_{t} = \alpha_{2} + \sum_{i=1}^{p} \theta_{i} npi_{t-i} + \sum_{i=1}^{p} \pi_{i} smegdpg_{t-i} + \varepsilon_{2t}$ Equation 3.15

## Causality between SMEGDPG and RGDPG Model

smegdpg<sub>t</sub> =  $\alpha_1 + \sum_{i=1}^{p} \gamma_i$ smegdpg<sub>t-i</sub> +  $\sum_{i=1}^{p} \delta_i rgdpg_{t-i} + \varepsilon_{1t}$ Equation 3.16

 $srgdpg_{t} = \alpha_{2} + \sum_{i=1}^{p} \theta_{i} rgdpg_{t-i} + \sum_{i=1}^{p} \pi_{i} smegdpg_{t-i} + \varepsilon_{2t}$ Equation 3.17

The rule is that, there is Granger causality when the coefficient of one variable is not equivalent to zero in one equation, while the coefficient of the other variable is zero in the complementary equation.

### 4. RESULTS AND DISCUSSION

### **Correlation Analysis**

Correlation results (See Table 1 below) showed the strength of the linear association between SMEGDPG and each of the key variables of interest (RGDP, BSME, GEXP, NPI, UNR, and LR). SMEGDPG is positively associated with each of RGDPG, GEXP, and UNR. However, only the positively moderate linear association existed between RGDPG and BSME and statistically significant at the 5% level. On the other hand, SMEGDPG was observed to be negatively correlated with each of BSME, LR and NPI but these relationships were statistically significant at 10% level.

## Table1.CorrelationsofRelevantVariables

	SMEGDPG	RGDP	BSME	GEXP	NPI	UNR	LR
SMEGD	1						
RGDPG	0.577617	1					
BSME	-0.09128	0.03291	1				
GEXP	0.206336	0.21449	0.404747	1			
NPI	-0.07767	0.23788	0.484815	0.366132	1		
UNR	0.102829	0.13089	0.456265	0.822669	0.288093	1	
LR	-0.0709	0.18570	0.413943	0.357396	0.639779	0.360683	1

Source: Authors' Computation (2021).

Finally, since none of the correlation coefficient between any pair of variables is up to 0.9 in magnitude, thereby allaying fears of the risk of multi-collinearity in regressions among the pair of variables.

#### **Results of unit root tests**

Determining the order of integration of variables is important for two reasons. One, it is a key determinant of the estimation techniques to be deployed in achieving set objectives. Secondly, it helps to determine the transformations that may be necessary to ensure the series are well suited to certain objectives. The Augmented Dickey Fuller (ADF) and the Phillip Perron (PP) tests for stationarity deployed to determine the properties of the variables in this study. If the test statistic is less than the critical value at the chosen level of significance, which is 5% in this case, otherwise, the null of unit root is rejected.

Table 2 present tests for unit root in the variables. Both the ADF and PP showed that only Bank Loans to SMEs (BSME) was stationary at levels under the assumption of both intercept and trend. Furthermore, Government Expenditure on **SMEs** Lending (GEXP), Rate (LR). Unemployment Rate (UNR) and National Poverty Index (NPI) were all found to possess unit root.

	-			-				
		ADF		PP				
Vari able s	LE VE L	1ST DF R	RE MA RKS	LE VE L	1ST DFR	RE MA RKS		
RG DP	- 1.8 946	- 2.63 22	-	- 1.7 343	- 2.58 4	-		
RG DPG	- 3.3 184 *	- 7.88 45* **	I(1)	- 3.2 048	- 17.8 761* **	I(1)		
SM EG DP	- 2.0 217	- 2.14 68	-	- 1.4 433	- 2.00 53	-		
SM EG DPG	- 3.1 216	- 8.93 29* **	I(1)	- 3.1 167	- 9.99 84** *	I(1)		
BS ME	- 3.8 802 **	- 9.02 67* **	I(0)	- 3.8 802 **	- 9.02 67** *	I(0)		
GE XP	- 2.4 494	- 5.70 06* **	I(1)	- 2.4 744	- 5.70 22** *	I(1)		
UN R	- 2.4 875	- 4.67 16* **	I(1)	- 2.4 447	- 1.59 13	-		
NPI	- 1.8 137	- 6.17 43* **	I(1)	- 1.8 137	- 6.17 42** *	I(1)		
LR	- 3.1 015	- 6.66 93* **	I(1)	- 3.0 838	- 8.25 06** *	I(1)		
	Note: *. **, *** indicates significance at 1%, 5% & 10% respectively							

