Small and Medium Enterprises Financing and Economic Growth in Nigeria: An Econometric Analysis.

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Abstract

This study investigates the role of Small and Medium Enterprises (SMEs) in the achievement of economic growth in Nigeria using a linear regression model and granger causality test. The Johansen 2 likelihood ratio test statistics, the trace and maximal eigenvalue cointegration test statistics, reveal two cointegrating equations or vectors among the variables of interest. The cointegrating regression result indicates that SMEs are indispensable in achieving sustainable economic growth as they exhibit positive impact on the economy. This implies a boost to the economy for every increase in the operations and activities of SMEs. The granger causality test reveals a unidirectional causal relationship between SMEs and economic growth, running from the former to the latter. Moving forward, adequate and coordinated financing with relatively low interest rate should be made available and assessable to SMEs across Nigeria, as the issue of inadequate funding has remained the major bane to their successful operations. Also, government should make available needed infrastructure and incentives like regular power supply, good roads and tax holiday. These would greatly enhance and encourage the activities of SMEs and position them to play their all important role in the achievement of sustainable economic growth in Nigeria.
Key words: Economic growth, granger causality, regression, SMEs.

1.0   Introduction

The place of Small and Medium Enterprises (SMEs) in the achievement of economic growth especially in a developing country like Nigeria can never be over-emphasized. SMEs remain the foundation as well as the building block in the realization of any meaningful and sustainable growth in an economy. SMEs constitute the driving force in the attainment of industrial growth and development. This is basically due to their great potential in ensuring diversification and expansion of industrial production as well as the attainment of the basic objectives of growth. For sustainable economy, SMEs have been stressed as capable of helping in bringing about positive economic turn around and complementing the effort of the existing medium and large scales industries (Osuagwu, 2001). The recognition of the importance of the roles of the SMEs as catalyst and engine of growth has prompted the increased attention and specific education on the method and approach to build and sustain a truly viable private sector dominated by small and medium scale enterprise (SMEs). Such economic contributions are obvious in the mobilization of idle financial resources, the conservation of foreign exchange, utilization of local raw materials, specialist suppliers to large companies, adding varieties and choice for the consumers, checking the monopolistic tendency power, providing a source or innovation, breeding ground for new industries and above all employment creation (Bamidele, 2012).

SMES utilize local raw materials and technology thereby aiding the realization of the goal of self-reliance. Also, governments at various levels (local, state and federal) have in one way or the other facilitated the performance of Small and SMEs. While some have formulated policies aimed at facilitating and empowering the growth and development and performance of the SMEs, others had focused on assisting the SMEs to grow through soft loans and other fiscal incentives in order to enhance the socio-economic development of the economy like alleviating poverty, employment generation, enhance human development, and improve social welfare of the people (Oreoluwa, 2011).

2.0   Background

In Nigeria, it must be noted that SMEs have not received the needed attention and financing required for effective and viable operation. The challenges confronting SMEs in Nigeria seems multifaceted. Ekpenyong (1997) and Utomi (1997) identified inadequate capital and inaccessible credit facilities as two major bane facing SMEs. There has been dearth of long term loans needed for adequate financing of SMEs. This unpleasant

scenario has continued over time majorly because many financial institutions do not believe in the potentials and viability of SMEs and thus considered it risky extending credit to them. Evbuomwan, Ikpi, Okoruwa and Akinyosoye (2012) noted other constraints to include poor power supply and inadequate relevant infrastructure. This is true because no business, SMEs inclusive, can operate efficiently in the absence relevant infrastructure. They further opined in their study that 75.7% of their survey respondents relied mostly on own funds to finance their businesses. This inability to assess external sources of funding has greatly hampered the activities of SMEs. A widespread concern is that the banking system in the sub sector (which supposed to be the major financier of SMEs) is not providing enough support to new economic initiatives and in particular to the expansion of SMEs and agriculture sector.

