



## An Empirical Investigation of The Impact of Bank Credit on Economic Growth in Nigeria

### KEYWORDS

Bank credit, economic growth, Nigeria

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### ABSTRACT

*This paper analysed the impact of bank credit on economic growth in Nigeria during the period spanning from 1987 to 2012. The study adopted the ex-post facto research design and time series data were collated from the Central Bank of Nigeria Statistical Bulletin. OLS regression statistic and Granger Causality Test were used to analyse the data. The estimated regression results indicated that bank credit has impacted positively and significantly on economic growth over the period of the study. The study concludes that for continuous growth of the Nigerian economy, policy frameworks that favour more credit allocation to the private sector with minimal interest rate should be encouraged. This will guarantee private sector investment, hence real sector growth and development.*

### I. INTRODUCTION

Theoretical discussions about the importance of credit development and the role that the banking industry plays in economic growth have received overwhelming attention in finance literatures. Banks as agents of economic growth mobilize savings and channel same into investments for the growth and development of the economy. According to Osada and Saito (2010), credit development can foster economic growth by raising savings, improving efficiency of loan-able funds and promoting capital accumulation. Banking industry credit in Nigeria assumed a new dimension since the recapitalization and consolidation of commercial banks for global competitiveness.

The role of credit in economic growth has been recognized in copious empirical literature. Credits are obtained by various economic agents to enable them meet operating expenses (Nwyanwu, 2008). In the same vein, Ademu (2006), observed that the provision of credit with sufficient consideration for the sector's volume and price system is a way of achieving economic growth through self-employment opportunities. While highlighting the role of credit to the growth of any economy, the author argued that credit can be used to prevent economic activity from total collapse in the event of unforeseen circumstances.

The debate on the intermediary role of banks in the economic development has dominated many discussions in literature. However, there seem to be general consensus that the role of intermediary role of banks helps in boosting economic growth and development. For instance, Akintola (2004) identified banks' traditional roles to include financing of agriculture, manufacturing and syndicating of credit to productive sectors of the economy. Akpansung and Babalola (2008) stated pointedly that the Central Bank of Nigeria has been playing a leading and catalytic role by using direct control not only to control overall credit expansion but also to determine the proportion of bank loans and advances to "high priority sector" and "other". They maintained that sectoral distribution of bank credits is often meant to stimulate the productive sectors and consequently economic growth of the country. Citing Driscoll (2004), they opined that financial development can foster economic growth by raising savings, improving allocative

efficiency of loanable funds and promoting capital accumulation.

Granted, however, there still remains a gap in understanding the casual relationship between banking industry credit and economic growth in developing economies and, particularly, little studies have been done to find out the impact the various types of deposit money bank credits have on the growth of national economies. The influence of such types of credit on economic growth has received little interest from researchers in Nigeria. Tuuli (2002) posited that although there have been numerous empirical studies on the determinants of growth in transition economies the relationship between bank credits and economic growth, however, has largely been ignored. Thus, studying the impact of the deposit money bank credits to the private sector on the growth of the Nigeria economy has become very necessary. And until this vacuum is filled, the unavoidable questions on the study will remain unanswered. Central Bank of Nigeria (2009) noted that flow of credit to the priority sectors fell short of prescribed targets and failed to impact positively on investment, output and domestic price level. Certainly, these comments have triggered questions on the effectiveness and productivity of private sector credits on the Nigerian economy.

### II. LITERATURE REVIEW

In every economy, savings must be added to the present stock of capital for investment and economic growth and development. This is the process and rationale of capital accumulation occasioned by financial intermediation. Melicher and Norton (2011), defined financial intermediation as the process by which savings are accumulated in depository institutions and then lent or invested. Afolabi (1998) argued that financial intermediation will not be necessary, for example, if the lender and the borrower can come into direct contact and would in fact not be necessary if there is no deficit or surplus sector. Bencivenga and Smith (1991), explained that development of banks and efficient financial intermediation contributes to economic growth by channeling savings to high productive activities and reduction of liquidity risks. Banks are therefore debtors to the depositors of funds and creditors to the borrowers of funds. According to Nwyanwu (2008), bank credit is the

borrowing capacity provided to an individual, government, firm or organization by the banking system in the form of loans.

CBN Monetary Policy Circular (2010) identifies such bank credit facilities to include loans, advances, commercial papers, banker's acceptance, bill discounted, with a banks credit risk. Bank credit is often accompanied with some collateral that helps to ensure the repayment of the loan in the event of default. Credit channels savings into productive investment thereby encouraging economic growth. According to Nzotta (2004), it is generally accepted that bank credits influence positively the level of economic activities in any country. It influences what is to be produced, who produces it and quantity to be produced.

