

CENTRAL BANK OF NIGERIA'S REGULATORY GUIDELINES AND THE GROWTH OF SMALL AND MEDIUM SCALE INDUSTRIES IN NIGERIA

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Abstract

The research focused on regulatory guidelines and growth of small and medium scale (SMIs) industries in Nigeria from 1993 to 2016. The study aimed at examining the effects of cash reserve ratio, liquidity ratio, and open market operations on the growth of SMIs in Nigeria. Data for the study was sourced from the Central Bank of Nigeria Statistical Bulletin. The Error Correction Mechanism (ECM) model was used to analyse the data alongside other diagnostic tests such as - normality, serial correlation, heteroskedastic and multicollinearity tests. The empirical results emanating from the analysis indicates that only liquidity ratio does not have significant influence on the growth of small and medium scale industries in Nigeria, while cash reserve and Open Market Operations have positive influence on the growth of small and medium scale industries in Nigeria under the year of study. Based on the foregoing, regulatory authorities should re-enforce the mandatory minimum credit allocation by banks to SMIs in the annual monetary policy guidelines and policies bothering on liquidity ratios should be reviewed for effective and maximum impact.

Keywords: *Cash reserve ratios, Liquidity ratios, Open Market Operations, SMIs, Growth.*

1.1 Introduction

It is an accepted fact that economic development of any nation depends largely on the existence, growth and survival of small, medium scale enterprises (SMEs) sector. As a propeller of economic growth, SMEs require serious attention so that their developmental role and sustainability will provide the much needed sustainable development of a nation with regard to job and wealth creation. Eigbe (1996) observed that small and medium enterprises are a catalyst to socio-economic development of any country. They are veritable vehicle for the attainment of national macro-economic objectives in terms of employment generation at low investment cost and the development of entrepreneurial capabilities and indigenous technology. He stressed that the roles of SMEs have been amply displayed in many countries such as Japan, South Korea, India and Malaysia. Further, he argued that SMEs contribute substantially to gross domestic product (GDP), export earnings and employment opportunities of these countries. The promotion of small businesses is a cornerstone of economic policy for a large number of industrialized countries. While public support for small enterprise appears to be based on a widely held perception that this sector is an incubator of economic growth, in other words SMEs are viewed as a place where innovation takes place and where new ideas are generated that makes business enterprises to be economically viable.

As documented by available literature, the strategic importance of SMEs in propelling economic growth and development is critically hampered by non availability and access to finance to fund their activities. In Nigeria, SMEs' access to finance is seriously constrained despite the many efforts government have made to mitigate the situation. Ogujuiba et al (2004) recorded that the Association of Nigerian Development Finance Institutions in 2004 issued a statement stating why SMEs performed poorly in Nigeria. They argued that truly finance is a major constraint, while this may be true, empirical evidence shows that finance contributes to only about 25% of the success of SMEs. World Bank (2001), however, reported that almost 50% of micro, 39 and 37 percent of the small and medium scale firms are financially constrained in Nigeria as opposed to 25% of the very large firms. This suggests clearly that small and medium scale enterprises are either discriminated against or cannot access funds at the credit market owing to a number of reasons. A major reason is the stringent conditions attached to loans and credit approvals by banks in Nigeria which largely have undermined the capacity of SMEs to access finance.

Since the attainment of independence in Nigeria, successive governments recognized the relevance of promoting small and medium enterprises as a unique basis for growth. As a result, several micro lending institutions were established to enhance the development of small and medium enterprises. Unfortunately, records indicate that the performance of SMEs in Nigeria has not justified this plethora of credit institutions. Odedokun (2005) notes that in spite of the quantum of credit made available to the sector, the contribution of the small and medium enterprises to GDP was only 13 percent between 1999 and 2004. Therefore, in order to fully develop the growth potentials of SMEs in Nigeria, it is imperative to understand the various factors inhibiting the performance of SMEs in Nigeria.

The consolidation of the Nigerian banking sector in 2005 was seen as a welcome development believed to address and ease SMEs' access to finance. As the CBN (2006) convincingly argued that with consolidation banks in Nigeria would be able to expand their branch networks and mobilize more funds to lend to the SMEs and other deserving sectors of the economy. This argument was premised on the underlying theory that consolidation enables banks to extend more credit to SMEs due to the supposed positive relationship

between capitalization and deposits on one hand and deposits and credit size on the other hand.

