

Banks' Credit Accessibility and Small and Medium Enterprises Growth in Nigeria (1980-2015): External Factors Determinant

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ABSTRACT: Small and medium businesses are plagued by challenges with reference to their inability to access loan from Deposit Money Banks (DMBs). This paper argued from banks' external factors to credit accessibility and how this affect SMEs' growth in Nigeria from 1980-2015. Data were sourced from the Central Bank of Nigeria's annual and statistical Bulletins, Banks' audited annual report and National Bureau of Statistics. Multiple regression equation was crafted, diagnostic test conducted and hypothesis tested. The result indicated that the credit reserve requirements ($\beta = -1.401351$, $p < 0.05$) was statistically significant, while others were statistically insignificant. The recommendation focused on Central Bank of Nigeria re-engineering policies to enhance credit reserve robustness as this favoured SMEs' growth.

Keywords: Credit accessibility, Deposit money banks, External factors, SMEs, SMEs growth

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I. INTRODUCTION

The growth of small and medium enterprises (SMEs) is inevitably connected to the exponential growth in any economy as such constitutes the vehicle for economic development. This assumption is pillared on context observations and empirical works (Wang, 2016; World Bank, 2010) that SMEs are growth-drivers. Literature further established it that SMEs are known to be playing key roles in transiting and developing countries (Organization for Economic Co-operation and Development [OECD], 2017). Record shows that SMEs account for more than 90% of all firms outside the white-collar jobs sector, constituting a major source of employment and generating significant domestic and export earnings. The development SMEs according to OECD (2005) is known and seen as the key instrument of alleviating poverty. The commitment to the development of SMEs sector as a core objective in its strategy to foster economic growth, employment, and alleviation of poverty has also been established through the review of SMEs activities (World Bank, 2010; 1995). However, this objective is challenged by practices that prevent SMEs from accessing loan from commercial banks due to external factors.

A study that examined the factors affecting investment, productivity, and growth of SMEs in Nigeria, concluded that educated labour force, access to infrastructure, access to finance, size of firms and other business climate variables affect SMEs performance profoundly (Ejikeme, 2013). Other identified business climate variables are insecurity, bribery or corruption, length of time spent dealing with government regulation, and poor power availability (Fatoki, 2014). Using a survey of 2,676 firms, Igwe, Amaugo, Ogundana, Egere and Anibgo (2018) found access to finance (33.1%), access to electricity (27.2%), and corruption (12.7%) as the most ranked obstacles for business owners in Nigeria. From the perspective of these scholars (Ejikeme, 2013; Fatoki, 2013; & Igwe, et al., 2018) the power of loan accessibility to engineer SMEs' growth is less considered and re-occurring in policy debate and among academic commentators.

According to Lee (2004), it was found that SMEs incur more transaction costs than larger enterprises in obtaining credit. Lack of sound management and accounting practices have contributed and hampered the ability of SMEs to raise finance although should not constitute prerequisite for loan accessibility. This line of argument favors information asymmetries platform which associated lending to small-scale borrowers quality of information (Berger & Udell, 2004). In spite of these claims, Taiwo and Falohun (2016) differ in their findings that a large number of small enterprises fail because of non-financial reasons such as a lack of forecasting or planning skills, a lack of skilled human resources and poor management practices. It is widely acknowledged that SMEs being labour intensive in nature has the potential of reducing the capital cost of creating new jobs (Stokes & Wilson, 2006).

This opportunity may fail if the current financial problems and lack of management skills such as human resources, marketing and general management are not fully addressed. The public and private sectors in

both developed and developing countries are contributing effectively in the development of small businesses, but there are some factors in the market environment that might not enhance all the initiatives undertaken for the development of small businesses (Suleimenova, Sadvokassova, Rakinshva&Nurmaganbetov, 2018). Berger and Udell (2004), and Wattanaputtipaisan (2003) corroborate this position by claiming that finance as a critical element for the development of SMEs even though some previous studies (Fatoki, 2014; Isaga, 2012) found that their access to financial resources is limited compared to larger organizations and the consequences for their growth and development.

