TO WHAT EXTENT DOES BANKS’ CREDIT STIMULATE ECONOMIC GROWTH?
EVIDENCE FROM NIGERIA

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Abstract
This study examines the extent to which banks’ credit affects economic growth in Nigeria. The data used was collected from the Central Bank of Nigeria statistical bulletin for a period of 24 years from 1990 to 2013. We used credit to the private sector, credit to the public sector and inflation to proxy commercial bank credit while Gross Domestic Product proxies economic growth. Augmented Dickey-Fuller (unit root) test was used to test stationarity which reveals that all the independent variables and dependent variable were stationary at first difference, the trace statistics and maximum eigen value test were used to test for cointegration. The result shows that the lagged value of credit to the private sector is positively and significantly influencing economic growth in Nigeria while the lagged value of credit to the public sector shows a positively insignificant relationship with GDP. Lagged value of inflation shows a negatively significant relationship with economic growth. It is therefore recommended that the government should ensure that auditing of their financial statement is done as at when due to reduce the rate of misappropriation of fund in public offices.

Keywords: Economic growth, banks, credit, inflation

Introduction
Finance is required by different people, organizations and other economic agents for different purposes. To provide the needed finance, there are varieties of institutions rendering financial services. These institutions are called financial institutions. Financial institutions are divided into money and capital market. In the money market we have commercial banks that render financial services in term of intermediation. This involves channeling funds from the surplus spending to the deficit spending units of the economy, therefore, transforming bank deposits into credits.

The banking sector plays a very important role in the development of any economy especially the third world economies that requires proper management of funds and efficient credit process which could stimulate growth in such feeble economies. According to Levine (1996) argued that financial intermediaries play an important roles in the operation of most economies and he stated further that the efficiency of financial intermediaries can also affect economic growth. In the history of Nigeria banking sector it can be seen that most of the failure experienced in the industry is as a results of imprudent lending that finally led to bad loans and some other unethical factors in the banking sector.

The role of banking sector in any economy cannot be underemphasized, one of such functions is as identified by Ijaiya and Abdurahmeem (2000) is the ability of commercial bank in credit creation which is the multiple expansions of banks demand deposit. It is an open secret now that banks advance a major portion of their deposits to the borrowers and keep smaller parts of deposits to the customers on demand.

Banks are germane to economic development through the financial service they provide. The intermediation role can be said to be a catalyst for economic growth. The efficiency and effectiveness of the performance of banking sector over time is an index of financial stability
in any country. The extent to which a bank extends credit to the public for productive activities accelerates the nation’s economic growth and its long term sustainability. The credit functions of banks enables the investor to exploit desired profitable ventures, credit creation is one of the vital ways of generating incomes in the banking sector. However it exposes the banks to credit risk. The Basel Committee on Banking Supervision (2001) defined credit risk is an internal determinant of bank performance. The higher the exposure of a bank to credit risk, the higher the tendency of the bank to experience financial crisis and vice-versa.

Among other risk faced by banks, credit risk plays an important on banks profitability since a large amount of banks profit come from loans which interest is derived. Interest rate risk is directly linked to credit risk implying that high or increment in interest rate increase the chance if loan default. Credit risk and interest rate are related to each other and not separable (Drechman, Sorensen & Stringa, 2008).

The Nigeria industry has been strained by the deteriorating quality of its credit asset as a result of significant dip in equity market indices, global oil prices and sudden depreciation of the naira against global currencies (BGL Report, 2010). The poor quality of the banks’ loan asset allows banks to extend more credits to the domestic economy, thereby adversely affecting economic performance. The prompted the federal Government of Nigeria through the instrumentality of an Act of the National Assembly to establish the Asset Management Corporation of Nigeria (AMCON) in July, 2010 to provide a lasting solution to the recurring problems of non-performing loans that affect Nigeria banks.

