

Private Sector Investments: The Implication of Deposit Money Banks' Credits in Nigeria

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ABSTRACT

Reported in this article is the empirical effect of deposit money banks' credits on Nigeria's private sector's investments. The study was evaluated empirically over a period of forty-one years, from 1981 to 2021. Deposit money banks' credits is proxied by bank credits, with interest rate and money supply moderating regressors while private sector investments is measured as private investments. Utilized for analysis are sourced secondary data from the Central Bank of Nigeria statistical bulletin and the applied methods of analysis include descriptive statistic technique, Augmented Dickey-Fuller's Unit Root test, Auto regressive Distributed Lag technique. The findings obtained showed clearly that private investments and banks' credits were stable at levels, as cost of credit (interest rate) and money (liquidity) supply were stationary at first difference. In addition, banks' credits had direct and significant effects on the regress and (private investments) in Nigeria, cost of credit had negative but significant bearing on private investments while money supply had positive and significant effects the independent variable. Lastly, there exists long-run equilibrium rapport among private investment, banks' credits, interest (credit) rate and money supply at 5 percent critical level. Sequel to these findings, it is therefore concluded that deposit money banks' credits had significant-positive effects on private sector investments in Nigeria in both short run and long run. It is thus, recommended among others that deposit money banks need encouragement to expand credit extensions to private sector operators for sustainable enhancement of investments in this sector of the economy.

Keywords: Private Sector Investment, Bank Credit, Interest Rate, Money Supply

INTRODUCTION

Banks have emerged as one of the main providers of credits and are effective and powerful sources for funding the private sector. Banks do grant credits to private sector to encourage their investment functions which will concomitantly enhance their growth in particular and contribute towards economic growth and development of a country in general. Banks are undeniably the most imperative institutions performing the role of financial resource mobilization and allocation. These features fetched them the recognition of a fundamental support system to private sector growth in Nigeria. According to Okorie and Chikwendu (2019) bank credits are financial resources known to be made available by deposit taking institutions (excluding central banks) to the different sectors of the economy. However, credit policies are vital regulatory instruments for administering such financial resources. Credit policies encompass imposition of quantitative ceiling on overall and or sectoral distributions of the banking system's loans and advances by relevant monetary authorities. Over the years, the wide-ranging goals of credit policies in Nigeria have been: to enhance credit availability, cost of credit reduction and private sector easy access to credit, as well as the stimulation of growth in the productive sectors (such as real sector) of the economy. Accordingly, banks' credits are indisputably the most critical sources of investment financing for private enterprises in developing countries, including Nigeria.

The available quantity of financial credits and access to such by private sector borrowers are direct stimulus to private investments activities (Okorie and Chikwendu, 2019). Specifically, by making accessible financial resources to investors in private sector, banks do render great social services, because through their action, capital investments are expanded, production is increased, employment opportunities are created, higher standard of living is realized and as a result, private sector growth is guaranteed (Ebere and Iorember, 2016). In addition, Adewole, Nwankwo, Ogbadu, Olukotun and Samuel (2018) affirmed that banks' credits increase the amount of funds available for investments by pooling investments and facilitate technological innovation. This argument centers on their ability to allocate savings more efficiently in act of mobilizing surpluses of spendings, evaluating projects for investment, monitoring managers and transactions facilitation at lower cost which in turn augment private sector investments. Moreover, Aigbomian and Akinlosotu (2017) stated that deposit money banks' credits given for productive reasons provide the essential financial resources for the public and private sectors to accelerate growth and sustainability in a nation's economy. The banks' lending function strengthens investors' ability to exploit desired profitable endeavours which transmits to increase in private sector investments.