The continued apathy against lending to SMEs by commercial banks which has been a major problem to the monetary regulatory objectives of Central Bank of Nigeria (CBN) on minimum Cash Reserve Requirement (CRR) is yet to yield expected result (CBN, 2015). Specifically, the reduction in CRR has not exhibited significant effect on the banks' loans portfolio to SMEs contrary to the expectation that availability of more loanable fund will stimulate lending to critical sectors of the economy especially the SMEs (Soludo, 2004). It also implies that SME entrepreneurs seem to have fulfilled the checklist for loan accessibility, monetary tools like CRR have not enhanced the availability of credit to SMEs from commercial banks in Nigeria. Some researchers like Adolphus (2012), Dancourt (2012), Punita and Somaiya (2006), have affirmed that CRR has negative influence on lending to SMEs in spite of the expectation that its reduction will enhance credit availability to them. Also, a study by Olutoye (2015) on Cash Reserve Requirement and lending behaviour of banks to SMEs in Nigeria revealed that there is no significant relationship between CRR and loans to SMEs in Nigerian.

Nigeria's foreign exchange crisis has also hampered SMEs access to finance. The SMEs are at a disadvantage when dealing with foreign currency exposures. Low oil prices since mid-2014 and the 2016 recession have forced the government finance activities from external reserves, thereby creating shortages and leading to a high black market exchange rate for the naira. Larger companies often have better access to the official foreign exchange as they can better meet the requirements of the CBN to purchase dollars while the SMEs can only source their dollars at open market. As cited in one of the ACCA-produced report (2013) SMEs with international activities are significantly exposed to foreign exchange (FX) risk-typically around 19% of revenue, which only a part is hedged and even less is managed in an active manner. Frustrated by complexity and cost, and with only limited resources and access to relevant skills, some SMEs may resort to overly expensive hedging methods or taking their chances without hedging (ACCA, 2013).

Furthermore, the issue of inflation has become a serious problem in Nigeria. The country has been witnessing upsurge in inflationary rate which has generated a lot of problems. Inflation erodes the value of money and the purchasing power of the citizens. However, in periods of high inflation, customers spending skews more towards necessity than luxury, as a result firms may want to examine the category their products belong and make possible realignment to reflect the economic reality. The development tends to cause a shift in the rate at which a country's revenue is accumulated which is detrimental to SMEs growth. Inflation rate is the measure of the purchasing power of the citizens in the economy. The higher the inflation rate, the lower the purchasing ability. High inflation rate reduces firms' revenue in the long run and vice versa. The inflationary array according to NBS, (2016) was 11.8% in 2010 which increased slightly to 12% in 2012. However, the rate moved from 9.6% in January to 12.4% in March and further increased to 18.5% in December 2016. This trend recorded was far more than 8% to 9% witnessed in May 2015. However, the figure of year 2017 is a clear dispersion from the single digit of the World Bank recommendation.

Business finance is however, not easy to source, especially in respect of SMEs. Yet they require funds from every source available to meet their asset needs, working capital needs, and for expansion (Kimberly, 2017). According to Ekpenyong and Nyong (1992), there is wide consensus in Nigeria that government policies are skewed in favour of the formal sector to the detriment of the informal sector. This skewness is to the great disadvantage of SMEs in Nigeria since they are more disposed to the funds of the informal sector (Ohanga, 2005). The Deposit money banks, merchant banks, micro-finance banks and development banks constitute the formal sources of finance to SMEs.

Somoye (2013) established that the level of finance for entrepreneurship in Nigeria is one of the lowest in the World. World Bank (2010) report indicated that though Nigeria's financial system is highly capitalized and vibrant, her contribution to entrepreneurship and SMEs sector is only about 1.6% of the total loans and advances to the private sector as of 2009, which CBN (2009) had identified. Despite the enhanced financial intermediation in the Nigerian economy following the series of financial reforms since 1986, credits to SMEs as a proportion of total banking credits have not improved significantly (Taiwo&Faloun, 2016) to stimulate economic growth. In the light of the above, this research investigated external determinants of commercial banks' credit accessibility to SMEs' growth in Nigeria from 1980-2015.