## Table 2. Unit root test with intercept andtrend

Source: Authors' computation (2021)

On the other hand, having established that both the levels and log forms of real Gross Domestic Product (RGDPG) and SME output (SMEGDPG) were not stationary even at first differences, the growth rates of both variables were obtained and tested instead. Results of ADF and PP indicate that both RGDPG and SMEGDPG are I (1). The implication of the unit root tests is that only one (BSME) out of the seven variables used in this study is I (0) while the remaining six are I(1).

### ARDL of Model 1

ARDL with bounds test allows the combination of I(0) and I(1) variables in a regression analysis and appropriately adopted. Using the ARDL with bounds testing approach, the F-statistic is compared to upper and lower bounds of the critical values. The null hypothesis of the bounds test is that all series are I(0) against an alternative hypothesis that all series are I(1). If the F-stat is less than the lower bound (or I(0)) critical value, we do not reject the null hypothesis and the conclusion was that there was no long-run relationship among the variables. If the Fstat is greater than the upper bound (or I(1)) value, we have to reject the null and conclude that there is a long-run relationship among series. If, however, the F-stat falls between the lower and upper bound critical values. the test is inconclusive. ARDL also has the power to remove associated the issues to autocorrelation, and lastly, ARDL could be used for small sample size.

To deduce long-run relationship between SME output growth and the investigated coefficients, the bounds test was conducted. Results showed that the value of F-statistic (3.4069) is lower than I(0) or lower critical bound at the 1% level of significance (table 3). We concluded that there is no long run relationship between SME output growth and the determinants investigated. Therefore, we resort to the short run ARDL regression results. Similarly, some studies (Elijah & Musa, 2019; Elijah, 2019; Guza *et al.*, 2018) also adopted ARDL for the estimation of model in other to estimate both our long and short run relationship between our variables of interest.

Table 3. Results of ARDL Bounds Test	
	٦.

Test Statis tic	Val ue	Critical Values						
		10% 5%				1%		
F- Statis tic	3.4 069 17	I( 0)	I( 1)	I( 0)	I( 1)	I( 0)	I( 1)	
К	3	2. 61 8	3. 53 2	3. 16 4	4. 19 4	4. 42 8	5. 81 6	

Source: Authors' computation (2021)

Results of the first ARDL regression (Table 4) indicate that none of the independent variables has any contemporaneous effect on SME output. However, bank loans to SMEs (BSME), Government expenditure (GEXP) and lending rate (LR) have effect on the growth of SME output. Bank loans to SMEs had a positive and significant effect on SME output ( $\beta = 0.0339$ ;  $\rho < 0.05$ ) with two years thereafter. Also, government expenditure has a negative and significant effect on SME output with a year before the current year ( $\beta = -0.0566$ ;  $\rho < 0.05$ ), and a significant positive effect on SME output with three years thereafter ( $\beta = 0.0478$ ;  $\rho <$ 0.05) while LR has a negative and significant effect on SME output with three years thereafter ( $\beta = -0.0056$ ;  $\rho < 0.05$ ). Therefore, percent increases 1 in commercial banks loans to SMEs in any given year will bring about 0.0339 percent increase in the growth of SME output in the second year thereafter.

Similarly, 1% increase in government spending on SMEs will lead to 0.0478% increase in SME output growth only after the third year thereafter. In the same vein, 1% increase in the lending rate will result in 0.0056% decrease in SME output growth in the three years thereafter. The probability values of LOGBSME at two previous years, LOGGEXP at a year thereafter, LOGGEXP and LR at previous three years) were significant at 5 percent level. These results are in conformity with Oba and Unuoha (2013) who examined the role of Small and Medium Scale Enterprises (SMEs) in poverty reduction in Nigeria, the empirical results revealed that SMEs' income captured by their contributions to GDP were statistically significant in explaining the level of employment and hence poverty reduction.