In more modernized economies however, vibrant private sector leading is stimulative to growth and development. Regrettably, in Nigeria, private sector is still struggling under the shackles of underdevelopment as a result of inadequate funding, inconsistent government policies, political and economic instability, inadequacy of infrastructural facilities, inadequate manpower and technological know-how, lack of investable funds etc. Therefore, these problems have raised doubts and criticisms on real private investments in Nigeria. In other words, in this country, real private investors are faced with funds accessibility problem which hampers productive investment hence, poor performance in recent years. Furthermore, in Nigeria, banks and government's policies on credit administration to private sector are characterized by inconsistencies, uncertainties and ineffectiveness. Resulting from poor financial support, sub-optimal operation is an element of private investments in Nigeria. This in effect, discourages and repels private sector investments and hence, the economy's performance over the years. However, some economic scholars are of the view that the problem of Nigeria's sluggish private sector investments' growth have not been well-understood and well-managed. Therefore, this study empirically examined whether or not deposit money banks' credits are effective for deepening private sector investments in Nigeria. Particularly evaluated here is to ascertain the implication of deposit banks' credits to private sector's investments on the level of market-based investments operations in the country with rates of interest and broad money (liquidity) supply as control variables.

THEORETICAL FRAMEWORK

Financial Development theory and Acceleration Theory of Investment were adopted to serve as the theoretical foundations for this study. These theories are reviewed and explained below:

Financial Development Theory

Financial development theory was credited to Shaw and McKinnon, 1973. The theory states that financial liberalization is effective on economic growth rate as interest rates and exchange rates levels move towards market equilibrium if resources are efficiently distributed. They posited that positive real deposit rates shoot up savings rate; deepen financial activities; raise investment and hence growth rate. The theory was developed to examine the functional affiliation between 'economic growth and financial development'. In undertaking this study, two leading hypotheses were put forward; the "demand leading". It posits that financial development strengthens as there is sustained improvement of the economy. On the other hand, a "supply-leading" phenomenon; characterized by general growth of financial system leading to economic progress. Thus, financial development is a function of economic growth with respect to demand of financial services and vice versa (Patrick, 1966). For Mckinnon (1973) financial development through liberalization leads to financial markets unification, and the best strategy is to freely float interest and exchange rates

(Kisaka, Adhianbo, Hdegeand & Muio, 2015). The efficacy of the Financial Development theory is a predicament on some leading finance-oriented reforms like the financial liberalization. The theory is suitable for the study because it asserts that through financial liberalization, outputs of different sectors can be increased for improved economic growth if the regulatory authorities allow financial institutions operate smoothly by the invisible hand.

Acceleration Theory of Investment

Acceleration Theory of Investment was a twentieth century development by Thomas Nixon and Albert Aftalion. The accelerator theory tried to look at how direct relationship between investment and rate of growth of total demand and output can be established. This thereby concentrated on theory rather than price. Gbanador (2007) asserted that the accelerator theory of investment operates on the root of fixed capital to output ratio, which means, in order to produce marginal outputs of goods and services, firms must adjust investments to meet changing demand. That is, it is assumed that firms need to maintain relatively fixed ratio between their current output production and their existing stock of fixed capital assets. He further explained that “capital ratio of 4:1 or simply 4” means that at constant prices, N4 worth of capital is required to produce N1 worth of output, showing an assumed constant capital output ratio of the accelerator theory, at least in the short run. Certain amount of capital is required to produce a given output quantity. Assuming Y_t of output is targeted to be produced, where v is capital – output ratio; the quantity of capital required to produce output (Y_t) can be mathematically specified as $K_t = vY_t$; where K_t defines capital stock, Y_t defines output or income level, v defines the accelerator or capital output ratio.

The v defined as capital-output ratio is stated as K/Y in the accelerator theory, this ratio is assumed constant. However, under the constant capital-output ratio postulation; outputs variations are caused by changes in capital stock. Therefore, if income is Y_t in the current period and capital stock required is K_t ; then ‘output or income’ equates required capital stock in the previous period stated as $K_{t-1} = vY_{t-1}$. It is apparent from the foregoing that income rise from one year lag as Y_{t-1} to current year as Y_t is associated with rise in capital stock from one year lag as K_{t-1} to current year as K_t , meaning that $K_{t-1} = vY_{t-1}$ and $K_t = vY_t$.