Economic growth is defined as a positive change in the national income or the level of production of goods and services by a country over a certain period of time. This often measured in terms of the level of production within the economy. Commercial bank credit has been recognized as an essential tool for promoting economic growth in Nigeria. Bank regulatory bodies, investors, and management experts wonder to what level commercial bank credit exert influence on Nigeria economic growth. Some studies such as Beck, Cull and Jerome (2005), Levine (2002), Odedokun (1998), and King and Levine (1993) are of the view that credit to the public sector is weak in generating growth within the economy because they can easily be wasted on things that cannot influence economic growth and politically motivated programmes which may not be at the interest of the populace. Some other studies are of the view that both private sector credit and public sector credit are needed to stimulate economic growth inspites of the deficiencies shown overtime in the public sector credit, private sector credit has been a good predictor of economic growth (Crowley, 2008; Beck et. al, 2005)

The previous submission in this study is that there is little information available about the activities of the banking industry and how they affect the economy where they operate. There is dearth of research on the factors that stimulate credit growth, hence, the contribution of private sector credit and public sector credit to economic growth have not been explored in past researches as many exclude public sector credit due to the belief that they are weak and largely at the influence of corrupt government officials, but it should be noted that their contribution to economic growth cannot be underemphasized. This study will fill this gap by analyzing the contribution of private sector credit and public sector credit to economic growth in Nigeria. Inflation is also considered as a factor that can have influence on how bank credit influence economic growth so it was included as a control variable. The study will be of importance to the government, financial institutions, investors and academican. The major objective of this study is to examine commercial banks credit on economic growth in Nigeria.

**Literature review**

This section places the study in the context of past researches. It reviews and conceptualizes the research undertaken on commercial bank credit and economic growth. A survey of literature is done, theoretically and empirically concerning banks credit and it contribution to economic growth of Nigeria economy. Emphasis is placed on bank credit as they relate and contribute to economic growth in Nigeria.

Academic literatures extensively studied commercial bank credit in response to its contribution to economic growth to achieve some
specific objective. Efficient commercial bank credit is expected to contribute positively to economic growth. The variables used in researches concerning commercial bank credit and related financial institutions and the details of how commercial bank contributes generally to economic growth are reviewed such as Boyreau-Debray (2003) in his study on bank credit and economic growth used Chinese banks as sample and found a negative correlation between bank credit and growth due to the fact that Chinese banks were mobilizing and pouring funds into the declining parts of Chinese states enterprise and hence the system has not been growth promoting.

Josephine (2010) assesses the impact of bank credit on economic growth in Nigeria using deposit money banks as a case study. The study covered 1992-2008. The proxies used are gross domestic product and domestic credit to the economy. The result indicated that bank credit has not impacted significantly on the growth of the Nigeria economy. This is attributed to the fact that banks exhibits apathy in lending to the private sector for productive purposes, example, agricultural sector, as they prefer to lend to the short term end of the market. It is recommended that banks should be willing to give both short and long term loan for productive purposes as they will eventually lead to economic growth.

Roseline (2011) examines the significance of bank credit in stimulating output within the real sector and the factors that prompt financial intermediation within the economy: Nigeria experience. The variables used are real GDP and real private sector credit growth. It was observed that there exists a reserved causation between real output and financial development. It is therefore recommended for the government to ensure proper integration of the financial sector to be capable of substantially intermediating in the financial processes for the real sector of the economy.

Egbetunde (2012) examines the relationship between commercial bank credit indicators and rural economic growth in Nigeria. The study covered 1982-2009; variables used are gross domestic product, commercial bank loan to rural areas, rural deposits with commercial banks. The result shows that there was at least one co-integration relationship among the variables in the model. The evidence of multi-variant co-integration test result suggested that commercial bank credit indicators and rural economic growth indicator are co-integrated. That is, these variables move together in the long run. It is therefore recommended that the monetary authority in Nigeria should task the commercial banks to concentrate the resources of the rural areas in their domain in order to improve economic activities of the sector of the economy, agriculture should be developed in rural areas in Nigeria and rural dwellers should be further encouraged to deposit more of their funds with the commercial banks to creates more credits/wealth in the rural areas.

Akano and Kazeem (2014) used ordinary least square technique and co integration analysis to examine the impact of total bank credit on economic growth of Nigeria. It was reported in their study that total bank credit and inflation rate shows a significant relationship with economic growth, though inflation rate shows a negative relationship while total bank credit shows a positive relationship.