However, researches on bank consolidation in Nigeria have generated conflicting findings which have raised a lot of attention and curiosity. For instance, banks' management claim that consolidation has done a magic wand by increasing credit size to SMEs while SMEs' owners contend that consolidation has not solved their financial problems. Another strand of thought in the literature contends that consolidated banks seem to turn away from SMEs financing to bigger ticket financing. Could this be the story in Nigeria? Therefore, against this background, this study is poised to assess the CBN guidelines and growth of SMS industries in Nigeria.

The fundamental roles played by the small and medium scale enterprises in the process of industrialization and economic growth particularly in terms of significantly contributing to employment generation, income generation and catalyzing development in urban and rural areas cannot be overemphasized (Olutula, 2001; Hallberg, 2000; Olutunla, 2001; Williams, 2006). For instance, in many of the newly industrialized nations, more than 98% of all the industrial enterprises belong to the SMEs sub-sector and account for the bulk of the labour force (Sanusi, 2003). It is estimated that SMEs employ 22% of the adult population in developing countries (Kayanula and Quartey, 2000), and provide more employment per unit of capital investment than large-scale enterprises (Inang and Ukpong, 1992).

In Nigeria, SMEs account for about 70% of industrial employment (Adebusuyi, 1997) and well over 50% of the Gross Domestic Product (Odeyemi, 2003). Essentially, SMEs in every country play a key role in the growth and development process. Although the extent to which these roles are performed effectively and efficiently largely depends on the degree of development of the financial system and the traditional role of deposit money banks in the country which are responsible for pooling financial resources for the credit needs of SMEs. Yet, substantial gap exists between the supply and demand for loanable funds by SMEs in Nigeria (Anyanwu, 2005). Specifically, in Nigeria, there is a huge supply of both equity and loanable funds in the commercial banking sector which the SMEs did not benefit from. For example, as at the end of the first quarter of 2007, out of 38.2 billion set aside by the banks, only 18.1 billion or 47.3% were assessed by the SMEs (Central Bank of Nigeria, 2007). Similarly, the yearly Financial Guidelines of the CBN stipulate that banks must commit a minimum proportion of their loan portfolio to the SMEs. However, since the 1970s this requirement was never met. It should be noted that, SMEs operating in developing economies are very vulnerable due to the problems of finance, high costs of doing business and labour market barriers. Also, unfavorable macroeconomic environment has been identified as the major constraint which most often than not discourage financial institutions to fund small and medium enterprises. The main objective of this study is to examine the impact of Central Bank of Nigeria regulatory guidelines on the growth of SMIs in Nigeria.

2.0 Conceptual Review

Ayari et al (2007) noted that small and medium scale enterprises have been long recognised as an instrument of economic growth and development. The growing recognition of this fact has led the World Bank group on SMEs sector to ensure that it is the core element in its strategy to foster economic growth, employment generation and poverty alleviation. However, there is no one definite definition of SMEs and its classification is based on value judgment which makes it subjective. The Organization for Economic Co-operation and

Development (OECD; 2004) notes that SMEs are a mixed group found in a wide array of business activities and the concept of SMEs is relative and dynamic. Ganbold (2008) submits that the statistical definition of SMEs varies by country to country and is usually based on the number of employees, value of sales and /or value of assets and size of capital. Ayaggari et al. (2003) however, contend that the definition of SMEs varies according to the context, author and countries.

Ekpeyong and Nyang (1992) note that in countries such as USA, Britain and Canada, small scale business is defined in terms of annual turnover and the number of paid employees. In Nigeria, a clear cut definition between small and medium scale enterprises does not exist. According to CBN (1998) monetary policy circular No.22 of 1998, small scale industries are those enterprises which have annual turnover not exceeding 500,000 Naira. But in 1990, the Federal government of Nigeria for the purpose of commercial bank loans defined small scale enterprises as those enterprises whose annual turnover does not exceed five hundred thousand naira (₦500,000) and for merchant bank loans, as those enterprises with capital investment not exceeding two million naira (N2M) (excluding the cost of land) or a minimum of ₦5 million naira. Ogechukwu (2006) noted that in 1993, the value definition of SMEs was reviewed and subsequently increased to ₦5 million naira. Arising from this situation, there may be a need to classify the small scale business into micro and super –micro businesses. Responding to this observation, Osa-Afiana in Ango (2011) reports Nigeria Bank of Industry definition and categorization of SMEs. The categorization was into micro, cottage, small scale and medium enterprises; which are as follows:

- *Micro/ cottage enterprises: these are enterprises with capital of not more than 1.5 million naira (or \$11,278) including working capital but excluding cost of land and/or labour size of not more than 10 workers.
- Small scale enterprises: these are enterprises with capital investment in excess of 1.5 million naira but not more than 50 million naira (\$375,939) including working capital but excluding cost of land and/or labour size of not more than 11-100 workers.
- Medium scale enterprises: these are enterprises with investment worth over 50 million naira but not more than 200 million naira (\$1,503,758) including working capital but excluding cost of land and/or labour size of not more than 100-300 workers.

The contribution of Small and Medium Scale Enterprises to economic growth in Nigeria as presented in appendix 1 could be characterized to be policy-driven when juxtaposed with the development of the financial system. The share of SMEs to GDP fell from about ₦20,174.7m in 1980 to ₦1,835m in 1985 ostensibly due to the unprecedented increase in the interest rate from an average of 6% in 1980 to 10% in 1985. However, with the deregulation of the Nigerian economy occasioned by the introduction of the structural adjustment programme (SAP) in July 1986, interest rate in Nigeria became market-driven. This led to the upsurge in the share of the SMEs in GDP from ₦5,573m in 1987 to ₦205,553.20m in 1999. It should also be noted that during the same period the commercial banks' loans to SMEs consistently increased from ₦22,018.70m in 1987 to about ₦947,690m in 1999. For the period under review, the interest rate in Nigeria peaked at 26% in 1993 and this was apparently due to the political crisis that bedeviled the country at that time. The banking sector reform that was introduced by the CBN in 2001, which was centered on the recapitalization of the financial institutions in Nigeria further increased the contribution of the SMEs to GDP from ₦175,735.80m in 2001 to ₦685,696.10m in 2010 and subsequently fell to ₦606,060.33m in 2013. In addition, the lending rate declined from 19% in 2002 to about 9% in 2008 and subsequently became stable around 10% between 2009 and 2013 apparently due to the strict monetary policy of the regulatory authority. The commercial banks' loans available to the

SMEs equally increased from ₦1,018,155.80m in 2002 to about ₦5,456,635.15m in 2010 after which it declined to ₦4,609,922.65m in 2013 (CBN, 2006). It is quite evident from above analysis that, in absolute terms, SMEs have not contributed significantly to economic growth in Nigeria due to its sluggish and haphazard nature.

2.2 Theoretical Framework

Financial Growth Theory was developed by Berger and Udell (1998) and was used by Bahajide (2011) and Akande (2012). This theory was anchored on the small business as where the financial needs and financing options change as the business grows and it becomes more experienced and less informative. They further suggested that firms that rely on a size/age must rely on initial insider finance, trade credit and/ or developmental financial institutions. This theory predicts that as firms grow, it will gain more access to venture capital as a source of intermediate equity and mid-term loans as a source of intermediate debt. At the final state of the growth theory, as the firm becomes older, more experienced and more informative transparent, it will likely gain access to long term debt.

This study anchored on financial growth theory because the theory predicts that as firm grows, it will gain more access to investment capital as a source of intermediate equity. The implications of this theory is that micro, small and medium enterprises need internal source of finance before looking for the external fund from the development financial institutions especially Bank of Industry.

This is because the size of the loan and lack of information on the quality of operation of the micro, small and medium enterprises force lenders to protect their investment by demanding higher rates of return, which come in the form of high interest rate, and high cost of capital for the small firm. In an attempt to avoid higher cost of capital, smaller firms are then forced to use more short-term loan, which carries lower costs but raises the firms risk and reduce profitability and growth.