II. LITERATURE REVIEW

Numerous studies (Mutwol&Kubasu, 2016; Punita&Somoiya, 2006; Suleimenova et al., 2018) have examined the influence of financial variables on the profitability of banks. Generally, positive impact has been found but no unanimous conclusion has been reached. Kimani (2013) employed descriptive research design and analyzed data using descriptive analysis to assess the effects of monetary policies on lending behaviour of commercial banks in Kenya. The study found that cash reserve requirement provides the bank with low risk investments with certainty in pay off and therefore, banks may prefer Open Market Operation (OMO) and that OMO also controls the short-term market interest rate of base money in an economy. Kimani (2013) assessed the effects of monetary policies on lending behaviour of commercial banks in Kenya and employed descriptive research design and analyzed data using descriptive analysis.

The study found that cash reserve requirement has effect on bank lending behaviour as it caused immediate liquidity problems for banks with low excess reserves thereby, influencing lending and payment systems in the commercial banks concerned. Holding some funds in excess reserves provides enhanced liquidity and therefore, more smooth operation of payment system and that the higher the reserve requirement is set, the fewer funds banks will have to loan out. Alper (2012) analyzed whether monetary policies that are able to manipulate reserves positions of banks can affect bank lending and used a panel data of banks. The study results suggested that bank specific reserves is important in credit supply. Moreover, in determining their lending, banks consider not only their individual reserve position but also the systemic reserves. Hence, any monetary policy which can alter reserves is potentially effective on credit supply.

Mutwol and Kubasu (2016) examined the effects of selected monetary policies on loans portfolio performance among commercial banks in Kenya. The study specifically determine the effects of open market operations, central bank rate, minimum reserve requirements and Kenya bankers' reference rate on loans portfolio performance among commercial banks in Kenya. This study adopted a descriptive survey design and employed census in the selection of respondents. Analysis of data was done using descriptive and inferential statistics; multiple regressions was also used to establish the nature of the relationship between open market operations, central bank rate, minimum reserve requirements and Kenya bankers' reference rate. The findings of the study showed that there was no significant relationship between open market operations, central bank rate, Kenya bankers' reference rate and loans portfolio performance. But, cash reserve requirement significantly influence portfolio performance of the banks in Kenya.

Samad (2015) used the credit-deposit ratio for measuring liquidity characteristics of the banks in India. Return on Assets (hereafter, ROA) was used as a measure of the banks' profitability. More so, credit-deposit ratio, introduced by Reserve Bank of India (RBI), was used as a measure of capacity of the banks to lend from their available resources for generating revenues and improving the market share and it is also referred as loan-deposit ratio. Abid and Lodhi (2015) in their study examined the relationship between Reserve Requirement Ratio and Banks Profitability in Pakistan. It emphasizes on the effect of changes in CRR on commercial banking profitability and how it affects the ROE and ROA. Haiying (2012) studied the effects of regular increases in reserve requirement ratio (RRR) in china and found out that changing reserve ratio does not have any direct effect on controlling surplus liquidity, preventing inflation or controlling the lending activity. Similarly, Zarafat (2014) studied the macroeconomics factors that generates banks' profits and found that for the banks' profitability the growth of GDP must be in place in order to stimulate lending and borrowing activities, also real interest rate has no direct relationship with banks' profitability.

III. EXCHANGE RATE

Agbeja, Adelokun and Udi (2016) investigated the effect of counterparty risk and exchange rate risk on loan performance profitability of deposit money banks in Nigeria. Profit before tax was measured as a function of non-performing loans; banks were selected on a cross-sectional basis for five years. Hsing (2006) empirically found that short-term real exchange rate has positive effect on exchange rate and broad money supply, while country risk and the expected rate of inflation have negative impact on exchange rate and on loan performance of the banks.