Burzynska (2009) is of the view that bank credit have positive relationship with economic growth, in his work he examine financial development and economic growth in the case of Chinese banking sector, the empirical analysis is performed using annual data for the period 1978-2005. The study make use of GDP, rural credit cooperatives, capital constructions and other medium and long term loans. The result after conducting co-integration test indicates that there is co-integration between economic growth and all financial development variables, which implies a long run equilibrium relationship among the variables and is consistent with the theory of finance and growth.

Katherine (1992) examines the relationship between bank credit and economic growth at the state level. The test covered the empirical relevance of credit view for the 1983-1990 using state level data and find evidence of a regional financial channel to output. Variables used are bank profitability, bank and non-bank credit quality and bank return on asset. The result shows that the real growth rate of loan loss reserves, the non-performing loan share and the per capita volume of failed business liabilities were all negatively related to Yn, furthermore, both the real growth rate of domestic loans and banks ROA are positively related to Yn. The
credit view emphasizes that one reason banks are important is because they produce information when finding specialized investments.

Alex (2012) investigates the role of banks in capital formation and economic growth: the case of Nigeria, for the period 1980-2009. The variables used are commercial banks deposit liabilities, maximum lending rate, commercial banks credit, investment by banks in Nigeria, gross fixed capital formation and gross domestic product. The result showed that commercial bank credit has a positive impact on gross fixed capital formation. It is therefore recommended that effort should be made by the monetary authorities to effectively manage the banks maximum lending. This policy thrust will most likely result into increased investment activities which will enhance capital formation in Nigeria needed for its real sector investments and industrial growth.

Guglielmo, Rault, Robert and Anaria (2009) examined the financial depth and economic growth in new EU members by estimating a dynamic panel model over the period 1994-2007. The variables used are gross domestic product, stock market capitalization, broad money, credit to private sector, and margin between lending and deposit interest rate. The result shows the financial depth is lacking in all 10 countries and therefore the contribution of the relatively underdeveloped credit and stock market to growth has been rather limited with only a minor positive effect of some indicators of financial development. This might be consequence of the large stock of non-performing loans and the banking crisis experienced by these countries at the beginning of the transition period. Better regulation and supervision was partly motivated by the European integration process and the need to adopt EU standards.

Ndako (2009) examined the casual relationship between stock markets, banks and economic growth in South Africa using quarterly time series data from 1983q 1-2007:q 4. The variables are real Gross Domestic Product (RGDP), investment ratio (LINV), Banks credit to private sector (BCP), Market by Capitalization (MC), Turnover Ratio (TR), and total value of shares traded (VT). The empirical investigation suggested that in the long run, there is evidence of bi-directional causality between financial development and economic growth, using the banking system. This study indicates that financial sector plays a critical role in the South-Africa economy.

Celine, Jessica, Emmanuelle and Alain (2007) investigated the link between banking and economic development at the regional level in the Philippines. The data covered from 1993-2005. To measure the impact of rural banks on economic development, the study focus on loan variables as the purpose of the rural financial market, the following groups of regions were considered “All regions” “Developed regions” “intermediate regions” and “less developed regions”. It was suggested that presence of rural banks which have an expertise in financing micro-entrepreneurs’ and poor households should be supported in order to stimulate economic development.

Aurangzeb (2012) empirically identifies the banking sector contribution to economic growth in Pakistan by using the data 1981-2010 and 10 banks. Variables used for the study are economic growth, investment, profitability, and deposits. Results indicated that the explanatory variables have significant positive impact on economic growth of Pakistan. The unit root test confirms the stationary of all variables at first difference; it is therefore recommended that the policy makers should make policy to enhance the banking sector in Pakistan because banking sector is significantly contributing to the economic growth in Pakistan.

Ekpenyong and Ikechukwu (2011) investigate the contribution of banks in Nigeria to the growth of the economy. Variables used for the study are banks savings mobilization, credit to the real sector and Gross Domestic Product. The result of their analysis led to the conclusion that banks’ contribution to economic growth within the period of 1980-2008 is insignificant. This led to the deduction that other factors (human resource, standard of education, political stability, power supply and other social infrastructure) may be playing more important role in growing the Nigeria economy.

