Growth effect of Small and Medium Enterprises (SMEs) Financing in Nigeria

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Abstract

The issue of sustainable growth and development has been a growing concern for policy makers and researcher in developing countries such as Nigeria. One of the problems faced by Small and Medium Enterprises (SMEs) operators is that government does not give chance or consider them when making policy in which priority is given to large organizations. This makes financing the main constraining factor to SMEs growth and hinders their potentials for enhancing economic growth in Nigeria. Thus, constitute the focus of this study. On the basis of the identified issue and existence of few quantitative empirical studies in this regards, the study investigated the effect of SMEs financing on economic growth in Nigeria between 1980 and 2010. The study employed Ordinary Least Square (OLS) method to estimate the multiple regression model. The estimated model results revealed that SMEs output proxy by wholesale and retail trade output as a component of gross domestic product, commercial banks’ credit to SMEs and exchange rate of naira vis-à-vis U.S dollar exert positive influence on economic development proxy real gross domestic product while lending rate is found to exert negative effects on economic growth. In terms of partial significance and using t-statistic as a test of evaluation, SMEs output and commercial banks’ credit to SMEs were found to be significant factors enhancing economic growth in Nigeria at 5% critical level. Therefore, emanating from the findings, the study proffered that the central authority should create an enabling environment for SME development.

Keywords: Small and Medium Enterprises (SMEs), Economic Growth, Finance, Lending, Exchange Rate.
I. Introduction

Nigeria is blessed with vast resources, including oil, gas and solid minerals, already confirmed to exist in commercial quantities. She also has enormous electric power resources; a large human population, forming a very big market and substantial idle capacity in all industrial sectors (CBN, 2000). In addition, small and medium scale industries are known to exist all over the country and most of them where established from the mid-1980s, with the inception of the structural adjustment programme (SAP). All these indicate great potentials for the emergence of a vibrant industrial sector, particularly the small-scale segment. In this context, a well-focused SMI development programme in an investment friendly environment can achieve the long sought industrial transformation, which the programme of large-scale capital-intensive industrialization failed to deliver.

The SMEs operating in Nigeria are not shielded or immune from the typical problems and constraints of SMEs in other developed countries. Almost every country assists her SMEs largely because of the crucial inherent role they play in the economic growth and development. The SMEs in Nigeria have expanded following the adoption of the Structural Adjustment Programme (SAP) to fill the supply gap in industrial consumer goods created by the difficulties faced by large scale firms which have not easily adapted to the policy changes of SAP (Olorunshola, 2003:34).

Moreover, a major gap in Nigeria’s industrial development process in the past years has been the absence of a strong and virile small and medium enterprises sub-sector (SMEs) owing to financial constraints explained by high lending rates, high loan requirements and lack of viable entrepreneurial skills. Also, lack of adequate credit for SMEs, traceable to the reluctance of banks to extend credit to them owing, among others, to poor documentation at project proposals as well as inadequate collateral by SME operators constitute one of the problems facing SMEs in Nigeria. The little progress recorded from the courageous efforts of the first generation of indigenous industrialists was almost completely wiped out by the massive dislocations and traumatic devaluation which took place under the Structural Adjustment Programme (SAP).

In recognition of these constraints and in order to ensure the realization of the potential benefits of virile SME in the economy, the Central Bank of Nigeria has remained committed to the growth and development of the small and medium scale enterprises in Nigeria. This stance has been successively reflected in the Bank’s policies over the years. In particular, the CBN has through its credit guidelines over the years, and until very recently, required the erstwhile commercial and merchant banks to allocate stipulated minimum of credit to the preferred sectors including the SME. At the international level SMEs in Nigeria have an improved operational environment. The liberalization of trade
through WTO Agreements has provided awareness through which SMEs could access international market. Another opportunity is the African Growth and Opportunity Act, which favour imports from African countries to the United States.

On the basis of the foregoing, this study critically examined the precise the effect of small and medium scale enterprises (SMEs) financing on economic growth in Nigeria between two decades after the country’s independence period - 1980 and 2010. This ranges from the period of Pre-Structural Adjustment Programme (SAP), Structural Adjustment Programme (SAP) and Post-Structural Adjustment Programme (SAP) eras. During these eras, the Nigerian economy has undergone series of economic and financial programmes in Nigeria.

This paper is structured into five sections. The second section covers brief empirical literature. The third section describes the employed econometric model and methods employed. The fourth section presents results and discussion, while the last section concludes the paper and proffer policy recommendations.