Annofe (2005) investigated the variables that affect exchange rate movement in Sweden, United Kingdom and Japan against the US dollar for the period 1995 to 2004. Odedokun (1997) studied a group of macroeconomic policies, such as devaluation on real exchange rate movement. ImedDrine and Christopher (2003) analyzed the main determinants of the real exchange rate in the Middle East and North African countries. Afolabi (2013) confirmed in Angola that terms of trade, real interest rate differential, and domestic credit, openness and technology progress have long- term impact on real exchange rate and credit accessibility of SMEs. In another vein, Bruno and Shin (2015) explained the relationship between cross-border capital flows and liquidity.

However, in the study conducted by Gourinchas and Obstfeld (2012), they found in their study that appreciation of the real exchange rate is the most consistent predictors of credit growth among commercial

banks. Magud, Reinhart and Vesperoni (2014) in the study carried out using the de facto exchange rate regime classification showed that flexibility of exchange rates has a negative impact on credit growth during credit boom periods. Bruno and Hauswald (2014) investigated effects of foreign bank exchange rate on local credit.

IV. INFLATION

One of the fundamental issues in Nigeria's policy formulation is how to put inflation, money supply and budget deficit under effective control (Omoke and Oruta, 2010). Bakare, Adesanya and Bolarinwa (2014) critically examined the long term relationship between money supply and inflation in Nigeria between 1975 and 2012. Karras (1994) in Turkey investigated the impact of deficit financing on money growth, inflation, investment and real output for a wider sample of 32 countries, including developed and developing economies. Metin (2014) evaluated in the same country the annual fiscal and monetary data for Turkey (from 1950 to 1987) and found that the budget deficit and government debt monetization affected the price level significantly. Referencing Nigeria, Ebiringa (2012) examined the macroeconomic impact of banks' finance on economic performance for the period between 1988 and 1997. Onwioduokit (1999) studied the causal relationship between inflation and fiscal deficits in Nigeria using annual data from 1970 to 1994.

Granger causality pair-wise test in determining the causal relationship between deficit finance of small scale business and inflation was used by Oladipo and Akinbobola(2011). Chimobi and Igwe (2010) also investigated the causality between SMEs incentives, money supply growth and inflation, using Vector Error Correction (VEC) model and Pair wise Granger causality test. It was found that inflation and banks' deficit finance have bilateral/feedback causality. In a study conducted by Mohammad, Wasti, Lal, and Hussain (2009), a negative relationship between money supply and inflation was found. Similarly, Gatawa, Abdulgafar and Olarinde (2013) studied the relationship between money supply via bank loan and inflation in Nigeria using data from 1973-2013. Moreover, Shostak (2017) used 1960 onward data for 47 countries and found that high money supply does not lead to inflation. This indicates a negative relationship between money supply and inflation. Gokal and Hanif (2004) looked into the relationship between bank loan and inflation in Fiji. Their tests revealed that a negative correlation exists between inflation and money supply. Koti and Bixho (2016) did a similar study on Albania and concluded that bank has a negative sign towards inflation.

V. METHODOLOGY

An *ex-post facto* research design was adopted by the study in analyzing the secondary data. The purpose is to measure the relationship between one variable and another as well as determine the effects of sub-independent variables on dependent variable. The study focused on deposit money banks that are termed Commercial Banks in the Nigeria banking sector. To this end, the population of the study was 315 observations covering 1980-2015 while the sampling size was the same as population in view of the total enumeration. The justification for the period under review has to do with availability of data, the political, economic and policy reforms. Validated data were sourced from Central Bank of Nigeria's annual reports and statistical bulletin, Banks Annual Report, National Bureau of Statistics. The data gathered were further subjected to pre and post diagnostic tests. Data were analyzed using descriptive and inferential (Multiple regression analysis) statistics.

VI. MODEL SPECIFICATION

The group of variables of the study includes dependent and independent variables. The dependent variable is SMEs' growth proxy by contribution to GDP while independent variable is divided in the banks' external factors of cash reserve requirement, exchange rate, and inflation. Cameron (1994) suggested that when data is transformed into logarithmic form, then efficiency of results improves. The researcher built on a model specified by Mitku (2014) on "Determinants of Commercial Banks lending: Evidence from Ethiopian Commercial Banks, with slight modifications. Functional form of deposit money bank lending to SMEs is written as:

CREXFR (Cash reserved requirement, exchange rate and inflationary rate) (eq1)

The explicit form of the functional relationships of the variables above is expressed as follows:

$Y = \text{SMEs' Growth (SMEG)}$.