Empirical Literature

Following need for deepening private investments, players in the sector have usually sourced for loanable funds for which deposit financial intermediating banks are vital providers. However, have such accessed credits over time sustainably driven private investments in Nigeria? This is a subject of empirical debate with incoherent research findings. Thus, utilizing data spanning 1981 to 2021 and applying the analytical method of ordinary least squares error correction mechanism, Muhammad and Ngele (2023) established that loanable funds received over the sampled period by private sector from the deposit (retail) banks exerted significant long-run growth impetus on the Nigeria’s economy. In a related systematic study spanning 1994 to 2017, Akintola and Adesanya (2021) reported that deposit collecting banks measured as supply of broad money, banks’ loans to private sector as well as cost of borrowings wielded deepening implications on growth of the nation’s economy. Korkmaz, (2015) assessing 10 European countries via panel data method about the influence of loans created by deposit money banks on selected broad economic aggregates like inflation and economic growth, yearly series covering 2006 to 2012 were utilized, and it was proven that inflation rates were not downwardly affected whereas the economies’ rates of growth were propelled.

A study on how the real sector of Nigeria is influenced by credits from the banking financial sector, Magaji, Musa and Dogo (2023) applied the analytical method of autoregressive distributed lag mechanism. The researchers established that in both long-run and short-run, credits from commercial banks contributed positively substantial effect on the economy’s real gross domestic product as an indicator of the real sector. Similarly, Oladosu and Oyeladun (2020) empirically determined how real sector growth in Nigeria is influenced by credit to private sector, using annual time series data for 1986 to 2018. which were the

utilized data were collected from Nigeria's apex (Central) Bank's statistical bulletin and analyzed by applying regression technique. Revealed from the result is a significant variation between credit to private sector and real sector growth in Nigeria. Thus, conclusion was reached that credits accessed by private sector over the sampled period had statistically significant implication on Nigeria's real sector growth.

The associated multivariate empirical examination by Zaagha (2020) on the implications and link of money supply instruments on and with the funding of private (investments) sector over the data period 1985 to 2018, employed the combined approaches which included Least Squares' parsimonious error correction method, the vector's form of error correction and the pair-wise granger causality analyses. It was gathered that private sector's received loans are vital drivers of and have unidirectional causality on investments in the economy's private sector. In 2019, Okoye determined the empirical effect of private sector investment on Nigeria's economic growth by applying Ordinary Least Squares' regression technique with addition of Granger's Causality test. The finding revealed from the long-run result that, indicators of private investments (direct foreign investments and gross capital formation) have positive effect on aggregate domestic product while only direct foreign investments are significant. Rate of inflation, credit to private sector and national savings have negative effect on Gross Domestic Product (GDP). Evaluating how private sector investments in Nigeria are affected by credits to private sector, Okorie and Chikwendu (2019) applied ARDL method of data analysis. Clear in the short-run findings is that there existed positive and significant impact from credit to private sector to investments in the sector while the long run output revealed positive but insignificant impact from private sector credit to Nigeria's private investments.

Further, in 2019, Ubesie, Echekoba, Chris-Ejiogu and Ananwude investigated whether deposit money banks' sectoral credits improved Nigeria's economic growth over period 2008Q1 to 2017Q4. Theoretically, the study anchored on Finance-Led Growth theory with ex-post facto research design. The empirical analysis of the developed models was based on the technique of Ordinary Least Square (OLS) regression. Evident from the analysis revealed deposit money banks' credits to 'agriculture, industries, building & construction and wholesale & retail trade' did not significantly improve 'agricultural, industrial, building & construction and wholesale & retail trade' contributions to 'real gross domestic product'. Also, Ganiyu, Matthew, Yusuf and Maximillian (2017) made an empirical estimate to ascertain whether credit to private sector spurred Nigeria's growth over 1993Q1 to 2013Q4. Applying fully modified least squares, it was revealed; this credit is growth-stimulating. Therefore, to take advantage, more growth driving banks' credits should be made accessible to private sector operators in Nigeria. Arikpo and Adebisi, (2017) in a seemingly variant study used data from 1984 to 2015 and applied the econometric tool of Vector Error Correction. Their empirical outcome made clear that private sector financing through credits of deposits taking banks is of long-run relevance to improving the trade sector but not to the agricultural sector of Nigeria in both long and short runs.