It is noted that commercial and the hitherto merchant banks which retained liquidity levels in excess of regulation have shown reluctance in financing SMEs (Sacerdoti, 2005). While Micro Finance Institutions (MFIs) have expanded vigorously in a number of countries, the size of their credit remains limited, so that their support is not on the scale needed for many medium sized projects. Also, the interest rate on micro-credits is very high, due to large administrative costs in relation to their scale of operations (Mahmoud, 2005) in Onokoya, Fasanya and Abdulrahman (2013). Oluba (2009) posited that there are about 8.4million SMES operating in Nigeria with -enterprises comprise 80 per cent of the total number (about 1.3 million), small business constituting 15 percent (around 420,000). In terms of SMEs contribution to national output in Nigeria. It has been reported that the SMEs, by revenue, contribute about 75 per cent all entrepreneurial activities that make up Nigeria's gross domestic output, 21 per cent within the -enterprises while 4% belong to the large complex organizations. It is also scored high in entrepreneurial dominance because of its potential in pooling skilled and semi-skilled workers (Oreoluwa, 2011).

Over the years, some studies have been carried out to investigate the impact of SMEs in economic growth and development in Nigeria. However, many of such studies employed primary data, which at best captures the view of respondents but with a lot of inconsistencies in estimation procedure. Also, majority of such studies focused basically on the effect or impact of SMEs and economic growth without establishing the presence or absence of causality between them, which is as well very important. Therefore, the objective of this study is to empirically examine the impact of SMEs on economic growth in Nigeria and as well as establish the nature of causality between them. Quarterly time series data from 1999-2012 sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin, would be employed in this study. For other researchers, this study will spur them into further research, especially in Nigeria where SMEs still remain under-researched. At the individual level, this study would enable people to understand and appreciate the relevance of developing human capital in a bid to achieve economic growth. For the government, it would provide a framework for policy formulation and implementation. Above all, this study would add to the existing stock of literature and bridge the gap in knowledge. The rest of the study is outlined as follows – section three reviews various related literature, section four discusses the methodology, section five presents the data analysis and interpretation of findings and section six provides conclusion and recommendations.

3.0 Review of Literature

Several studies, both in Nigeria and abroad, have been carried out to examine role or importance of SMEs in the achievement of economic growth and development. There seems to be a consensus from most these studies that SMEs, when adequately funded, contribute meaningfully to economic growth and development. A review of some of the empirical literature is provided below.

Onokoya, Fasanya and Abdulrahman (2013) examined the impact of financing small scale enterprises on economic growth in Nigeria, using a quarterly time series data from 1992 to 2009. The study combined several econometric estimation techniques. The findings shows that loan to small scale entrepreneurs have a positive impact on the economic performance while interest rate has a negative impact on economic growth. The study thereby concludes that the greatest or worst problem confronting SMEs in Nigeria is managerial capacity. Access to capital or finance is necessary but not a sufficient condition for successful entrepreneurial development.

Bamidele (2012) studied that financing of small and medium scale enterprises (SMEs) in Amuwo Odofin Local Government of Lagos state, Nigeria. The study examined how government and other agencies finance SMEs in Amuwo Odofin Local Government area of Lagos State. The study was guided by network theory. The major

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

Qureshi (2012) examined the problems and constraints faced by small and medium-sized enterprises (SMEs) in Pakistan with regard to access to financing. The research methodology includes qualitative data and quantitative data. A survey was undertaken from a sample group of 500 respondents of SMEs in Karachi from whom various questions were asked through a structured questionnaire. In addition, one-on-one formal and informal interviews were taken from various businessmen and bankers. Samples were selected conveniently. A conceptual model/framework was devised to test and ascertain the statistical validity. It includes dependent variable SME financing and independent variables, financing constraints, functional/internal barriers, government support and incentives, and SMEs growth and development. The study finds that Formal financing is the biggest problem of SMEs because a substantial portion of SMEs does not have the security required for collateral. The loan processing time is very lengthy and cumbersome and the loan terms are not succinct and thoroughly understood by the borrower.

Morenikeji and Oluchukwu (2012) studied the impact of small and medium scale enterprises in the generation of employment in Lagos state. A total of a hundred (150) copies of the questionnaires were administered out of which one hundred and twenty (120) copies representing (80%) of the questionnaire were properly completed and retrieved while thirty (30) copies representing 20% were not retrieved. The instruments used to gather information for this study includes questionnaires and interview. Two different statistical methods were employed by the researcher for data analysis. The tools are simple percentage and chi-square (X^2). The results show that SMEs and sustainable development of the Nigeria economy are related, just as promotion of SMEs and improvements in employment generation are related. They therefore conclude that for a nation irrespective of its economic ideology to achieve meaningful and sustainable development, adequate attention must be given to wide spread of economic activities through entrepreneurship and small and medium scale enterprise generation.