II. Brief Literature

Plethoras of studies have been documented in this regards. Among these studies is the work of Osoba (1987) that argued that financing strength is the main determinant of small and medium enterprises growth in developing countries. Similarly, Yue and Ma (2008) studied issues pertinent to the sustainable development of technological innovation in Small and Medium Enterprises (SME). At the end of their study, they argued that sustainable development of technological innovation in SMEs is a systemic engineering, which involves a number of issues such as technical level, capabilities of key research and develop personnel, availability of fund for research and development and business development etc. SMEs need to develop and implement strategy based on their own characteristics and strive to realize sustainable growth in the long run which cannot be resolved in a short time.

Oluba (2009) summarized the contribution of SMEs to an economy, especially developing ones as: Greater utilization of raw materials, employment generation, encourage of rural development, development of entrepreneurship, mobilization of local savings, linkages with bigger industries, provision of regional balance by spreading investments more evenly, provision of avenue for self-employment and provision of opportunity for training managers and semi-skilled workers.

Ogunsiji and Ladamu (2010) argued that entrepreneurial orientation is the panacea to the ebbing productivity. They opined that in Nigeria, there is need for a non-stop growth, harmonious and balanced blend of resources with the other engines of growth. Each of these engines of growth like people, market, capital, technology and organization can only flower and blossom fully where the efficacy of
entrepreneurial orientation is appreciated and implemented.

Asta and Zaneta (2010) examined the growing importance of small and medium enterprises (SMEs) and their influence on economic development of Lithuania’s demand special attention given to processes, tendencies, perspectives in them and encourage the search for the effective SME performance improvement measures. They noted that to improve their environmental performance, economic and social effectiveness, the integrated, based on financial analysis, decision-making model is needed which would be oriented to strategic sustainability goals, not requiring significant time, financial and human resources. The integration of sustainability management accounting (SMA) and composite sustainable development index (ICSD) methodologies makes the basis of sustainable development decision-making model for SMEs.

Akingunola (2011) assesses specific financing options available to SMEs in Nigeria and contribution with economic growth via investment level. The Spearman’s Rho correlation test is employed to determine the relationship between SMEs financing and investment level. The analysis reported 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.

Aremu and Adeyemi (2011) claimed that their findings have shown that most SMEs particularly in Nigeria die within their first five years of existence. It was also revealed that smaller percentage goes into extinction between the sixth and tenth year while only about five to ten percent of young companies survive, thrive and grow to maturity. Many factors have been identified as likely contributing factors to the premature death. They include insufficient capital, lack of focus, inadequate market research, over-concentration on one or two markets for finished products, lack of succession plan, inexperience, lack of proper book keeping, irregular power supply, infrastructural inadequacies (water, roads etc), lack of proper records or lack of any records at all, inability to separate business and family or personal finances, lack of business strategy, inability to distinguish between revenue and profit, inability to procure the right plant and machinery, inability to engage or employ the right caliber staff, cut-throat competition (Basil, 2005:34).

Aremu and Adeyemi (2011) examined that small and medium enterprises have been considered as the engine of economic growth and for promoting equitable development. It was noted that the SME sector is the main driving force behind job creation, poverty reduction, wealth creation, income distribution and reduction in income disparities.
Chidi and Shadare (2011) investigated the challenges confronting human capital development in small and medium-sized enterprises (SMEs) in Nigeria. It was found that human capital development in Nigerian SMEs leaves much to be desired. They recommended the need to address the issues of human capital development in SMEs and for SMEs to embrace the investor in people criteria if the desired corporate and national goals are to be realized.

III. Methodology

3.1 Model Specification

The econometric model employed in this study to investigate the effect of small and medium scale enterprises (SMEs) financing on economic growth in Nigeria is adopted following the lead of previous empirical studies (Asta and Zaneta, 2010; Aremu and Adeyemi, 2011). There empirical models follow a standard growth regression form express as:

\[ y_t = \alpha + \beta_1 \text{SME} + \beta_2 X + u \]  

Where: \( y \) = Real Gross Domestic Product; \( \text{SME} \) = Small and Medium Enterprises (SMEs) activities; \( X \) = set of control variables; \( \alpha \) = Intercept or constant; \( \beta \) = Parameters or Co-efficient of explanatory variables; \( u \) = Error term;

In the case of this study, SME activities are considered as commercial bank credit to SMEs and SMEs output to national output. Also, the set of control variables considered to augment the model are lending rate and exchange rate. Therefore, the empirical model for this study is specified as:

\[ \ln \text{RGDP} = \alpha + \beta_1 \ln \text{SMEQ} + \beta_2 \text{BCRT} + \beta_3 \ln \text{EXCR} + \beta_4 \text{LNDR} + u \]  