It would be necessary at this point to take a look at economic growth, which is one of the key subjects of this discourse. Economic growth according to Oluitan(2012), 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. Baye and Jansen (2006) defined economic growth as the rate of change in real output. The economic growth rate is usually stated as percentage change on an annual basis. Aretis (et al 2007) explains economic growth to involve the expansion on real output per capita and per worker over time. Writing in this regards, Burda and Wyplosz (2003) noted that whereas nominal GDP is computed using the actual selling prices, real GDP is computed using prices observed in some pre-determined base year. Nothing matters more to the long-term economic welfare of a nation than its rate of economic growth. Compounded over many years, seemingly small differences in annual growth rates can lead to vast differences in output level, and in standard of living. At Robert Barro's Lionel Robbins Memorial lectures, delivered at the London school of economics in February 1996 (the MIT press), he explained that research on economic growth has exploded in the past decades. He maintained that hundreds of empirical studies on economic growth across countries have highlighted the correlation between growth and a variety of variables, which are the determinants of economic growth.

According to Riley (2006), potential output in the long run depends on the following factors: growth of the nation's stock of capital, human resources and entrepreneurial ability, rate growth of productivity of labour and capital and technological advancement.

Moreover, whereas evidence from empirical studies support the fact that bank credits has impact on economic growth, the degree and magnitude of this impact is country specific. Also, the direction of causal relationship between bank credits and economic growth is one area of contention among researchers. Previous studies as well as economic literature is replete with possible qualitative and quantitative variables that influence the growth in real output. However, there is no consensus on the effect of explanatory variables on economic growth. In their study to examine the impact of banking sector bank credits on the Nigerian economy, Akpansung and Babalola (2008) using private sector credit and the GDP as variables, found that bank credits have positive impact on economic growth in Nigeria.

Tuuli (2002) adopted the GDP and private sector credit in it analysis of the relationship between finance and economic growth. On the other hand, Balogun (2007) in his

theoretical models also adopted the above variables. In a paper which focused on how banking credit can be used as an instrument of economic growth, Agada (2010), identified public and private sector credits as variables that cause variations on the GDP. Toeing similar lines, Nwan-yawwu (2010), Fadare (2010), Odekun (1998), among other authorities adopted similar variables in their studies, which largely focused on bank credit and economic growth.

**III. METHODOLOGY AND DATA**

The study adopted ex post facto research design because of the historical nature of the data. Time series data were collated from the Central Bank of Nigeria Statistical Bulletin. Data were analyzed using OLS regression with Granger Causality and Unit Root tests.

**3.1 MODEL SPECIFICATION**

The model specified below is derived from the analytical model of Cevik and Rahmati (2008), which examined the finance-growth nexus in Libya.

$$Y = \alpha + \beta FD + \gamma X + \epsilon \dots\dots\dots (1)$$

Where;

Y = GDP

FD = ratio of credit to the private sector

X = vector of other influential growth determinants

ε = error term.

Model for this study will be patterned after the above model. The functional relationship for the hypothesis is therefore specified as follows:

$$RGDP_t = a + \beta_1 CPSR + \mu \dots\dots\dots (2)$$

Where;

RGDP<sub>t</sub> = Real Gross Domestic Product

CPSR = Bank credits to the private sector rate.

a = Constant of the regression

β = Coefficient of the explanatory variable

μ = error term.

**IV. EMPIRICAL RESULTS**

Theoretical models have been developed by different schools of thought in a bid to provide explanation to the phenomenon of economic growth. Nigeria is not left out in this quest, formulation and implementation of policies by various government regimes in the country that can lead to economic growth is paramount. This segment presents and interprets data regarding the impact of banks' credit on economic growth which as stated earlier is a necessary condition for development.

**4.1 Testing for Normality**

In other to estimate the impact of bank credit on economic growth in Nigeria, we tested for normality of the time series data set. This was necessary to ascertain the normality of the parameters distributed in the time series data. We utilized the Jarque Bera Statistics (JB). To reject the null hypothesis that the data are normally distributed, the JB

statistics must be significant at a critical value of 0.05 (Gujarati and Porter, 2009).

**Table 4.1 Descriptive Statistics for CPSR and RGDP**

Mean	14.11538	6.639975
Median	11.00000	6.748563
Maximum	36.70000	7.607928
Minimum	5.900000	5.285841
Std. Dev.	8.374548	0.710165
Skewness	0.421982	-0.419240
Kurtosis	2.579322	1.992290
Jarque-Bera	4.125729	1.861741
Probability	0.110432	0.394210

Credit to the private sector showed some relevant traits in performing the normality test. The table 4.2 above showed that Credit to the private sector is a little right tailed with skewness value of 0.42 and it also has peakness value of 2.57. The Jarque Bera test for normality with the value of 4.12 is significant at the probability value of 11%. It means that the data is fairly normal.