Nkwe (2012) discussed the role SMEs play in the development of countries such as Botswana. It focuses on what SMEs contribute and what barriers are there which make them not to contribute at their optimal. In the review, the researcher finds that the contribution of SMEs in Botswana is huge. SMEs contribute to economic development in various ways: by creating employment for rural and urban growing labor force, providing desirable sustainability and innovation in the economy as a whole. The most important development priority in Botswana is to diversify the economy in general, and to diversify production for export in particular. The diversification of exports should include services as well as manufactured goods. Economic diversification is necessary for future economic growth, and this in turn is necessary for the growth of employment and others. SMEs are the pillars to the government's diversification drive.

Oreoluwa (2011) assessed specific financing options available to SMEs in Nigeria and contribution with economic growth via investment level. The Spearman's Rho correlation test was employed to determine the relationship between SMEs financing and investment level. The analysis reports a significant Rho value of 0.643 at 10%. This indicated that there is significant positive relationship between SMEs financing and economic growth in Nigeria via investment level. Descriptive statistics were also used to appraisal certain financing indicators. The paper later proffer that accessibility to relative low interest rate finances should be provided to small and medium enterprises in Nigeria in order enhance economic growth.

4.0   Methodology

A multiple regression model based on Ordinary Least Square (OLS) technique would be employed in determining the impact of SMEs financing on economic growth in Nigeria. Ordinary least square (OLS) is extensively used in regression analysis primarily because it is intuitively appealing and mathematically much simpler than any other econometric techniques (Gujarati, 2003). In order to obtain robust estimates, this study would include real interest rate, inflation and money supply as related control variables. The model is specified as follows:

$$LOG(RGDP) = \lambda_0 + \lambda_1 LSMEs + \lambda_2 RINTR + \lambda_3 INF + + U_t \qquad (1)$$

Where;

RGDP = Real Gross Domestic Product (a proxy for economic growth)

LSMEs = Loans to SMEs

RINTR = Real Interest Rate

INF = Inflation

λ_0 = Intercept of relationship in the model

λ_1- λ_3 = Coefficient of each exogenous or explanatory variable.

In order to capture the direction of causality between SMEs and economic growth, the Granger causality test would be employed. It can be stated thus:

$$RGDP_t = \sum_{i=1}^{n} \alpha_i LSMEs_{t-i} + \sum_{j=1}^{n} \beta_j RGDP_{t-j} + U_{1t} \qquad (2)$$

$$LSMEs_t = \sum_{i=1}^{n} \lambda_i LSMEs_{t-i} + \sum_{j=1}^{n} \delta_j RGDP_{t-j} + U_{2t} \qquad (3)$$

Where U_{1t} and U_{2t} are assumed be uncorrelated.

5.0   Data Analysis and Interpretation

5.1   Stationarity Test

In order not to run a spurious regression, a stationary test was carried out. The Augmented Dickey-Fuller (ADF) test was used for this analysis since it adjusts for serial correlation. If the calculated ADF test statistic is greater than the MacKinnon critical values (both in absolute term) at the chosen level of significance, we would reject the null hypothesis of non-statonarity and accept the alternative hypothesis of stationarity. The result is summarized in table I below.

Table I: Adf Test Statistics

Variable	Adf Test Statistics	0.05 Level	Order of integration
RGDP	-9.401019	-2.897678	I(2)
LSMEs	-4.944154	-2.897678	I(0)
RINTR	-4.145574	-2.900670	I(1)
INF	-3.217670	-2.901217	I(0)

The result from table I above clearly show that second differencing is sufficient in modeling this study.

5.2 Cointegration Analysis

Theoretically, it is expected that a regression involving non-stationary time series variables may produce spurious (non-meaningful) results. Cointegration tests prove that the combination of such variables has a long-term relationship (Eigbiremolen, 2013). Economically speaking, two variables will be cointegrated if they have a long-run or an equilibrium relationship between them (Gujarati, 2004:822). The Johansen 2 likelihood ratio test statistics, the trace and maximal eigenvalue test statistics, were utilized to determine the number of cointegrating vectors. The decision rule is to reject the null hypothesis if the probability (P value) is less than 5% (0.05). The result is summarized in the tables II and III below.