Where: \( \text{RGDP} \) = Real gross domestic product; \( \text{SMEQ} \) = SMEs output proxy by Wholesale and Retail Trade output as a component of gross domestic product (GDP); \( \text{BCRT} \) = commercial banks’ credit to SMEs; \( \text{EXCR} \) = Exchange rate of naira vis-à-vis U.S dollar; \( \text{LNDR} \) = lending rate; \( \ln \) = log = natural logarithm; \( \alpha \) = Intercept or constant; \( \beta \) = Parameters or Co-efficient of explanatory variables; and \( u \) = Error term.

3.2 Research Hypotheses

The relevant research hypotheses for this study are specified in null form as follows:

**Hypothesis I**

\[ H_0: \text{Banks credit to SMEs has no significant effect on economic development in Nigeria.} \]

**Hypothesis II**

\[ H_0: \text{SMEs output has no significant effect on gross domestic product as a measure of economic development in Nigeria.} \]

3.3 Pre Estimation Diagnostic Test

The time series properties of the variables incorporated in static model (2) is examined using the Augmented Dickey-Fuller unit root test in order to determine the long-run convergence of each series to its true mean. The test involves the estimation of equations with drift and trends as proposed Dickey and Fuller (1988). The test equations are expressed as:

\[ \Delta Z_t = \eta_0 + \eta_1 Z_{t-1} + \sum_{i=1}^{\eta} \pi_i \Delta Z_{t-i} + \nu_t \]  

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The time series variable is represented by $Z_t$, $\nu_t$, as time and residual respectively. The equ. (3) and (4) are the test model with intercept only, and linear trend respectively.

### 3.4 Post Estimation Diagnostic Test

The specified regression model (2) is estimated through the use of Classical Normal Least Square Estimator and other time series diagnostic tests are employed like Ramsey RESET test for the entire structural stability of the model in line with underlining classical assumptions; residual diagnostic tests like Histogram normality test, Breusch Godfrey serial correlation LM test, Breusch-Pagan-Godfrey (BPG) and ARCH Heteroskedasticity tests; and Variance Inflation Factors (VIF) test to examine the level at which the estimated coefficient variance is inflated due to multicollinearity.

### 3.5 Long-Run Analysis

The long-run analysis of the relationship between small and medium scale enterprises (SMEs) financing on economic growth in Nigeria from 1970 to 2009 is established using the Engle-Granger cointegration two procedures test. The first procedure involves generating residual or error correction term (ECT) from the equation (2) express as:

$$ ECT_t = \epsilon_t = \ln \text{RGDP}_t - \left( \alpha + \beta_1 \ln \text{SMEQ}_t + \beta_2 \text{BCRT}_t + \beta_3 \ln \text{EXCR}_t + \beta_4 \text{LNDR}_t \right) $$

The last procedure requires subjecting the error correction term (ECT) to unit root test analysis with the null hypothesis “no stationary at level”. The rejection of this hypothesis in turn leads to the rejection of the null hypothesis “no-cointegration” i.e. no long-run convergence among the series.

### 3.6 Data Description

The time series data required for this study (RGDP = Real gross domestic product; SMEQ = SMEs output proxy by Wholesale and Retail Trade output as a component of gross domestic product (GDP); BCRT = commercial banks’ credit to SMEs; EXCR = Exchange rate of naira vis-à-vis U.S dollar; LNDR = lending rate) were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin, December 2012 and Annual Abstract of Statistics from National Bureau of Statistics (NBS).

### IV. Results and Discussions

This section of the paper presents the results of estimated Augmented Dickey-Fuller (ADF) unit-root test models in section 4.1 and the estimated regression results are shown under section 4.2. Also, all discussed results are presented in the appendix.

#### 4.1 Time Series Stationary Test Results

The stationary test results of the incorporated times series variables in the regression model expressed in equation (2) is presented in Table 4.1 using the ADF unit-root test. The test result indicated...
that the time series variable, lending rate (LNDR) was found to reject the null hypothesis “no stationary” at levels. This indicates that lending rate or monetary policy rate has no unit-root or is stationary at level and this implies that this series is mean reverting and convergences towards its long-run equilibrium. However, other incorporated time series, log of real gross domestic product (lnRGDP), log of small and medium enterprise output (lnSMEQ), log of commercial credit to SMEs (lnBCRT), and log of exchange rate of naira vis-à-vis U.S dollar (lnEXCR) were found to accept the null hypothesis “no stationary” at level but after several iterations based on the number of lag length and differencing, the series is found to reject the null hypothesis at first difference. This indicates that the first-difference of log of real gross domestic product (lnRGDP), log of small and medium enterprise output (lnSMEQ), log of commercial credit to SMEs (lnBCRT), and log of exchange rate of naira vis-à-vis U.S dollar (lnEXCR) are mean reverting and its variance converges over time.