$X = \text{Money Deposit Banks' Credit Accessibility External actor (CREXFR)}$

Where $X = \text{External factors}$

$X = (x_a, x_b, x_c)$

Where:

$x_a = \text{Cash Reserves Requirement (CRR)}$

x_b = Exchange Rate (ER)

x_c = Inflation Rate (INF)

$SMEG_t = f(x_{at}, x_{bt}, x_{ct})$

$$SMEG_t = \beta_0 + \beta_1 CRR_t + \beta_2 ER_t + \beta_3 INF_t + e_t \dots\dots\dots (eq1)$$

Where: β_0 = Constant Term

β_1 = Cash Reserves Ratio

β_2 = Coefficient of Exchange Rate

β_3 = Coefficient of Inflation Rate

e_t = Error Term

The thrust of the work is the debug the assumption that external factors of commercial banks' credit accessibility have no significant effect on SMEs growth in Nigeria between the periods of 1980-2015. The *a priori* expectation $\beta_i \geq 0$ and $\rho \leq 0.05$ i.e. presupposes that a positive significant relationship is expected between banks' external factors and SMEs' growth. This disposition emerged from the understanding in literature that the banks' external factors of cash reserve requirement, exchange rate and inflation rate will favor SMEs to boost GDP and thereby contributing to economic growth.

VII. RESULTS AND DISCUSSION

Table 1 provided insight into the data used, the diagnostic tests that were conducted and also the features of the data. The table provided descriptions of the series of variables on mean, maximum, minimum and standard deviations of all the variables. It further allowed understanding of the data treatment with regard to Kurtosis, Jarque-Bera, and Probability test.

TABLE 1: DESCRIPTIVE STATISTICS OF THE VARIABLES

	CRR	ER	INF	GP	SMEG
Mean	9.153889	75.65748	14.13278	0.758889	14.30806
Median	9.750000	82.73000	10.91500	0.300000	14.23500
Maximum	20.00000	197.5000	72.81000	3.980000	17.60000
Minimum	1.000000	0.546400	1.650000	0.300000	11.62000
Std. Dev.	4.214758	63.71991	12.95920	1.049059	1.313451
Skewness	0.023605	0.048926	2.942775	2.172805	0.235915
Kurtosis	3.169945	1.501245	13.14427	6.298036	3.026078
Jarque-Bera	0.046665	3.383761	206.3189	44.64206	0.334957
Probability	0.976937	0.184173	0.000000	0.000000	0.845795
Observations	36	36	36	36	36

Source: Computation by the Researcher, 2018

As indicated in Table 1, the averages of the variables are 9.153889, 75.65748, 14.13278, and 14.30806 for cash reserve ratio (CRR), exchange rate (ER) inflation rate (INF), and small and medium scale enterprises growth (SMEG) respectively. It implies that there are no outliers in the variables generally since the standard deviation of the series is less than their respective series. The maximum values of the variables are 20.00000, 197.5000, 72.81000, and 17.60000 for cash reserve ratio (CRR), exchange rate (ER), inflation rate (INF), and small and medium enterprises growth (SMEG) while the minimum values of the variables are 1.000000, 0.546400, 1.650000, and 11.62000 respectively.

The standard deviation showed that exchange rate (63.71991) was the most volatile variable in the time series thereby posing the highest risk. This is followed by INF (12.95920) while SMEG (1.313451) was the least volatile of the time series thereby posing the lowest risk. Also, all the variables except exchange rate (ER) recorded excess positive Kurtosis, suggesting that they individually posed lesser risk of extreme values. However, the wide range in the exchange is an indication that demand for the domestic currency could have increased significantly during the period leading to an upward adjustment (depreciation) of the currency. This could also have depressed the growth of SMEs. In addition, the variables had positive Skewness which implies that their actual values were likely to deviate upwards from their mean values.