2.3 Empirical Review

Idowu (2014) carried out a research on Nigerian Small and Medium Scale enterprises' access to Finance: what is the story since bank consolidation in 2005. This study examined the impact of bank consolidation on credit access and availability to small and medium scale enterprises (SMEs) in Nigeria for the period 1999-2012. The main objectives of the study were (1) To examine whether or not bank consolidation in Nigeria brought about increased lending to SMEs. (2) Determine the level of lending risk to SMEs. (3) Determine if there was any significant difference between SMEs financing in pre and post consolidation in 2005. Data on commercial bank loans to SMEs as percentage of total credit was the main variable used and were obtained from CBN Statistical Bulletin 2012. The mean, standard deviation descriptive statistics and the t-test tool were used for the analysis. The study found out that bank consolidation in Nigeria led to a drastic reduction of SMEs' financing to less than one percent (0.37%) on average. The lending riskiness of banks to SMEs in post consolidation reduced while there was no significant difference between SMEs' financing in pre and post consolidation era. The results however go contrary to the much taunted belief that bank consolidation will lead to increased SMEs financing in Nigeria. The study recommended improved transparency of SMEs' accounting and reporting of their activities, banks should relax some of the stringent lending measures to SMEs while government should design policies that should group SMEs in such a manner for proper identification and planning

(specifically according to trade and industry) so that it can guarantee credit facilities and ensure prompt repayment through designated agencies.

Okuneye and Ogunmuyiwa (2016) carried out a research on determinants of the development of small and medium scale enterprises in Nigeria. The study examined the various factors that determine the growth of small and medium scale enterprises (SMEs) in Nigeria during 1980-2013. The study utilized the Ordinary Least Square method within the framework of the multiple regression model. The results emanating from the analysis suggested that credit facilities, interest rate as well as inflation rate were key determinants of the growth and survival of SMEs in Nigeria. The study recommended that, the government, through the Central Bank of Nigeria (CBN), should relax the restrictive regulations and operations which discourage borrowings as well as promote intervention programmes through which adequate funds will be easily accessible to prospective investors.

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.

Idowu (2010) investigated the impact of banks micro credit on micro, small and medium-sized enterprises in Nigeria using simple random sample techniques and descriptive statistics which involves simple percentage graphical charts and illustrations. The findings reveal that significant number of the MSMES benefited from the development financial institutions loans even though only few of them were capable enough to access the institutions loans towards promoting their market share, product innovation, achieving market excellence and the overall economic company competitive advantage. The study suggested the provision of sufficient infrastructure to support micro, small, and medium enterprises in Nigeria.

Emmanuel and Daniya (2012) examine the development of micro, small and medium scale enterprises; the role of government and other financial institutions employing the variable of micro, small and medium enterprises using spearman Rho correlation and descriptive statistics. It was discovered that financial institutions provide the necessary financial-lubricant that enhance the development of micro small and medium enterprises in Nigeria employing panel data, and multiple regression analysis. Abiola (2012) studied the effects of micro finance on micro and small enterprises growth in Nigeria using survey of 502 randomly selected enterprises financed by micro finance banks in Nigeria. The result indicates a strong evidence that access to micro finance does not enhance growth of micro and small enterprises in Nigeria and that other firm level characteristics such as business size and business location have positive effect on enterprises growth in Nigeria. The study also suggests that there should be a recapitalization on developmental financial institutions to enhance growth and expansion in Nigeria. Agu *et al.* (2013) investigated the impact of micro, small and medium enterprises on economic growth in Nigeria using ordinary least square and co-integration test. They found that there is a robust long run relationship between micro, small and medium enterprises and economic growth in Nigeria.

Using statistical package for social sciences which generated the frequency distributions, means standard deviations, variances, analysis of variance, standard errors, chi-square statistics, correlations and t-test covering the period of 1990-2004, Onugu (2005) examined the problems and prospects of micro small and medium enterprises in Nigeria. The study

found SMES have played and continue to play significant roles in the growth, development and industrialization of many economies in the world. The study supports the conclusion that the problems of SMES in Nigeria as mentioned in the introductory chapter are mismanagement, access to finance, infrastructure, government policy inconsistency and bureaucracy, environmental factors among others.

3.0 Methods

The study adopted *ex-post facto* research design. The secondary data used in this study was sourced from the Central Bank of Nigeria covering the period 1993 to 2016. The data was analysed using the error correction mechanism (ECM).