However, considering the biasness of OLS estimates and implication of regressing non-stationary time series on stationary times, this paper examined the long-run relationship that exist between considered series in the regression model as reported in next sub-section.

4.2 Long-Run Analysis

The long-run analysis of the relationship between SMEs financing and economic growth in Nigeria is established using the Engle-Granger cointegration test procedure, whose test results are presented in Table 4.2.

The reported results indicated that taking log of RGDP as dependent series, all the considered time series variables are found to reject the null hypothesis “series are not cointegrated” at 5% significance level based on the reported tau-statistic (-5.535534) and z-statistic (-29.9923) values. Similar, results is reported for log of SME output as dependent. This indicates that there is long-run relationship among log of real gross domestic product (lnRGDP), log of small and medium enterprise output (lnSMEQ), log of commercial credit to SMEs (lnBCRT), log of exchange rate of naira vis-à-vis U.S dollar (lnEXCR), and lending rate (LNDR) in Nigeria between 1980 and 2010. The long-run multiplier parameters are reported on Table 4.3 with appropriate diagnostic tests.

4.3 Long-run Analysis

The estimated regression model that captures the effect of SMEs financing on economic growth as a measure of overall macroeconomic stability in Nigeria is presented in table 4.3, including the residual and stability diagnostic tests results are presented on Table 4.3.

The reported long-run estimates indicated that changes in SMEs output and SMEs financing by the commercial banks have significant and positive effect on economic growth in Nigeria at 1% critical level. This indicates that for a percentage change in SMEs
output and financing, national or aggregate real output increased by 0.92% and 0.14% respectively. On the basis of the significant long-run multiplier parameters for lnSMEQ and lnBCRT, the null hypotheses (H01: Banks credit to SMEs has no significant effect on economic development in Nigeria; H02: SMEs output has no significant effect on gross domestic product as a measure of economic development in Nigeria) were rejected at 1% significance level.

Also, a change in exchange rate of naira-vis-à-vis U.S dollar (lnEXRC) was found to exert positive but insignificant effect on economic growth rate in Nigeria during the reviewed period. In magnitude terms, a percentage change in exchange rate variation, economic growth rate is enhanced by 0.1%. Although, lending rate (LNDR) as a measure of cost of financing was found to deteriorates economic growth rate insignificantly by 0.001%. The results of the first order evaluation criteria, adjusted R-squared indicated that 99.7% of the total variation in economic growth is explained by changes in log of small and medium enterprise output (lnSMEQ), log of commercial credit to SMEs (lnBCRT), log of exchange rate of naira vis-à-vis U.S dollar (lnEXCR), and lending rate (LNDR) in Nigeria. This further explained by reported F-statistic value (3674.72) found significant at 1% critical level.

However, the non-significance of the conducted post-estimation diagnostic tests indicated that estimated residual from the static model is normally distributed; residuals are not serially correlated; and the error variance is homoskedasticity. The overall stability, RESET test indicated that the estimated model is structurally stable and efficient to explain the long-run effect of SMEs financing on economic growth in Nigeria.

V. Conclusion and Recommendations

The analysis of the effect of small and medium scale enterprises (SMEs) financing on economic growth in Nigeria between 1980 and 2010 that span across the period of Pre-Structural Adjustment Programme (SAP), Structural Adjustment Programme (SAP), Post-Structural Adjustment Programme (SAP) and also the present era of National Economic Empowerment Development Strategy (NEEDS) revealed that only SMEs output proxy by wholesale and retail trade output as a component of gross domestic product (SMEQ) and commercial banks’ credit to SMEs (BCRT) have significant effect on economic growth proxy by real gross domestic product (RGDP). This is found to complements the study of Osoba (1987) that SMEs financing is critical to economic growth. A similar finding is reported by Somoye (2008) and Iorpev (2012) that post bank consolidation had been instrumental in the financing of SMEs for growth and development. This implies that SMEs financing is an impetus and a driving force for economic growth in Nigeria.