Nurudeen and Usman (2010) observed that rising government expenditure has not translated to meaningful development as Nigeria still ranks among world’s poorest countries. Using disaggregated analysis approach, they investigated the effect of government
expenditure on economic growth in Nigeria in the period 1970-2008 and found that government total capital expenditure, total recurrent expenditure and expenditure on education have negative effect on economic growth; but rising

Fadare (2004) empirically identifies the effect of banking sector reforms on economic growth in Nigeria by using the data 1999 - 2009. Variables used for the study are interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, inflation rate lagged by one year, size of banking sector capital and cash reserve ratios. Results indicate that the relationship between economic growth and other exogenous variables of interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate and cash reserve ratio show the negative and insignificant. Hence it is suggested that criteria which encourage banking sectors to give more capital or start huge amount of lending to the individuals by minimize cash reserve ratios which is not supposed to be motivated factors for economic growth if the borrowing capacity that due to these criteria it will not surpass to the growth of private sector in the form of longer term finances. To find out the solution of this problem, the financial policies should consider to reform and enforce the borrowing in small industries with proper regulatory policies and against secure type of collaterals and confirmation of guaranteed repayment of finances given to them.

Mohamed and Seifallah (2007) investigated financial development and economic growth in the MENA region: what about Islamic banking development! The empirical study was conducted using an unbalanced panel data from 16 MENA region countries. The result indicated that financial development has unfavorable effect on growth in MENA region; even Islamic banks’ don’t make an exception in the financial markets and show a weak relation with growth. It is therefore recommended that the development of Islamic banking sector and the conventional economic opening, an adequate regulation and supervising of banking system and a respect of the international accountancy’s rules and the legal environment. In these conditions, the emergence of a reliable and strong financial system would be favourable to the economic growth and also to the reduction of poverty. Samson and Abass (2012) examined the role of banks’ deposit money in the growth of Nigeria economy. The study covers 1974-2010, at the end of their analysis, it was discovered that there exist a long run relationship between the dependent and explanatory variables. Thus, policies that tend to increase the gross domestic product through the financial sector such as increase in banks’ deposit liabilities, low interest rate, and high liquidity ratio were recommended for better economy. The variables used were Gross Domestic Product (GDP), Commercial Banks’ Credit (CBC), interest rate and Deposits Liabilities of Commercial banks’ (DLCB).

Koivu (2002) analyzed the finance growth nexus using a fixed effect panel model and unbalanced panel data from 25 transition countries during the period 1993-2000. The variables used were gross domestic product, interest rate margin, banks credit allocated to the private sector and investments. Their result shows a negatively and significantly associated relationship between interest rate margin and GDP and the amount of bank credit allocated to the private sector does not does not speed up the economic growth. The result explained two reasons that the financial sector efficiency should not be measured by sector size in the case of transition economies. First, soft budget constraints prevalent in many transition countries and credit to enterprises applying soft budget constraints may lead to considerable loses in the economy when investment turns out to be counterproductive. Secondly, the negative link between the lagged amount of credit and growth may affect reflect banking crisis that many transition economies experienced during the research period.

Theoretical framework

The theories used to underpin this study are the endogenous growth theory and Harold-Domer model.

Endogenous growth theory: the development of endogenous growth theory gave a bigger scope of banking sector and economic growth, it suggest that a strong banking sector promotes economic growth and holds that policy measures can have an impact on the long run growth rate of an economy. Within this models Lucas (1988) and Romer (1986, 1990) enhanced the definition of investment to contain human capital and allow for externalities in investment. Given that they
suggested that return on investment are slightly diminishing or even non-diminishing. Following this idea, it is financial institutions, when properly fulfilling their tasks that can generate externalities in investment and by these secure non-diminishing returns to investment in the endogenous growth model. The main implication of this theory therefore, is that banking policies which embraces openness, competition, change and innovation will promote economic growth.

Harold-Domar Model holds a theoretical position that increased savings leads to the expansion of credit and investment and ultimately to increase economic output.

**Research methodology**

The study examined the impact of commercial bank credit on economic growth. Therefore, this section provides the detail steps and procedures used to conduct the analysis of factors affecting economic growth in Nigeria.

Accordingly, a deductive approach is adopted by constructing an empirical model and hypothesizing its linear relationship between commercial bank credit and its dependent variable. The methodology of carrying out this research is based on the objectives of the study and the availability of relevant information.