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Depend	Independe	Coeffici	Std	t-	Prob
one	110	ent	Error	Statist	. 100
	Variables			ic	
	SMEGDP				
PG	G(-1)			61	10
	SMEGDP				
	G(-2)	0	96	92	72
	LOG(BS ME)	- 0.01049 7	80	0.7007 52	0.49 11
	LOG(BS	0.01866	0.0143	1.3009	0.20
	ME(-1))	7	49	39	74
	LOG(BS	0.03391	0.0157	2.1545	0.04
	ME(-2))	7	42	85	30
	LOG(GE	0.02307	0.0216	1.0669	0.29
	XP)	3	25	40	81
	LOG(GE XP(-1))	- 0.05661 8	0.0256 50	() ()(Y/)	0.03 86
	LOG(GE XP(-2))	4	56	- 0.9138 83	12
	LOG(GE	0.04779	0.0195		0.02
	XP(-3))	2	24	34	32
	LR	- 0.00171 1	0.0023 55	- 0.7264 25	0.47 56
	LR(-1)	- 0.00170 9	0.0024 79	0.6894 76	0.49 81
	LR(-2)		91	29	0.32 95
	LR(-3)	- 0.00562 8	0.0024 09	- 2.3361 95	0.02 95

	r	0.11521	0.0474	2.4271	0.02		
	-	2	68	52	43		
$F = 3.270715; p < 0.01; R^2 = 0.67; Durbin$							
Watson Stat = $2.08$							
(**) indicates significance at 5% level							

(\*\*) indicates significance at 5% level Source: Authors' Computation (2021)

Table 4 also shows the value of F-statistic of the ARDL is statistically significant at the 1% level (F = 3.270715; p < 0.01), thereby indicating that the model has a goodness of fit. The R<sup>2</sup> value of 0.67 also indicates that the SMEGDPG as dependent variable and independent variables (BSME, GEXP, and LR) explain about 67% of the variations in SME output growth. Furthermore, the Durbin Watson statistic of 2.08 indicated that there was positive serial correlation in the model (table 4).

The results revealed that bank loan to SME two previous vears. government expenditure at previous years and previous three years as well as interest rate at previous three years were the significant factors that contributed to the contribution of SME to real gross domestic product growth (proxied by SMERGDPG). This result of government expenditure (log government expenditure of previous two years) is in conformity the findings of Tambunan (2008) who studied the effects of SMEs in LDCs and revealed that both RGDP per capita and GEXP have positive impacts on SMEs growth. Similarly, the interest rate (previous three years) being significant also supported the findings of Onakoya et al., (2013) who focused on the impact of financing small businesses on Nigerian economic growth which result revealed that small business lending rate has a positive impact on economic performance while interest rates have negative effect on economic growth.

Table 5 revealed the hypothesis of 'no serial correlation' and the probability value of serial correlation LM (0.8179) is not

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significant level at 5% level, while probability value of Breusch-Pagan-Godfrey heteroscedasticity (0.0473) is significant at 5% (p<0.05).

Table 5. ARDL Model 1 Diagnostic TestResults

ARDL Model 1			
Test	F- statisti c (d.f)	Pr ob	Remark s
Serial correlation test: LM	0.203 176 (2, 19)	0. 81 79	No Serial Correlat ion
Heteroscedasticity test: Breusch- Pagan-Godfrey	2.252 124 (13,23 )	0. 04 73	No Heteros cedastici ty

Source: Authors' computation (2021)

## 4.6 Autoregressive Distributed Lag (ARDL) of Model 2

Model 2 was estimated to investigate the effect of SME output growth on RGDPG in Nigeria while model 3 was estimated to determine Determination of the impact of Small and medium scale enterprises Output (SMEGDPG) and other control variables on Economic growth (proxied by RGDPG) in line with the model specified by Gebremeskel *et al* (2004).