Studying the empirical implication from banks' credits to the Nigeria's economic growth, Odufuye in 2017 used secondary data sourced from Nigeria's Central (apex) Bank's statistical bulletin from 1992 to 2015. The regressand utilized is gross domestic product while the regressors are small and medium scale enterprises' commercial banks' credits, credits to private sector, money supply (liquidity) and cost of credits (interest rate). The methodological technique was the Ordinary Least Square (OLS) from which analysis' findings revealed that commercial banks' credits to small and medium scale enterprises, private sector credits, supply of money and rates of interest had insignificant ramifications on total domestic outputs. Similarly, in investigating the ramifications of private sector credit on economic growth in Nigeria, Olowofeso, Adeleke and Udoji (2015) utilized quarterly data spanning 2000Q1 to 2014Q4. The fully modified ordinary least squares method applied found a positively significant effect of private sector credit on output, but increased prime lending rate was growth-inhibiting.

In 2014, Onodugo, Anowor, Ukweni and Ibiam examined how bank credits impacted on private sector's

investments in Nigeria. The analytical approach used was Ordinary Least Square (OLS) tool econometric tool. Banks Loans and Advances (BLA), Real Gross Domestic Product (GDP), Interest Rate (INT) and Foreign Direct Investment (FDI) were employed as the regressors. The result of the test showed that co-integrating relationship was evident among the variables, which suggested long-run relationship.

Following the empirical excursions, it is interesting to note that few studies have diagnosed how private sector investments' growth is affected by deposit money banks' credits in Nigeria. Also, most of the reviewed studies have some methodological and conceptual incoherence that undermined consistency in empirical outcomes. Considering recent outcomes, the research data samples for this study spans over 1981 to 2021. This time scope becomes expedient as the private investments trajectory of Nigeria over the years has appeared unencouraging even in the face of more stable banking system. Thus, this motivated the current study to contribute to the body of this aspect of economic research knowledge.

METHODOLOGY

Adopted for this study is the ex-post facto research design which is based on historic data. As such, the information associated with the investigation had already taken place, thus the researcher cannot control or manipulate the historic data which has been documented. Implying that, time series data sourced from the country's apex bank's (CBN's) data bulletin and World Bank's Development indicators data base were used. The data are for forty-one years period ranging from 1981 to 2021. Furthermore, the employed empirical model is multiple regression in nature. The model was adopted from the work of Onodugo, Anowor, Ukweni and Ibiam (2014). The model was slightly modified to incorporate all the variables of this study. Expressing the model in its functional form, we have:

$$INV = f(BC, INR, MS) \quad (1)$$

Transforming equation (1) into a mathematical model, we have:

$$INV = \delta_0 + \delta_1 BC + \delta_2 INR + \delta_3 MS \quad (2)$$

Transforming equation (2) into an econometric model gives:

$$INV = \delta_0 + \delta_1 BC + \delta_2 INR + \delta_3 MS + \psi_t \quad (3)$$

Transforming equation (3) into a log linear model gives:

$$\ln INV = \delta_0 + \delta_1 \ln BC + \delta_2 \ln INR + \delta_3 \ln MS + \psi_t \quad (4)$$

A Priori Expectation: $\delta_1, \delta_3 >, \delta_2 < 0$

Where: INV = Private Investment, BC = Bank Credit, INR = Interest Rate, MS = Money Supply, δ_0 = constant variable in the model, $\delta_1 - \delta_3$ = parameter of the independent variables, ψ_t = disturbance or error term

Data Analysis Techniques

This empirical study utilized multiple regression econometric approach of the Ordinary Least Squares (OLS) for model estimation. The adoption of this technique is reliant on the Best Linear Unbiased Estimator (BLUE) properties of the OLS. The test for unit roots as earlier stated relied on the Augmented Dickey Fuller (ADF) approach for checking the stationarity levels of the employed individual variables. The stationarity order of the variables determined the method to be employed next. Thus, since the individual

variables exhibited mixed orders of integrations as purely I(0) level and I(1) first difference levels, the analytical processes of the Autoregressive Distributed Lag (ARDL) were necessitated.