The study which is time series in nature utilized secondary data published in the Central Bank of Nigeria (CBN) statistical bulletin for the period of 24 years. The period started from 1990 to 2013 which covers the major events that relate the banking sector with the economy of Nigeria.

E-View 6.0 is used to analyze and interpret the time series data because it allow for stationary test and co-integration test to be conducted in order to facilitate a vivid conclusion on commercial banks credit contribution to economic growth in Nigeria.

**Model specification**

The model adopted is in line with the study of Josephine (2010) and Roseline (2011) with some modification, in this analysis, the real Gross Domestic Product (RGDP) is used as a proxy for economic growth which is the dependent variable. Commercial bank credits to the private sector, commercial bank credits to the public sector and inflation rate serves as the independent variables and are captured in the model to be estimated; the model is therefore stated as follows:

\[
RGDP = F(CPR, CPS, INF) \quad (1)
\]

Whereas:

- \(RGDP\) = Real Gross Domestic Product (measured as natural logarithm of RGDP)
- \(CPR\) = Credit to Private Sector (measured as CPR divided by Total Bank Credit)
- \(CPS\) = Credit to Public Sector (measured as CPS divided by Total Bank Credit)
- \(INF\) = Inflation Rate

For econometric computation, equation (1) transform to:

\[
RGDP_t = \beta_0 + \beta_1 CPR_{t-1} + \beta_2 CPS_{t-1} + \beta_3 INF_{t-1} + ECM_{t-1} + \mu \quad (2)
\]

Where:

- \(\beta_0\) = The intercept
- \(\beta_1 - \beta_3\), is the slope coefficients.
- \(\mu\) is the error term

On a priori expectation:

\(B1>0 \quad B2>0 \quad B3<0\)

All the independent variables are meant to exert a positive impact on the economic growth apart from inflation.

Prior to the above estimated model, standard econometric tests such as stationary test and co-integration test will be conducted so as to avoid the generation of spurious regression results. A non-stationary series could be made stationary by differencing once or twice. It could be integrated of order 1 which is often denoted as 1(1) or order 2 represented by 1(2). The stationary linear combination of the variables under consideration is called co-integration equation (Engle & Granger, 1991). That variables are co-integrated implies that they share a long run relationship.
and will move closely together over time, meaning that differences between such variables are stable over time and there is some degree of convergence in the long run.

To test for co-integration, Johansen’s (1997) method is to test the restrictions imposed by co-integration on the unrestricted vector Auto Regressions (VAR) involving the series.

**Data presentation and analysis**

Table 1: Result of stationarity (unit root) test

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF-Statistics</th>
<th>Critical Values</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGDP</td>
<td>-4.567671</td>
<td>1% = -3.769597</td>
<td>First Difference</td>
</tr>
<tr>
<td></td>
<td>(0.0017)</td>
<td>5% = -3.004861</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10% = -2.642242</td>
<td></td>
</tr>
<tr>
<td>CPR</td>
<td>-4.431557</td>
<td>1% = -3.808546</td>
<td>First Difference</td>
</tr>
<tr>
<td></td>
<td>(0.0026)</td>
<td>5% = -3.020686</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10% = -2.650413</td>
<td></td>
</tr>
<tr>
<td>CPS</td>
<td>-4.315669</td>
<td>1% = -3.769597</td>
<td>First Difference</td>
</tr>
<tr>
<td></td>
<td>(0.0030)</td>
<td>5% = -3.004861</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10% = -2.642242</td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>-4.081735</td>
<td>1% = -3.769597</td>
<td>First Difference</td>
</tr>
<tr>
<td></td>
<td>(0.0050)</td>
<td>5% = -3.004861</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10% = -2.642242</td>
<td></td>
</tr>
<tr>
<td>ECM</td>
<td>-4.629140</td>
<td>1% = -3.769597</td>
<td>First Difference</td>
</tr>
<tr>
<td></td>
<td>(0.0015)</td>
<td>5% = -3.004861</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10% = -2.642242</td>
<td></td>
</tr>
</tbody>
</table>