The bounds test revealed the existence of a long-run relationship between the two. This is because, the F-statistic (6.804241) is higher than the I(1) or upper critical bound at 5% level of significance, implying that the null hypothesis of 'no long-run relationship' has to be rejected. Therefore, the long-run form of the ARDL model was estimated and the result indicated 5% level of probability (table 6).

The results of long as shown in table 7 revealed that SMEGDPG has a positive and statistically significant effect on RGDPG in the long run ( $\beta = 0.30478$ ;  $\rho < 0.01$ ). The probability value of LOG (BSME) has a

positive effect on RGDP ( $\beta = 0.00989$ ;  $\rho <$ 0.10). This implies that probability value of LOG (BSME) is significant at 10%. The probability value of LOG (GEXP) has a negatively significant effect on RGDP (( $\beta =$ 0.00722;  $\rho < 0.10$ ). This implies that probability value of LOG (GEXP) is significant at 10%. The implication of these findings is that only SME output bank loans SME. growth. to and government expenditure impact positively on economic growth in the long run in Nigeria.

Table 6. Results of Long Run and ARDLBounds Test for Model 2

Dounds 1 est for wroder 2							
Bour Test	Null Hypothesis: No levels relationship						
Test Stat Valu			C	ritica	l Val	ues	
istic	e	10%		5%		1%	
F- Stati stic	6.80 4241	I( 0)	I( 1)	I(0 )	I(1 )	I(0 )	I(1 )
К	4	2. 4 6	3. 4 6	2. 94 7	4. 08 8	4. 09 3	5. 53 2

Source: Authors' Computation (2021)

 Table 7. Long Run Results

Depe nden t Vari able	Indep enden t Varia bles	Coeff icient	Std. Err or	t- Stat istic	Pr ob.
RGD PG	SMEG DPG	0.304 777	0.07 149 4	4.26 298 1	0.0 00 3
	LOG( BSME )	0.009 891	0.00 541 1	1.82 797 9	0.0 81 8
	LOG( GEXP )	- 0.007 219	0.00 375 1	- 1.92 465 6	0.0 67 9
	LR	0.000 405	0.00 104 6	0.38 751 8	0.7 02 3

ã		. ~		(0.0.0.1)	
		502	3	3	5
	С	0.030 502	477	345	55
		0.036	0.02	1.47	0.1

Source: Authors' Computation (2021)

Going by the results of the ARDL regression (Table 8) below, there exists a statistically significant long run relationship between RGDP growth rate and independent variables, (SMEGDPG, BSME, GEXP, and LR). As indicated by the negative and significant error correction term [CointEq (-1) = -1.289039; p < 0.01], approximately 129% of the deviations from long run equilibrium path will be corrected for annually.

Table8. ResultsofAutoregressiveDistributive Lag (ARDL) of Model 2

Depen dent Variab le	Independe nt variables	r i i i i i i i i i i i i i i i i i i i	Std. error	t- sstatis tics	Pro b.
RGDP	D(RGDPG	0.58638	0.146	4.0130	0.00
G	(-1))	5	119	63	06
	DLOG(BS	0.00046	0.005	0.0808	0.93
	ME)	3	727	73	63
	DLOG(BS ME(-1))	- 0.01635 0	0.006 832	- 2.3931 57	0.02 61
	DLOG(BS ME(-2))	- 0.01837 1	0.009 271	- 1.9814 46	0.06 08
	DLOG(BS ME(-3))	- 0.02851 6	0.008 444	- 3.3768 46	0.00 28
	DLOG(GE XP)	- 0.04217 1	0.010 846	- 3.8880 30	0.00 08
	D(LR)	0.00320 2	0.001 024	3.1273 27	0.00 51
	CointEq(- 1)*	- 1.28903 9	0.181 311	- 7.1095 56	0.00 00
$R^2 = 0.7$	3; Durbin V	Vatson S	tat = 2	.06	

(\*\*) indicates significance at 5% level Source: Authors' Computation (2021)

Table 8 shows GEXP on SME being negative with significant effect on real GDP growth ( $\beta$  = -0.0422;  $\rho$  < 0.01) while lending rate (LR) has a positive and significant effect on economic growth ( $\beta = 0.0032$ ;  $\rho < 0.01$ ) in the short run. Specifically, 1 percent increase in government spending on SMEs reduces real GDP growth by 0.0422% while a percentage increase in the lending rate leads to 0.0032% increase in economic growth.