Model Specification

$$\text{osms} = f(\text{crr}, \text{lr}, \text{omo}) \quad (1)$$

This is further written as a regression equation thus:

$$\text{osms} = \beta_0 + \beta_1\text{crr} + \beta_2\text{lr} + \beta_3\text{omo} + \mu \quad (2)$$

where

β_0 = intercept

while β_1 , β_2 and β_3 = slope

μ = error term

osms = output of share of SMEs in GDP (SME/GDP)

crr = cash reserve ratio

lr = liquidity ratio

omo = open market operations

4.0 Data Estimations and Results

Data Presentation

Table 1: Output of SMSs in GDP, Open Market Operations, Liquidity ratio, Cash reserve ratio

Year	Output of share of SMSs in GDP (SME/GDP) (₦' m)	Open Market Operations (₦' m)	Liquidity ratio %	Cash reserve ratio %
1993	35424.90	47265.0	42.2	6.0
1994	58640.30	223681.0	48.5	5.7
1995	80948.10	158190.0	33.1	5.8
1996	85022.90	234836.0	43.1	7.5
1997	114476.30	111534.0	40.2	7.8
1998	172106.70	27447.0	46.8	8.3
1999	205553.20	80956.0	61.0	11.7
2000	192984.40	103845.0	64.1	9.8
2001	175736.80	386942.5	52.9	10.8
2002	266890.50	591988.3	52.5	10.6
2003	371898.90	794647.1	50.9	10.0
2004	438115.90	1099446.1	50.5	8.6
2005	371898.90	989840.0	50.2	9.7
2006	438115.90	1445330.0	55.7	2.6
2007	429230.00	3141211.2	49.7	2.8
2008	456970.00	2787801.5	43.7	2.3
2009	509231.20	2541122.8	31.0	1.1
2010	685696.10	4324902.1	29.6	5.6
2011	550632.33	6512711.4	25.5	8.0
2012	581853.00	8750511.0	49.7	12.0
2013	606060.33	7573401.1	46.2	12.0
2014	615678.30	7705230.0	30.0	20.0
2015	617875.20	8685610.0	30.0	20.0
2016	621546.90	9803200.0	30.0	22.5

Source: CBN Statistical Bulletin (Various Issues)

4.2 Data Estimations/Results

4.2.1 Unit Root Test

Table 2: Augmented Dickey-Fuller Unit Root Test at First Difference (1993-2016)

Variables	Trend Status	ADF Statistics	1% Critical Value	5% Critical Value	10% Critical Value	Order of Integration
OSMS	Without	-5.924971*	-3.769597	-3.004861	-2.642242	I(1)
OMO	Without	-3.778694*	-3.788030	-3.012363	-2.646119	I(1)
LR	Without	-5.106639*	-3.769597	-3.004861	-2.642242	I(1)
CRR	Without	-4.020855*	-3.788030	-3.012363	-2.646119	I(1)

Source: e-views 9.0

Table 2 above presents the summary results of the ADF unit root tests. The results show that the null hypotheses of a unit root test for first difference series for all the variables can be

rejected at all the critical values indicating that the level series which is largely time-dependent and non-stationary can be made stationary at the first difference and maximum lag of one. Thus, the reduced form model follows an integrating order of I(1) process and is therefore a stationary process. It also reveals that the test of stationarity in the residuals from the level series regression is significant at all lags. Furthermore, this indicates that the regression is no more spurious, but real. That is to say, all the variables are individually stationary and stable. At this level, all the t-statistic became significant at 5 percent.

Having established the stationarity of the individual variables, meaning the criteria for conducting co-integration has been met, the study now attempts to establish the stationarity of the joint combination of the variables to ascertain whether there could be a long-run equilibrium relationship between the dependent variables and the independent variables (that is, they form co-integrating equations). The study used Wald Test of co-integration test and the results are presented below.

Co-integration Test

Table 3: E-views Output for Wald Test of Co-integration

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	74.80753	(4, 20)	0.0000
Chi-square	299.2301	4	0.0000

Null Hypothesis: C(1)=0,C(2)=0,C(3)=0,C(4)=0

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	200813.5	134054.4
C(2)	-10976.27	5594.887
C(3)	1670.555	2702.315
C(4)	0.066426	0.010599

Restrictions are linear in coefficients.

The next step is to test the long run relationship among these variables. We need to see if the variables are jointly significant. To do this, a Wald test procedure was conducted and the F-statistics value would be compared with the Pesaran and Pesaran table. The grand rule is that if the F-value is \geq the higher bond, we accept that there is long run relationship. Alternatively, the p-value can be used. Since the p-value of 0.0000 which is less than the 0.05 threshold level, we can conclude that the variables are not equal to zero jointly. That is they have a long run relationship or cointegrate, which means that there is a long run equilibrium relationship between monetary policy indicators (cash reserve, liquidity ratio, OMO) and output of small and medium scale industries in Nigeria.