DATA ANALYSES AND RESULTS DISCUSSION

Descriptive Analysis

The analytical procedure for this study began with descriptive characteristics test of the utilized variables. The results are displayed below.

Table 1: Descriptive (Tests) Statistics of Private Investment (INV), Bank Credit (BC), Interest Rate (INR), Money Supply (MS)

	INV	BC	INR	MS
Mean	8637.714	6571.298	17.30976	8126.415
Median	8246.212	764.9615	17.50000	1269.322
Maximum	15789.67	32868.49	29.80000	40318.29
Minimum	5668.868	8.570050	7.750000	14.47117
Std. Dev.	1979.142	9588.542	4.637929	11875.70
Skewness	1.266885	1.297453	0.269160	1.362983
Kurtosis	5.599679	3.388889	3.517307	3.560473
Jarque-Bera	22.51298	11.76149	0.952215	13.23107
Probability	0.000013	0.002793	0.621197	0.001339
Sum	354146.3	269423.2	709.7002	333183.0
Sum Sq. Dev.	1.57E+08	3.68E+09	860.4154	5.64E+09
Observations	41	41	41	41

Source: Authors' Computation (2023).

The results of the variable quantities reported in Table 1 above revealed that private investment has the highest mean value of 8637.714. This is followed by money supply with a mean of 8126.415 billion. The mean value for bank credit stood at 6571.298 over the research period while the average rate of interest rate stood at 17.3097 percent over the period. The above results indicated that private investment value is more than those of bank credit and money supply in Nigeria over the sampled period. Further, the maximum private investment stood at 15789.67 with a minimum value of 5668.868. Bank credit has maximum value of 32868.49 and a minimum value of 8.57. The maximum value for interest rate stood at 29.8 percent and a minimum of 7.75 percent. Finally, money supply has a peak rate of 40318.29 and the lowest rate of 14.47117 billion over the period of this study.

Pre-Estimation (Diagnostic) Tests

Unit Root's Tests

To avoid spurious regression results, the series are subjected to stationarity test using Augmented Dickey-Fuller's (ADF) statistic and the results are presented in Table 2:

Table 2: Augmented-Dickey-Fuller’s (ADF) Tests’ Results

Variables	At Levels		At 1st Difference		Order of Integration
	ADF Statistic	5% Critical Value	ADF Statistic	5% Critical Value	
$lnINV_t$	-2.250052	-2.941145	-5.196263	-2.941145	I(1)
$lnBC_t$	-0.910678	-2.936942	-4.522632	-2.938987	I(1)
INR_t	-3.355892	-2.936942	–	–	I(0)
$lnMS_t$	-4.089153	-2.938987	–	–	I(0)

Source: Authors’ Computation (2023).

From the results in Table 2, the null hypotheses that interest rate and money supply have unit roots at levels were rejected. This implies that interest rate and money supply have no unit root problems thus attained integration at order zero, [I(0)]. Relatively, the null hypotheses that private investment and bank credit have unit roots at levels cannot be rejected. This implies that private investment and bank credit have unit root at levels. However, the null hypothesis that unit root exist at first difference can be rejected for private investment and bank credit. This therefore means that private investment and bank credit have no stationarity problems at first difference, [I(1)]. It is thus inferred that going forward from the individual unit root test outcomes, the data series would be free from spurious and misleading regression estimates. Thus, given that the variables exhibited mixed orders of stationarity, ascertaining their status of cointegrating relationship is in principle necessitated using the ARDL Bounds Test for cointegration. However, determination of the optimum lag length as obtained below is vital for consistency in further associated tests.

Table 3: VAR Lag Order Selection Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1134.287	NA	1.23e+21	59.90982	60.08220	59.97115
1	-1017.839	202.2514*	6.24e+18*	54.62310*	55.48498*	54.92975*
2	-1009.508	12.71589	9.63e+18	55.02672	56.57812	55.57870
3	-994.9536	19.15018	1.12e+19	55.10282	57.34373	55.90012

Source: Authors’ Computation (2023).