Source: E-view 6.0 output file

In order to investigate the order of integration among the variables such as RGDP, CPR, CPS and INF, the study has used the Augmented Dickey Fuller (ADF). As stated in the methodology, the tools of unit root tests (ADF) is tested for all the variables by taking null hypothesis as ‘presence of unit root’ (that is, presence of non-stationarity) against the alternative hypothesis ‘series is stationary’. If the absolute computed value exceeds the absolute critical value, then we reject the null hypothesis and conclude that series is stationary and vice-versa. It is clear from Table 1 that the null hypothesis of no unit roots for all the time series are rejected at their first differences since the ADF test statistic values is less than the critical
values at one percent levels of significances. Thus, these variables are stationary and integrated of same order, that is, I (1). Thus it is cleared that all the variables have unit root in their level form but at first difference the variables became stationary, as a result of this, the Error Correction Model was extracted and the stationary test conducted on it shows that it is also stationary at first difference.

**Co-integration test**

Since all the variables are not stationary at level but at first difference it is quite possible that there is a linear combination of integrated variables that is stationary; such variables are said to be co-integrated. To understand the co-integrating relationship across these variables the study uses Johansen (1991) Co-integration Test. The Akaike information criterion (AIC), Schwarz information criterion (SBC), Final prediction error (FPE), Hannan-Quinn information criterion (HQ) and the likelihood ratio (LR) test collectively suggest an optimal lag length of one and the co-integration results are provided in the table below.

Table 2: Result of Co-integration test

| Date: 02/10/15 | Time: 11:03 |
| Sample (adjusted): 1993 2013 |
| Included observations: 21 after adjustments |
| Trend assumption: Linear deterministic trend |

Series: D(RGDP,1) D(CPR,1)+D(CPS,1)+D(INF,1)+D(ECM,1)

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>0.05 Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.439323</td>
<td>20.09317</td>
<td>15.49471</td>
<td>0.0094</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.314912</td>
<td>7.942352</td>
<td>3.841466</td>
<td>0.0048</td>
</tr>
</tbody>
</table>

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Max-Eigen Statistic</th>
<th>0.05 Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.439323</td>
<td>12.15081</td>
<td>14.26460</td>
<td>0.1051</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.314912</td>
<td>7.942352</td>
<td>3.841466</td>
<td>0.0048</td>
</tr>
</tbody>
</table>

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Both the trace statistics and max-eigen statistics rejected the null hypothesis of no co-integration at the 0.05 level (20.09317 > 15.49471 and 7.942352 > 3.841466), Hence, the Johansen methodology concludes that there exist one co-integrating relationship among RGDP, CPR, CPS and INF, therefore confirming the existence of long run equilibrium relationship between the real gross domestic product and the explanatory variables, and it is consistent with the theory of finance and growth.
Presentation and discussion of regression results

This section presents and analyzes the result obtained from regression. The summary of the regression result is presented in table 3 while the detailed result is attached in the appendix.

Table 3: Regression results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>Std. Error</th>
<th>T-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(CPR,1)</td>
<td>0.151177</td>
<td>0.014252</td>
<td>10.60748</td>
<td>0.0000</td>
</tr>
<tr>
<td>D(CPS,1)</td>
<td>0.167856</td>
<td>0.251930</td>
<td>0.666280</td>
<td>0.5142</td>
</tr>
<tr>
<td>D(INF,1)</td>
<td>-0.005860</td>
<td>0.001824</td>
<td>-3.212202</td>
<td>0.0051</td>
</tr>
<tr>
<td>D(ECM,1)</td>
<td>0.304732</td>
<td>0.165035</td>
<td>1.846472</td>
<td>0.0823</td>
</tr>
<tr>
<td>C</td>
<td>-0.038925</td>
<td>0.060155</td>
<td>-0.647071</td>
<td>0.5262</td>
</tr>
</tbody>
</table>

R-Squared 0.886621
Adjusted R-Sqr. 0.859944
F-Statistics 33.23498
Prob (F-stat) 0.000000
Durbin Watson 2.162060

Source: Authors Computation with E-View 6.0

LnRGDP= -0.038925+0.151175CPR_{t-1}+0.167856CPS_{t-1}-0.005860INF_{t-1}+ 0.304732ECM_{t-1}.