Therefore, based on the F-statistic result this study rejects the null hypotheses and concludes that there is significant relationship between small and medium
enterprises financing and economic growth and its variable determinants in the Nigerian economy. Also, emanating from the empirical results the study proffered that mandate should be given to commercial banks to reduce credit allocation requirements in terms of collateral and interest in order to increase credit allocation to SMEs to enhance economic growth in Nigeria; and also there is need to create an enabling environment for SME development in terms of clear tenure rules, simple business registration and export procedures, and accessible tax and financial incentive schemes in order to enhance their potentials in promoting economic growth in Nigeria.
References


Appendix

Table 4.1: ADF Unit Root Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Tau Statistics</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td>Linear Trend</td>
</tr>
<tr>
<td>lnRGDP</td>
<td>-4.189*(0) [-3.679]</td>
<td>-4.084**(0) [-3.574]</td>
</tr>
<tr>
<td>lnSMEQ</td>
<td>-4.573*(0) [-3.679]</td>
<td>-4.282**(0) [-3.574]</td>
</tr>
<tr>
<td>lnBCRT</td>
<td>-6.396*(0) [-3.679]</td>
<td>-7.005*(0) [-4.310]</td>
</tr>
<tr>
<td>lnEXCR</td>
<td>-4.734*(0) [-3.679]</td>
<td>-4.941*(0) [-4.309]</td>
</tr>
<tr>
<td>LNDR</td>
<td>-2.674***(0) [-2.621]</td>
<td>-3.492***(0) [-3.218]</td>
</tr>
</tbody>
</table>

Note: * significant at 1%; ** significant at 5%; *** significant at 10% Mackinnon critical values and are shown in parenthesis. The lagged numbers shown in brackets are selected using the minimum Schwarz and Akaike Information criteria.

Source: Authors Computation, 2013

Table 4.2: Engle-Granger Cointegration Test Results

<table>
<thead>
<tr>
<th>Series: LOG(RGDP) LOG(SMEQ) LOG(BCRT) LOG(EXCR) LNDR</th>
<th>Null hypothesis: Series are not cointegrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cointegrating equation deterministics: C</td>
<td></td>
</tr>
<tr>
<td>Automatic lags specification based on Schwarz criterion (maxlag=6)</td>
<td></td>
</tr>
<tr>
<td>Dependent</td>
<td>tau-statistic</td>
</tr>
<tr>
<td>LOG(RGDP)</td>
<td>-5.535534</td>
</tr>
<tr>
<td>LOG(SMEQ)</td>
<td>-5.358049</td>
</tr>
<tr>
<td>LOG(BCRT)</td>
<td>-3.008351</td>
</tr>
<tr>
<td>LOG(EXCR)</td>
<td>-3.581343</td>
</tr>
<tr>
<td>LNDR</td>
<td>-4.050986</td>
</tr>
</tbody>
</table>

*MacKinnon (1996) p-values

Table 4.3: Long-Run Estimated Results and Diagnostic Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.340**</td>
<td>0.659</td>
<td>0.0523</td>
</tr>
<tr>
<td>InSMEQ</td>
<td>0.921*</td>
<td>0.036</td>
<td>0.0000</td>
</tr>
<tr>
<td>lnBCRT</td>
<td>0.136*</td>
<td>0.044</td>
<td>0.0045</td>
</tr>
<tr>
<td>lnEXCR</td>
<td>0.074</td>
<td>0.051</td>
<td>0.1574</td>
</tr>
<tr>
<td>LNDR</td>
<td>-0.001</td>
<td>0.005</td>
<td>0.8212</td>
</tr>
</tbody>
</table>

R-squared     | 0.998       | Durbin-Watson stat | 1.8925 |
Adjusted R²   | 0.997       | F-statistic        | 3674.72 |
S.E. of regression | 0.1018 | Prob(F-statistic) | 0.0000 |

Residual Normality Test

<table>
<thead>
<tr>
<th>Test</th>
<th>F-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Godfrey Serial Correlation LM Test</td>
<td>1.3335</td>
<td>Prob(F(2,24))</td>
</tr>
<tr>
<td>Heteroskedasticity Test: Breusch-Pagan-Godfrey</td>
<td>3.1003</td>
<td>Prob. Chi-Square(2)</td>
</tr>
<tr>
<td>RESET Test</td>
<td>1.3877</td>
<td>Prob. F(3, 23)</td>
</tr>
<tr>
<td>Likelihood ratio</td>
<td>5.1575</td>
<td>Prob. LR(3)</td>
</tr>
</tbody>
</table>

Note: * significant at 1%; ** significant at 5%;