However, the Jarque-Bera (JB) statistic rejected the null hypothesis of normal distribution of inflation rate (INF) at 5% critical value and the JB statistics is very high, indicating non-normality of the series. The cash reserve ratio (CRR), exchange rate (ER) and small and medium enterprises growth (SMEGR) were normally distributed. Their Jarque-Bera statistics could not reject the null hypothesis of normal distribution at 5% critical value, as their JB probability is greater than 5%. Therefore, inflation rate (INF) was log-transformed to attain

normality before further analysis. Preliminary diagnostic tests on the possibility of including all variables into a model was test with a correlation as presented in Table 2.

TABLE2: CORRELATION MATRIX OF EXTERNAL FACTORS AND SMES' GROWTH

	CRR	ER	INF	SMEG
CRR	1	-0.129	0.048	-0.192
ER	-	1	-0.038	0.207
INF				-0.012
SMEGR				1

Source: Computation by the Author, 2018

Table 2 displays the results of correlation of the time series variables as a preliminary step to estimating the model for the study and to determine if the variables can all be included in the model. The results provide evidence of diverse correlations between the pairs of the variables. From the result, cash reserve requirement, and inflation rate are negatively correlated with SMEs growth. The implication of these results is that decrease in these variables will result to increase in SMEs growth. However, the degrees of relationship between these variables are weak. The correlation results show that exchange rate is positively correlated with SMEs' growth. This implies that increase in this variable result to increase in SMEs growth, but the correlation is weak. A close look at the values in the correlation results revealed that the explanatory variables (external factors) used in the model were not perfectly or highly correlated. This means that there is absence of multicollinearity problem in the specified regression model.

DIAGNOSTIC TESTS FOR THE TIME SERIES REGRESSION MODEL

Classical linear regression technique requires that all the necessary assumptions be made alongside the fulfillment of certain properties that must hold for the variables under study (Enders, 1995). Before estimation, the requirements of Enders (1995) were ascertained. In unit root test analysis, Augmented Dickey Fuller procedure is perhaps the most commonly used test, it nevertheless requires homoscedastic and uncorrelated errors in the underlying structure. On the other hand, the Philip Perron non-parametric test generalizes the ADF procedure, allowing for less restrictive assumptions for the time series data set. In this study, all variables went through the ADF and PP tests. The results are presented in Table 3.

TABLE 3: UNIT ROOT TEST RESULTS

Variables	Augmented Dickey Fuller					Phillip Perron Test				
	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Order	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Order
SMEGR	-5.166	-3.639	2.951	-2.614	I(0)	-4.489	-3.632	-2.948	-2.612	I(0)
CRR	-5.923	-3.639	-2.951	-2.614	I(1)	-5.199	-3.639	-2.951	-2.614	I(1)
ER	-5.230	-3.639	-2.951	-2.614	I(1)	-5.153	-3.639	-2.951	-2.614	I(1)
INF	-5.452	-3.632	-2.948	-2.612	I(0)	-5.489	-3.632	-2.948	-2.612	I(0)

Source: Computation by the Author, 2018

The Augmented Dickey Fuller test results suggest that SMEs contribution to GDP growth (SMEG) and inflation rate were the only stationary variables in level form. The result from the table indicates that all other variables CRR and ER were not stationary at the level form, but became stationary after the first difference. The calculated value for CRR and ER were stationary at -5.923 and -5.230, in absolute value, and is greater than the absolute values of the critical values for 1% (-3.639), 5% (2.951), and 10% (-2.614) levels of significance, respectively. The Phillips-Perron test also confirmed that the CRR and ER are not stationary at the level form and SMEs growth (SMEGR). Consequently, this study concluded that CRR and ER were non-stationary in level form while the rest of the variables were stationary in their levels. The estimation of the models is done in the form at which the variables are stationary.

In addition, serial autocorrelation was conducted through Breusch-Godfrey serial correlation LM test and the result shows at lag one that there was no evidence for the presence of serial correlation because the result that probability value of 0.3641 and 0.3181 were greater than the critical value of 5%. This was followed by heteroskedasticity test serial and Multicollinearity test and Table 4 presents the results.