Credit to the private sector and economic growth

Lagged value of credit to the private sector shows a coefficient value of 0.1512, t-value of 10.60748 and p-value of 0.000. This indicates that there is positive relationship between credit to the private sector and Real Gross Domestic Product whiles the P-value of 0.000 shows that the positive relationship is significant at 1% level. That is, there is positively significant relationship between credit to private sector and economic growth and for every one per cent increase in credit to the private sector, RGDP increases by 15% which is in line with our a priori expectation, this may be as a result of profit, which is the major objective of privately owned firms, and for them to make profit, credit obtained must be adequately utilized which will end up contributing its own quota to the growth of the economy. We therefore, reject our first hypothesis which states that credit to private sector has no significant relationship with Nigerian economic growth. Our result is contrary to the work of Roseline (2011), Koivu (2002), Guglielmo et al (2009), Stiglitz and Weiss (1981).

Credit to the public sector and economic growth

Lagged value of credit to the public sector shows a coefficient value of 0.1679 and T-value of 0.666 which indicates that there is positive relationship between credit to the public sector and Nigerian economic growth, while the P-value of 0.5142 which is not significant at any level
indicates that neither increase nor decrease in the credit to the public sector will have effect on economic growth in Nigeria. This is contrary to our a priori expectation, and this may be as a result of high rate of embezzlement and unfaithfulness among the public sector workers all in the shade of corruption which has eaten deep into the fabric of our society, majorly in government offices. We therefore, fail to reject our second hypothesis which states that credit to the public sector has no significant impact on economic growth in Nigeria.

**Inflation and economic growth**

Lagged value of inflation has a coefficient value of -0.0059 and t-value of -3.2122 which means that there is negative relationship between inflation and economic growth, that is, the higher the inflation, the lower the economic growth and vice-versa, and this is in line with our a priori expectation. The p-value of 0.0051 implies that there is significant relationship between inflation and RGDP as it is significant at 10 per cent, that is, for every one per cent increase in inflation, RGDP decreases by 0.59 per cent. This may be as result of reduction in demand due to persistent increase in price of goods and services in the period of inflation. We therefore, reject the third hypothesis which states that inflation has no significant impact on economic growth. This is in line with the study of Abu and Abdullahi (2010), Ekpenyong and Ikechukwu (2011).

Error Correction Model shows a coefficient value of 0.3047, t-value of 1.8465 and p-value of 0.8823 which is a clear indication of positive long run relationship between the explanatory variables and the explained variable.

The summary of the cumulative result shows that commercial bank credit has made a significant impact on Nigeria economic growth in the period under study. The coefficient of determination which is the R-square reveals a value of 0.887. This implies that commercial bank credit has explained up to 89% the variation in economic growth of Nigeria and the remaining 11% is covered by other factors that are beyond the scope of this study. This signifies the fitness of the model, thus, the model is fit and the explanatory variables are well selected and utilized. This is confirmed by the value of adjusted R square which even after the adjustment is still strong and positive at 86% to proof the fitness of the model, while the Durbin Watson value of 2.16 shows the absence of auto or serial correlation.

Finally, the overall result indicates that commercial bank credit impacted strongly on Nigeria economic growth. This is arrived at by the result of the Fishers’ statistics of 33.234 which is significant at 1% level of significance (0.000).

**Conclusion**

In view of the findings, the study concludes as follows;

Since credit to the private sector has positive impact on economic growth, it can be inferred that banks should give more credit to the private sector as it proves to be having positive impact on economic growth. It is therefore, concludes that lesser fund should be forwarded to the public sector since it is not having any impact on economic growth, that is, variation in economic growth of Nigeria is not affected and cannot be predicted by credit to the public sector.

Inflation has a negatively significant relationship with economic growth which make us concludes that any form of credit allocation to either private or public sector should be done in a period when inflation rate is low, so it will have a lesser impact on economic growth.

**Recommendation**

In the light of the analysis and findings, the following recommendations are proffer for the development of stable and efficient economy through the banking sector:

1. Bank management should ensure adequate monitoring of credit allocated to both public and private sector, so as to avoid diversification of fund.
2. Government should ensure that auditing of their financial statement is done as at when due, to reduce the rate of misappropriation of fund in public offices.
3. Government should try as much as possible to always keep inflation rate low if total eradication is impossible, as it reduces the impact of credit allocation to either public or private sector.
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