On the other hand, bank loans to SMEs (BSME) has a negative and significant effect on real GDP with lag 1 ( $\beta$  = -0.0164;  $\rho$  < 0.05), with a lag 3 ( $\beta$  = -0.0285;  $\rho$  < 0.01), as well as with a lag 3 ( $\beta$  = -0.0184;  $\rho$  < 0.1). The R<sup>2</sup> value indicates that the regressors explained about 73% of the variations in economic growth. The Durbin Watson statistic of approximately 2.06 indicated a positive serial correlation in the model.

As regard the probability values of variables of interest, RGDPG of the previous year, LOGBSME of the previous three years, LOG(GEXP), LR, and CointEq(-1), were significant at p<0.01, while the probability values of LOGBSME of previous years , and LOGBSME of previous two years were significant at p<0.05 and p<0.10 respectively.

These results therefore showed that bank loan to SME, government expenditure though at previous years were the determinants of economic growth (RGDP) with respect to the years under study. This result is in conformity with some studies (Elijah & Musa, 2019; Elijah, 2019; Guza et al., 2018) who also adopted ARDL for the estimation of model in other to estimate both long and short run relationship between variables of interest. The results found out that turnover of SME and SME loan contributed to increase in the gross domestic product (RGDP)

The Breusch-Godfrey serial correlation LM test showed the null hypothesis of 'no serial correlation' could not be rejected at the statistical critical level. This probability value of serial correlation LM is not

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significant while Breusch-Pagan-Godfrey heteroscedasticity test indicates that the model is free from heteroscedasticity (table 9).

Table 9. ARDL Model 2 Diagnostic TestResults

ARDL Model 2					
Test	F- statistic (d.f)	Pro b	Remarks		
Serial correlation test: LM	0.077872 (2, 19)	0.9 254	No Serial Correlati on		
Heterosceda sticity test: Breusch- Pagan- Godfrey	1.073109 (12,21)	0.4 274	No Heterosc edasticit y		

Source: Authors' Computation (2021)

## Autoregressive Distributed Lag (ARDL) of Model 3

Results of third ARDL regression of Model 3 (table 10) was the determination of the impact of Small and medium scale enterprises Output (SMEGDPG) on National Poverty Index (proxy for poverty level) with inclusion of other variables that can affect poverty (NPI) in the model; hence the introduction of economic growth, SMEs. government bank loan to expenditure and unemployment rate using a modified form of Oba and Unuoha (2013).

Results of bounds test indicated no long run relationship between poverty (NPI) and the independent variables (RGDPG, SMEGDPG, BSME, GEXP and UNR) since the F-statistic value of 3.952360 is lower than the I(0) or lower critical bound at the 5% level of significance (table 10).

Table 10. Results of ARDL Bounds Test(Model 3)

F-Bour Hypoth		st No levels relationship	Null
Test Statis tic	Val ue	Critical Values	

		10%	, D	5%		1%	
F- Statis tic	3.95 236 0	I( 0)	I( 1)	I( 0)	I( 1)	I( 0 )	I( 1)
К	5	2. 33 1	3. 41 7	2. 80 4	4. 01 3	3 9	5. 41 9

Source: Authors' Computation (2021)

Going by the short run ARDL results (Table 11), SME contribution to gross domestic product growth at two previous years, was found to have negative and significant effect on poverty level in Nigeria at10 percent probability level, while other independent variables like LOGBSME and LOGGEXP at three previous years have positive significant effect on poverty level in Nigeria. The probability values of SMEGDPG at two previous vears. LOGBSME and LOGGEXP at three previous years were significant at 10% (p<0.10). This implies that **SMEs** contribution to GDP, bank loan to SME and government expenditure exerted dominant impact on poverty index in Nigeria. This result is in line with evidence from Oba and Unuoha (2013) who had also positive relationship between Small and Medium Scale Enterprises (SMEs) in poverty reduction in Nigeria. Thus, the empirical results revealed that SMEs' income captured by their contributions to GDP were statistically significant in explaining the level of employment and hence poverty reduction.