4.3 Error Correction Mechanism (ECM)

Having established long run equilibrium relationship between the dependent and independent variables, the study now switches over to establish short run relationships between the dependent and independent variables using the error correction mechanism. Since the

variables were found to be stationary at first difference, the error correction mechanism is tested using first differenced series. The results are presented below.

Table 4: Error Correction Mechanism (ECM)

Dependent Variable: D(OSMS)
 Method: Least Squares
 Date: 11/14/18 Time: 04:34
 Sample: 1993 2016
 Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	200813.5	134054.4	1.498000	0.1498
D(CRR)	-10976.27	5594.887	-2.961839	0.0438
D(LR)	1670.555	2702.315	0.618194	0.5434
D(OMO)	0.066426	0.010599	6.267192	0.0000
ECM(-1)	-0.267611	0.127708	-2.095495	0.0350
R-squared	0.748295	Mean dependent var		361774.5
Adjusted R-squared	0.710540	S.D. dependent var		212740.3
S.E. of regression	114457.5	Akaike info criterion		26.28481
Sum squared resid	2.62E+11	Schwarz criterion		26.48115
Log likelihood	-311.4177	Hannan-Quinn criter.		26.33690
F-statistic	19.81939	Durbin-Watson stat		0.645132
Prob(F-statistic)	0.000003			

The results of the error correction model (ECM) on the table above shows that ECM is appropriate signed with a negative co-efficient of -0.267611 and a probability of 0.035, which is significant. Since the ECM is both negative and significant, it shows that the present value of OSMS adjusts rapidly to changes in CRR, LR and OMO respectively. The ECM value of -0.267611 shows a feedbacks of about 26.76% from the previous period disequilibrium of the present level of OSMS in the determination of causality between the past level of OSMS and the present and past level of CRR, LR and OMO. The coefficient of multiple determinations denoted as R^2 shows that 74.83% variation in OSMS can be explained by the combined effect of CRR, LR and OMO while the remaining 25.17% is being included by the stochastic error term.

Specifically, the p-value for cash reserve (0.0438) was less than the level of significance, we reject the null hypothesis and conclude that Cash reserve rate has significant influence on the growth of small and medium scale industries in Nigeria.

Furthermore, the p-value for liquidity ratio (0.5434) was greater than the level of significance, we do not reject the null hypothesis and conclude that liquidity ratio does not have significant effect on the growth of small and medium scale industries in Nigeria.

Finally, the p-value for cash reserve ratio (0.0000) was less than the level of significance, we reject the null hypothesis and conclude that Open Market Operations have effect on the growth of small and medium scale industries in Nigeria.