Table 4: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.475585	Prob. F(4,30)	0.7533
Obs*R-squared	2.087053	Prob. Chi-Square(4)	0.7198
Scaled explained SS	1.774006	Prob. Chi-Square(4)	0.7772

MULTICOLLINEARITY TEST OF VARIANCE INFLATION FACTORS

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.102941	1.585861	NA
DLOG(CRR)	0.382536	1.355031	1.354102
DLOG(ER)	1.184314	2.025558	1.508834
DLOG(INF)	0.130582	1.391525	1.386767

Source: Researcher's Computation (2018)

From Table 4 above, the result reveals that the probability values 0.7533, 0.7198 and 0.7772 are greater than the critical value of 5% which shows no evidence of the presence of heteroskedasticity that also suggests that the variances of the error term are independent. Further, VIF was used to test for multicollinearity problem among the exogenous variables. The variance inflation factors are consistently smaller than ten (10) indicating complete absence of multicollinearity (Cassey & Anderson, 1999; Neter, Kutner, Nachtshei & Wasserman, 1996). This shows the appropriateness of fitting of the model of the study with the explanatory variables.

TABLE 5: REGRESSION COEFFICIENTS OF BANKS' EXTERNAL FACTORS OF CREDIT ACCESSIBILITY ON SMES GROWTH IN NIGERIA DEPENDENT VARIABLE: LOG(SMEG)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.141598	0.320845	0.441329	0.6621
D(CR)	-1.401351	0.618495	-2.265742	0.0308
D(ER)	-0.676398	1.088262	-0.621540	0.5389
D(IRT)	0.409011	0.361362	1.131860	0.2667
R-squared	0.231909	Mean dependent var		1.278212
Adjusted R-squared	0.129497	S.D. dependent var		2.272677
S.E. of regression	1.507288	Akaike info criterion		3.790064
Sum squared resid	68.15748	Schwarz criterion		4.012257
Log likelihood	-61.32612	Hannan-Quinn criter.		3.866765
F-statistic	2.264470	Durbin-Watson stat		2.304622
Prob(F-statistic)	0.085573			

Source: Researcher's Computation (2018)

The regression assesses the effect of deposit money banks external factors (cash reserve requirement, exchange rate, and inflation rate) on SMEs growth in Nigeria is shown in Table 4.7 above. It shows that the explanatory variables (cash reserve requirement, exchange rate, and inflation rate) explained approximately 23.1 percent variations in SMEs growth in Nigeria (1980-2018). However, F-statistic (2.264) value shows that the equation has a no good fit, meaning that the explanatory variables have no significant prediction of the changes in SMEs growth. This was supported by the higher value of standard error of regression (1.507). Not only that, the reported probability (0.085) is greater than the conventional probability of (0.05) and the Durbin-Watson statistic indicates the absence of autocorrelation among the variables as the value of the Durbin-Watson statistic is 2.304. This indicates absence of serial autocorrelation and has been confirmed by the Breusch-Godfrey Serial Correlation LM test that the series do not suffer from serial autocorrelation problem-1.401.

From the results in Table 5, credit reserve ratio has negative effect on SMEs growth ($\beta = -1.401351$) at 5% level of significance since $p < 0.05$. This indicates that there is an inverse effect of cash reserve requirements on SMEs growth, that is, increase in cash reserve requirement leads to decrease in the availability of financial resources to SMEs; thus truncate SMEs' economic output. The result shows that one unit increase in CRR

would reduce SMEs growth by about -1.401. Exchange rate had negative effect but insignificant to SMEs growth at 5% level of significance since $p > 0.05$.