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Distributive Lag (ARDL) of Model 3				

Depend ent Variabl e	Independe nt Variables	Coeffici ent	Std. Error	t- Statisti c	Prob
NPI	NPI(-1)	- 0.20296 5	0.5552 10	- 0.3655 65	0.73 32
	NPI(-2)	- 0.59728 5	0.3380 71	- 1.7667 43	0.15 20
	NPI(-3)	- 0.71869 6	0.3647 09	- 1.9706 01	0.12 01

		-		
NPI(-4)	- 0.53651 8	0.5377 01	- 0.9978 01	0.37 48
RGDPG	- 3.60611 3	25.264 10	- 0.1427 37	0.89 34
RGDPG(- 1)	- 12.4914 0	25.055 81	- 0.4985 43	0.64 43
RGDPG(- 2)	- 20.9151 6	28.031 00	- 0.7461 44	0.49 70
RGDPG(- 3)	- 13.8433 9	19.237 26	- 0.7196 13	0.51 16
SMEGDP G	- 13.5168 7	18.366 76	- 0.7359 42	0.50 26
SMEGDP G(-1)	- 26.8763 2	21.237 33	- 1.2655 23	0.27 44
SMEGDP G(-2)	- 52.1494 9	24.346 25	- 2.1419 93	0.09 89
SMEGDP G(-3)	- 41.9165 2	26.355 59	- 1.5904 22	0.18 69
SMEGDP G(-4)	- 21.0242 4	16.714 58	- 1.2578 38	0.27 69
LOG(BSM E)	- 0.96013 2	1.0174 29	- 0.9436 84	0.39 88
LOG(BSM E(-1))	1.49825 6	1.9248 76	0.7783 65	0.47 98
LOG(BSM		2.4581	1.7864	0.14
E(-2))	8	99	62	86
LOG(BSM E(-3))	7.38416	2.8148	2.6233 23	0.05 86
LOG(BSM	3.60746	2.5153	1.4341	0.22
E(-4))	0	81	60	48
LOG(GEX P)	2.82551 2	2.0996 63	- 1.3456 98	0.24 96
LOG(GEX P(-1))	- 0.94492 3	1.3017 40	- 0.7258 93	0.50 81
LOG(GEX P(-2))	- 0.78943 1	1.5560 82	- 0.5073 19	0.63 86
LOG(GEX P(-3))	3.99251 8	1.5684 43	2.5455 29	0.06 36
LOG(GEX P(-4))	- 2.96598 1	1.3957 58	- 2.1249 96	0.10 08
UNR	0.42543 5	0.3253 17	1.3077 56	0.26 11
UNR(-1)	5 0.39545 1	0.4329 56	0.9133 74	0.41 27

	UNR(-2)	0.31013	0.4236	0.7321	0.50	
	ONK(-2)	6	17	16	47	
	UNR(-3)	0.19729	0.4710	0.4187	0.69	
		6	99	99	69	
T	UNR(-4)	- 0.89583 8	0.4757 62	- 1.8829 52	0.13 28	
	С	146.639	62.276	2.3546	0.07	
	C	1	91	30	81	
$F = 11.34161$ ; p < 0.05; $R^2 = 0.99$ ; Durbin Watson						
Stat = 2.32						

(\*\*) indicates significance at 5% level Source: Authors' Computation (2021)

Furthermore, the F-statistic of the ARDL model is statistically significant at the 1% level (F = 11.34161; p < 0.05), thereby indicating that the model is of good fit. Furthermore, the  $R^2$  value indicates regressors explaining about 99 percent of the variation in the dependent variable. The Durbin Watson statistic of approximately 2.32 indicated a positive serial correlation in the model (table 11).

From table 12, the Breusch-Godfrey serial correlation LM test shows the model is free from serial correlation.