4.4.1 Diagnostic tests

Table 5: Heteroskedasticity Test: Breusch-Pagan-Godfrey

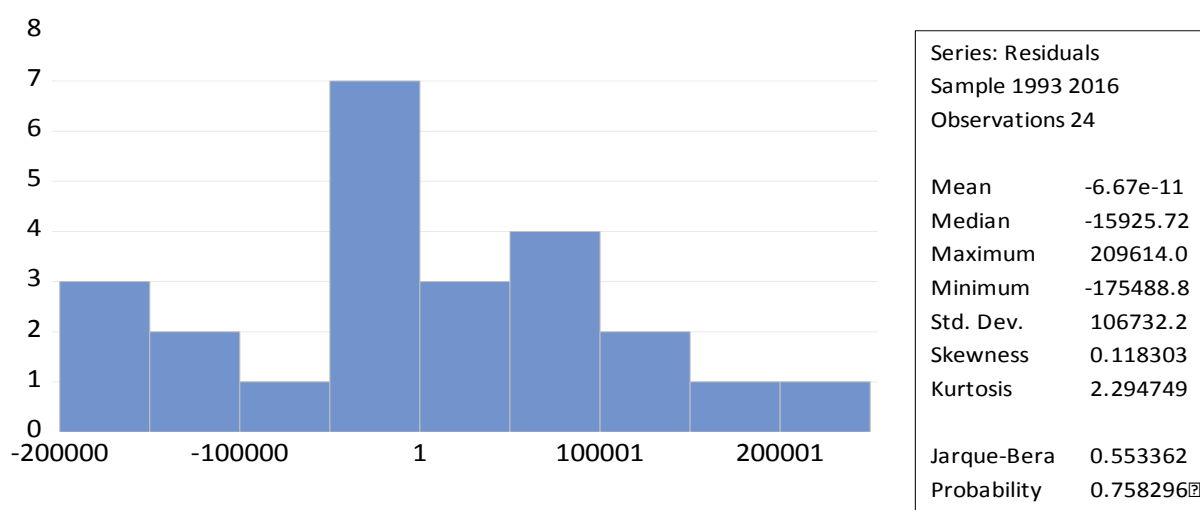
Null hypothesis: Homoskedasticity

F-statistic	0.780257	Prob. F(3,20)	0.5188
Obs*R-squared	2.514619	Prob. Chi-Square(3)	0.4727
Scaled explained SS	1.130486	Prob. Chi-Square(3)	0.7697

Source: E-view software

Table 5 shows that heteroskedacity does not seem to be a problem since the p-value (0.5188) is greater than 0.05. Hence, the null hypothesis is not rejected in testing for heteroskedacity.

Table 6: Testing for Normally Distributed Errors



To test for normal distributed errors, we use the Jarque-Bara test for normality. The p-value (0.758296) was greater than 0.05 from Table 6, the null hypothesis is not rejected. This implies that the assumption of normality distributed errors is satisfied.

Multicollinearity

Table 7: Testing for Multicollinearity

Variance Inflation Factors

Date: 11/13/18 Time: 12:37

Sample: 1993 2016

Included observations: 24

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.80E+10	32.92189	NA
CRR	31302757	6.520271	1.648880
LR	7302507.	27.43201	1.478013
OMO	0.000112	3.907124	2.249049

Source: e-views software

The average VIF value is between 1 and 10 as displayed in Table 7, which implies no multicollinearity symptoms.

Serial Correlation

Table 8. Breusch-Godfrey Serial Correlation LM Test:

Null hypothesis: No serial correlation at up to 2 lags

F-statistic	9.010578	Prob. F(2,18)	0.0019
Obs*R-squared	12.00705	Prob. Chi-Square(2)	0.0025

Source: **e-views software**

The null hypothesis of these two tests is that there is serial correlation of the equation errors up to *lag k* (mentioned above). Since the probability associated with the two tests is below 0.05, then the null hypothesis is rejected, so we reject the existence of serial correlation in the residuals.

4.5 Discussion of Findings, Conclusion and Recommendations

The F statistic tests the overall significance of the regression model. It is used to test the null hypothesis that all the coefficients for the ECM are equal to zero. The p-value for the ECM model is 0.00, which implies that it is significant at 5 percent significance level concluding that all the regressors are statistically significant and different from zero. The coefficient of multiple determinations denoted as R^2 shows that 74.83% (which is a good fit) variation in OSMS can be explained by the combined effect of CRR, LR and OMO while the remaining 25.17% is being included by the stochastic error term. The empirical results emanating from the analysis indicates that only liquidity ratio does not have significant influence on the growth of small and medium scale industries, while cash reserve and Open Market Operations have effect on the growth of small and medium scale industries in Nigeria under the years of study.

From the analysis of the result, it can be concluded that only liquidity ratio does not have significant influence on the growth of small and medium scale industries in Nigeria, while cash reserve and Open Market Operations have positive influence on the growth of small and medium scale industries in Nigeria under the year of study. Again, the coefficient of multiple determinations denoted as R^2 shows that 74.83% variation in OSMS can be explained by the combined effect of CRR, LR and OMO which shows that ECM Regression model adequately fit the data.

Based on the findings made in this study, the following recommendations have been made to address some of the problems discovered:

- Government should re-enforce the mandatory minimum credit allocation by industries to SMEs in the Annual Monetary Policy Circular and Guidelines.
- Policies that will compel deposit money banks to relax their restrictive regulations and operations which discourage borrowing and offer more credit facilities for SMEs should be formulated.
- That most business owners must be advised and encouraged to apply for credits. Industries should be willing to listen to these owners and to grant their request if they meet the required criteria.
- A blend of monetary and fiscal policy interventions is advocated in order to salvage the retrogressive trend of SMEs development in Nigeria.

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