Table II: Johansen Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistics	0.05 Critical Value	Prob.**
None *	0.295200	64.23987	47.85613	0.0007
At most 1*	0.255176	35.90269	29.79707	0.0087
At most 2	0.105461	12.03951	15.49471	0.1550
At most 3	0.036506	3.012322	3.841466	0.0826

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table III: Johansen Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistics	0.05 Critical Value	Prob.**
None *	0.295200	28.33717	27.58434	0.0400
At most 1*	0.255176	23.86318	21.13162	0.0201
At most 2	0.105461	9.027186	14.26460	0.2839
At most 3	0.036506	3.012322	3.841466	0.0826

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values.

Both the trace statistics (table II) and Eigen value statistics (table III) above reveal the rejection of the first and second null hypotheses at 5% level of significance based on our decision rule. This implies that there is two cointegrating equations or vectors among the variables of interest. Therefore, there is a long run relationship between the variables. That is, the linear combination of these variables cancels out the stochastic trend in the series. Therefore, the estimates multiple regression model are summarized in table IV below.

Table: IV: Regression Estimates

Dependent Variable	Independent Variables	Coefficients	t-statistics	Probability
LOG(RGDP)	CONSTANT	12.69467	136.4748	0.0000*
	LSMs	0.0000043	11.39712	0.0000*
	RINTR	-0.007350	-2.425954	0.0175*
	INF	-0.002007	-2.987993	0.0037*
	MS	0.000000095	12.72800	0.0000*
R^2	0.871458			
F-statistics	133.8958			

Note: *indicates significance at 0.05 level.

The result of the regression (table IV) shows that the independent variables (LSMEs, RINTR, INF and MS) jointly explained about 87% variations or changes in economic growth. More specifically, the result reveals that SMEs financing (LSMEs) has a positive impact on economic growth. Holding all other variables constant, the growth rate of the economy will increase by 0.0000043 for every 1 unit increase in LSMEs on the average. In addition, the result indicates that LSMEs is statistically significant in explaining economic in Nigeria. That is, SMEs is fundamental in achieving economic growth in Nigeria.

5.3   Granger Causality: The granger causality testing procedure is stated as follows:

$$F = \frac{(RSS_R - RSS_{UR})/m}{RSS_{UR}/(n-k)}$$

Where;

 m is equal to the number of lagged M terms and k is the number of parameters estimated in the unrestricted regression. As a way of decision, the null hypothesis is rejected if the probability value is less than the 0.05 level. The granger causality test result between economic growth (RGDP) and SMEs (LSMEs) is presented in table V below

Table V: Granger Causality between RGDP and LSMEs

Null Hypothesis	F-Statistics	Prob.
LSMEs does not granger cause RGDP	6.02738	0.0003
RGDP does not granger cause LSMEs	1.89568	0.1206

The result in table V above reveals that SMEs granger cause economic growth in. This means that economic growth can be predicted with great accuracy by using past values of SMEs, all other thing remaining unchanged or held constant. On the other hand, economic growth does not granger cause SMEs. This reveals a unidirectional causal relationship between SMEs and economic growth in Nigeria.

6.0   Conclusion/Recommendations

The role of SMEs in the achievement of economic growth in Nigeria was empirically investigated by this study, using a cointegrating regression model and granger causality test. The Johansen 2 likelihood ratio test statistics, the trace and maximal eigenvalue cointegration test statistics, reveals two cointegrating equations or vectors among the variables of interest. The cointegrating regression result indicates that SMEs are statistically significant in the determination of economic growth. This means that SMEs remain indispensable in our pursuit of economic growth and development as a nation. In addition, SMEs positively impact or effect economic growth. That implies a boost to the economy for every increase in the operations and activities o SMEs. The added control variables, RINTR, INF and MS, are all statistically significant in explaining economic growth, with MS impacting economic growth positively, while RINTR and INF exhibit negative effects. The granger

causality test reveals a unidirectional causality between SMEs and economic growth, running from the former to the latter.

Moving forward, adequate and coordinated financing with relatively low interest rate should be made available and assessable to SMEs across Nigeria, as paucity of fund has remained the major bane to their successful operations. Also, government should make available needed infrastructure and incentives like regular power supply, good roads and tax holiday. These would greatly enhance and encourage the activities of SMEs and position them to play their all important role in the achievement of economic growth and development in Nigeria.

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