 Table 12. ARDL of Model 3 Diagnostic

 Test Results

ARDL Model 3			
Test	F-statistic (d.f)	Prob	Remarks
Serial correlation test: LM	0.822283 (2, 2)	0.548 8	No Serial Correlatio n
Heteroscedastic ity test: Breusch- Pagan-Godfrey	0.341651 (28,4)	0.961 5	No Heterosce dasticity

Source: Authors' computation (2021)

Similarly, the Breusch-Pagan-Godfrey heteroscedasticity test indicates the model is free from heteroscedasticity since the null hypothesis of 'no heteroscedasticity' cannot be rejected at the 5% level statistical critical level (table 12).

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#### **Results of granger causality test**

causality table Granger 13 shows unidirectional relationship from SMEGDPG to NPI but insignificant while from NPI to SMEGDPG was significant at 10% probability level. Also, the causality was unidirectional from SMEGDPG to RGDPG and is insignificant and that of RGDPG to SMEGDPG was significant at 5% level of probability. The implication of these results is that SME output granger caused poverty level and economic growth in Nigeria

Table: 13 Results of Granger CausalityTests

Model	Null Hypothesis:	F- Statistic	Prob.
1	SMEGDPG does not Granger Cause NPI NPI does not Granger Cause SMEGDPG	0.75773 14.2699	0.4775 0.00004
2	SMEGDPG does not Granger Cause RGDPG RGDPG does not Granger Cause SMEGDPG	0.82000 4.79656	0.4501 0.0156

Source: Authors' computation (2021)

## 5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study focused on the determinant of SMEs growth, poverty, and economic growth in Nigeria from 1981-2018. Findings from the study revealed that:

Correlation analysis showed SMEGDPG having positive relationship with RGDPG, GEXP, and UNR. Positively moderate linear association existed between RGDPG and BSME at 5% level of probability. SMEGDPG negatively correlated with BSME, LR and NPI and these relationships were statistically significant at 10% level.

Autoregressive Distributive Lag (ARDL) was conducted to examine the determinant of small and medium scale enterprises which results revealed that LOGBSME at two years period value, previous value and three year previous value of government

expenditure (LOGGEXP) as well as three year previous value of interest rates were significant at 5% (p<0.05) probability level. In determination of the impact of small and medium scale enterprises output on Economic growth, the result indicated that previous three years value of bank loan to SME, previous value of government expenditure and value of previous three years of interest rate were significant. However, in the determination of the impact of small and medium scale enterprises output on National poverty index (proxy for poverty level) indicated that the two previous values of SMEGDPG, three previous value of LOGBSME and LOGGEXP were significant at 10%

**b.**(p<0.10).</th>Lastly, the Granger<br/>causality test revealed a<br/>unidirectional relationship from<br/>SMEGDPG to NPI, and from NPI<br/>to SMEGDPG at 5% probability<br/>level. More so, causality from real<br/>gross domestic product growth<br/>(RGDPG) to small and medium<br/>scale contribution to gross domestic<br/>growth (SMEGDPG) was also significant at

5% probability level.

This article has examined the determinants of SMEs growth, poverty and economic growth in Nigeria and concluded that Bank loan to SMEs, government expenditure and interest rates were the determinants of the SMEs contribution to gross domestic product growth (SMERGDPG) in Nigeria. Similarly, SME output growth, bank loans to SME, government expenditure and interest rate impacted positively on economic growth (RGDP) in the long run in Nigeria. Results also concluded that SME contribution to gross domestic product, bank loan to SMEs, and government expenditure also exerted significantly in determining poverty level (NPI) in Nigeria. It further concluded on unidirectional short between run causality RGDP and SMERGDP as well as NPI and SMEGDP.

In the light of the above findings, the following were therefore recommended:

- 1. Financial institutions through Central bank of Nigeria (CBN) directives should provide loans to small and medium scale enterprise operators with ease devoid of bureaucratic process for the operation of their businesses.
- 2. Nigeria banks should encourage development of SMEs through reduction of interest rates.
- 3. Government should take steps in setting up enterprise development agencies in every state of the federation to serve as coordinating unit that will help business enterprises as well as reduce unemployment, poverty and its attendant effect on economic growth.
- 4. Government should give more opportunities for micro finance banks to operate so that they can give loans to SMEs

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