As displayed in Table 3 above, the lag order selection test results indicated an optimal lag length of two that is $p^*=1$ is selected. As a result, all subsequent analyses were carried out using the optimal lag length of two.

Cointegration Test: ARDL’s Bounds Method

Following the need for ascertaining the cointegration status amongst the employed quantities (variables), the bounds test was utilized and the results presented below.

Table 4: ARDL’s Bounds Cointegration Analysis Results

Test’s Statistic	Values	K
F-statistic	5.933	3
Significance	Lower Bound [I(0)]	Upper Bound [I(1)]
10%	2.37	3.2
5%	2.79	3.67
2.5%	3.15	4.08

1%	3.65	4.66
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Source: Authors' Computation (2023).

The bounds cointegration test outcomes as shown in Table 4 evidenced F-statistics value of 5.933 as higher than both critical values of upper and lower bounds at 5%, indicating existence of long-run association amongst the variables. That is, cointegration is found amongst private investment, banks' credits, rates of interest and money (liquidity) supply. This means that bank credit, cost of credit (interest rates) and money liquidity are critical factors for deepening private investments in the long run. Having detected cointegrating relationships in the model, we therefore proceeded to estimate our Auto regressive Distributed Lag (ARDL) model.

ARDL Model's Long-Run and Short-Run Analyses Results

Table 5: Long Run Auto regressive Distributive Lag (ARDL) Result

<i>Regressand = (lnINV_t)</i>				
Variables	Coefficients	Std. Errors	t-Statistics	Probs.
$(lnBC_t)$	0.620720	0.101516	6.114500	0.0000
(INR_t)	-0.379280	0.101516	-3.736160	0.0007
$(lnMS_t)$	3.083172	1.026297	3.004171	0.0049
C	8.129009	0.697582	11.65312	0.0000

Source: Authors' Computation (2023).

The long run ARDL results revealed that bank credits (BC) and money supply (MS) had positive coefficient values (0.62072 and 3.083172) and 0.0000 and 0.0049 probability values, that are lower than 5 percent, portraying that both variables are of positive and significant implications on private investments (INV) in the long run. Hence, private investments (INV) will increase by 62.1% and 308.3%, given the respective percentage increase in banks' credits (BC) and money supply (MS) and vice versa. In addition, the long run ARDL result revealed that interest rate (INR) has a negative coefficient value (-0.379280) and probability value (0.0007) that is lower than 5 percent significance value. This indicated that interest rate (INR) negatively and significantly exerted long run impact on private investments (INV). Hence, private investment (INV) will decrease by 37.9% given a percentage increase in interest rate (INR).

Table 6: Short Run Dynamics Result

<i>Regressand = (lnINV_t)</i>				
Variables	Coefficients	Std. Errors	t-Statistics	Probs.*
$D(lnBC_t)$	0.169983	0.035204	4.828731	0.0002
$D(lnBC_{t-1})$	0.107311	0.043208	2.483564	0.0202
$D(INR_t)$	-0.097717	0.046797	-2.088052	0.0475
$D(INR_{t-1})$	-0.125245	0.050606	-2.474868	0.0211
$D(lnMS_t)$	0.025192	0.039831	0.632525	0.5320
$D(lnMS_{t-1})$	0.091085	0.042720	2.131686	0.0434
(ECM_{t-1})	-0.364678	0.037701	-9.673185	0.0000
Adj. R-squared = 0.655652; D.W. stat = 1.986230				

Source: Authors' Computation (2023).