The coefficient of exchange rate is -0.676 ($\beta = -0.676$, $p > 0.05$) which implies an inverse effect on SMEs growth. An increase in exchange rate will lead to a decrease in the SMEs economic output in Nigeria. The adoption of flexible exchange rate system, which turned Nigeria into a market oriented economy did not stabilize and enhance SMEs growth within the period under study. The flexible exchange rate system has not significantly contributed to the growth of SMEs in Nigeria as reflected in the SMEs contribution to GDP. Furthermore, the result reports that a unit increase in exchange rate would reduce SMEs growth/output by -0.676 units. The coefficient of inflation ($\beta = 0.409$) means that inflation has a positive effect on SMEs growth but insignificant at 5% level of significance. This shows that an increase in inflation, translates into currency depreciation which in turn affects financial resources available to SMEs and SMEs growth. Thus, a unit increase in inflation leads to 0.409 increases in SMEs growth which is insignificant.

From the regression results, the external factor that had significant effect on SMEs growth was cash reserve requirement ($\beta = -1.401$, $p < 0.05$). In terms of the significance of the predictors, the individual variable whose t-values are significant at $p < 0.05$ was considered and retained. In the model developed, only CRR was statistically significant and was retained. Inferring from the predetermined regression equation, taking all factors (cash reserve requirement, exchange rate, and inflation rate) constant at zero, SMEs growth will be valued at 0.142. Thus, the *a priori* expectation was that the intercept could be positive or negative, so it conforms to the theoretical expectation. The implication is that there are some other factors which might still explain SMEs growth but were not factored into the equation. The result reveals that a unit change in cash reserve requirement will cause about -1.401351 reductions in commercial bank credit accessibility. Therefore, the hypothesis which states that external factors of banks' credit accessibility have no significant effect on SMEs growth in Nigeria cannot be accepted.

VIII. DISCUSSION, CONCLUSION AND RECOMMENDATION

The research was conducted to determine the effect of banks' external factors (cash reserve requirement, exchange rate, and inflation rate) of credit accessibility on SMEs growth in Nigeria. It was found that commercial banks' external factors of credit accessibility had significant effect on SMEs growth in Nigeria from 1980-2015 but with cash reserve ratio only. This finding aligns with the report of several previous studies like (Ma, Yan & Xi, 2011; Younus & Akhta, 2009; Amidu & Wolfe, 2008) who agreed that cash reserve requirement has positive impact on bank credit to SMEs. The position validates the result of Olokoyo (2011) that lending behavior in Nigeria is driven by cash reserve requirement. In addition, Olokoyo (2012) position on banks' cash reserve requirement is sustained that a positive and significant relationship with lending behavior of banks. Olusanya et al (2012) was also authenticated by the result that monetary policy on bank lending in Ghana between 1998 and 2004 was significantly influenced by the country's cash reserve requirement than the rate of change in the country's money supply.

Similarly, Vergas and Cardozo (2012) stated that the relevance, magnitude and direction of the movements of reserve requirements depend on the parameters of the economy and the shocks that affect it. Besides, it was observed that some Central Banks decreased reserve requirements to provide liquidity and reduce financial system interest rates during the period of contracting credit cycle which also suggests the significant influence of cash reserve policy on credit supply to both large and SMEs by banks is imperative to growth.

On the other hand, the results contradicted existing works (Olutoye, 2015; Dancourt, 2012; Adolpus, 2011; Punita & Samoye, 2006) that discovered no significant relationship between cash reserve requirement and volume of loans from deposit money banks to SMEs. Also, Imoughele and Ismaila (2014) revealed that SMEs and selected macroeconomic variables included in the model have a long run relationship with SMEs growth but that exchange rate has a significant impact on SMEs growth in Nigeria. Mubarik (2013) explored the relation between inflation and SME growth with the findings that the threshold level of inflation above which inflation significantly slows growth is between 9-12 percent.

This paper evaluated the effect of deposit money banks' external factors of credit accessibility on SMEs' growth in Nigeria. Data were sourced for 1980-2015 and hypothesis tested. The result confirms that banks' external factors of credit accessibility had significant effect on SMEs growth in Nigeria with credit reserve requirement only ($\beta = -1.401$, $p < 0.05$). The findings will greatly assist monetary policy design/roll out as to credit reserve requirement. It also signals to SMEs that CR plays important role in enhancing loan accessibility in Nigeria. The debate continues as some years were not considered in this work. As such, the work recommends monetary policy constant refinement to necessitate loanable funds to SMEs as this will enable their growth.

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