The short run ECM version of the ADRL result in Table 6 revealed that at the current and initial levels, bank credits (BC) had positive coefficient values (0.169983 and 0.107311) and probability values (0.0002 and 0.0202) which are less than 5 percent level of significance. This indicated that bank credits from banks (BC) had positively significant effects on private investments (INV) in the short run. Conversely, at the current and initial levels, interest rate (INR) had negative coefficient values (-0.097717 and -0.125245) and probability values (0.0475 and 0.0211) which are less than 5 percent level of significance. These implied that interest rate (INR) negatively and significantly affected private investments (INV) in the short run. Furthermore, money supply (MS) had positive coefficient value (0.025192) and probability value (0.5320) higher than the 5 percent critical level in the current period. At lag one, the variable had positive coefficient value (0.091085) with probability value of (0.0434) relative to the 5 percent, indicating positively significant short run ramification on private investments (INV). Additionally, Table 6 showed the expected negative ECM(-1) sign and significant effect. Also confirmed is the existence of short-run significant impact following lagged the variables. Again, the -0.364678 ECM coefficient indicates that long-term deviation from private investments is corrected by 36% in the following year. Also, the adjusted R-squared (R^2) value of 0.655652 indicates that 66 percent of the systematic variations in Private investments (INV) is explained by bank credit (BC), interest rate (INR) and money supply (MS) in the short-run. Moreover, there is no evidence of serial correlation based on the Durbin Watson statistic of 1.986230.

Post Diagnostic (Estimation) Tests

The outcomes of post diagnostic tests are presented and discussed below:

Table 7: Post-Estimation Test Results

Tests	F-Statistics	Probs.	Null Hypotheses	Decisions
Serial Correlation LM Test	2.340341	0.0902	H_0 : No serial correlation	Do not reject H_0
Normality Test	1.022720	0.599679	H_0 : Normal distribution	Do not reject H_0
Heteroskedasticity Test	2.495945	0.0605	H_0 : Homoscedasticity	Do not reject H_0
Ramsey RESET's test	0.005244	0.9427	H_0 : Correctly specified	Do not reject H_0

Source: Authors' Computation (2023).

As displayed in Table 7, the serial correlation evaluation result exhibited no problem of serial correlation. Further, the normality test evidenced normal distribution for the error term. In addition, the heteroscedasticity test diagnosed homoscedasticity (that relevant variables were not omitted from the model). Finally, the Ramsey RESET analysis established correct model specification. This implies that the utilized relational model was specified correctly.

DISCUSSION OF FINDINGS

The findings obtained in the study showed that banks' credits exerted positively significant effect on private investments, which is consistent with that of Oladosu and Oyeladun (2020) who established that credit issued to private sector (CPS) impressed positively and significantly on the regress and (private investment). Furthermore, interest rates on credits had the expected negative and significant implications on Nigeria's

private investments. This agrees with Olowofeso, Adeleke and Udoji (2015) whose study revealed the increased prime lending rate was inhibiting to private sector output. Lastly, money supply (liquidity) positively and significantly impacted the regress and, which is in tandem with Onodugo, Anowor, Ukwani and Ibiam (2014) who established significant positive effects money supply played on private sector investments over the sampled period.

CONCLUSION AND RECOMMENDATIONS

This research is undertaken to ascertain the effect of deposit money banks' credits on Nigeria's private sector investments. The study was evaluated empirically utilizing data spanning forty-one years period, from 1981 to 2021. It was evidential that bank credits, rates of interest and money (liquidity) supply have joint significant effects on private investment in Nigeria. Following the preceding findings, the study therefore concluded that deposit banks' credits significantly and positively impacted on private sector investments in Nigeria in both short run and long run.

Deducing from the findings, the following recommendations are proffered:

First, since deposit money banks' credits had positive-significant effects on Nigeria's private sector investments, encouraging banks to continue expanding credits to private sector is key to increasing private sector investments in Nigeria. Secondly, policies for financial sector deepening and enhancing the health status of banks should be vigorously pursued to increase deposit money banks' credits to the private sector. Thirdly, there should be a regulatory framework that will enable the deposit money banks to channel their resources to the private sector of the economy so as to increase the level of economic development. Also, the Central (apex) Bank of Nigeria, through the utilization of its credit control instruments should regulate interest rates to enable the private sector borrow at market friendly rate to enhance investment. Lastly, further research may attempt studies on the implications of associated socio-economic outcomes on the country's level of private investments.

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