The time series residual variable data of real gross domestic product is normally distributed as the probability of JB-statistic is 0.39 which is absolutely greater than the critical value of 0.05 hence the null hypothesis ( $H_0$ ) is rejected in favour of the alternative ( $H_1$ ) that the residual of the distribution of the model is normally distributed.

**4.2 Testing for Stationarity**

In order to estimate the impact of banks' credit on economic growth in Nigeria, we tested for the presence of unit root in the time series data set. We utilized the Augmented Dickey-Fuller (ADF). To reject the null hypothesis that the data are non-stationary, the ADF statistics must be more negative than the critical values and significant.

**Table 4.2 Unit Root Test**

ADF Test Statistic	-6.080527	1% Critical Value*	-4.4415	
		5% Critical Value	-3.6330	
		10% Critical Value	-3.2535	
*MacKinnon critical values for rejection of hypothesis of a unit root.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(LOGGDP,3)				
Method: Least Squares				
Date: 08/08/14 Time: 11:14				
Sample(adjusted): 1991 2012				
Included observations: 22 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic Prob.	
D(LOGGDP (-1),2)	-2.011642	0.330834	-6.080527	0.0000
D(LOGGDP (-1),3)	0.525948	0.204716	2.569162	0.0193
C	-0.005028	0.045989	-0.109332	0.9141
@TREND(1987)	-1.18E-05	0.002904	-0.004080	0.9968
R-squared	0.753465	Mean dependent var	0.002863	
Adjusted R-squared	0.712376	S.D. dependent var	0.160661	
S.E. of regression	0.086163	Akaike info criterion	-1.902178	

Sum squared resid	0.133634	Schwarz criterion	-1.703806
Log likelihood	24.92395	F-statistic	18.33735
Durbin-Watson stat	2.208421	Prob(F-statistic)	0.000010

From the table 4.2, the empirical result of the unit root test for stationary of time series property of LOGGDP is shown. As revealed, there was a presence of stationarity since the ADF Statistical is less the critical values at 1%, 5% and 10% respectively at a three period difference, a lags and trend.

**4.3 Testing for Causality**

Causality test was conducted to explore the transmission mechanism between bank credit and economic growth. Thus, within our bank credit - economic growth context, Granger Causality will be established if the coefficient  $\beta$  is non-zero or otherwise that is P-values being less than 0.05 critical values. The test is carried out based on one lag of the variables and data ranges from 1987 to 2012.

**Table 4.3 Granger Causality**

Pairwise Granger Causality Tests			
Sample: 1987 2012			
Lags: 1			
Null Hypothesis:	Obs	F-Statistic	Probability
LOGGDP does not Granger Cause CPSR	25	4.32045	0.04953
CPSR does not Granger Cause LOGGDP		0.75196	0.39522

The result of the table 4.3 above explicitly shows that the Gross Domestic Product (LOGGDP) granger causes Credit to the Private Sector Rate (CPSR). However, Credit to the Private Sector Rate (CPSR) do not granger causes GDP. This is evidence from the probability value of F-statistic being greater than the critical value at 5%. Gujarati and Portar (2009) opined that Granger Causality and exogeneity should be treated separately but the former as a useful descriptive tool for time series data.

**Table 4.4 Regression Result**

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. regress LOGGDP CPSR
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Source	SS	df	MS	Number of obs =	26
Model	5.66285732	1	5.66285732	F( 1, 24) =	19.57
Residual	6.94549194	24	.289395498	Prob > F =	0.0002
Total	12.6083493	25	.504333971	R-squared =	0.4491
				Adj R-squared =	0.4262
				Root MSE =	.53795

  

LOGGDP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
CPSR	.0507723	.0114777	4.42	0.000	.0270835 .0744611
_cons	5.923287	.1933386	30.64	0.000	5.524255 6.322318

Durbin-Watson d-statistic( 2, 26) = .2153483

**LOGGDP = 5.51 + 0.06CPSR**

From the table 4.4 above, credit to the private sector has positive and significant impact on Economic growth. It shows that as credit to the private sector (CPSR) increases by 1 unit, gross domestic product (LOGGDP) will increase by 0.05 units with a probability of obtaining a t- value of 4.42 less than 0.0001%, thus significant at 0.05 critical values.

The R<sup>2</sup> is the summary measure that tells us how well the sample regression line fits the data. From the model above, R<sup>2</sup> of 0.45 means that 45% variation in Gross Domestic Product (LOGGDP) was explained by a change in Credit to the private sector (CPSR) and the remaining 55% was explained by variables not included in the model. The

adjusted  $R^2$  take account of more number of regressors if included and it still explains 42.6% variation in the dependent variable.

The F-value (19.57) which follows the F distribution with a degree of freedom numerator of 1 and a degree of freedom denominator of 24 is significant (P-value = 0.000) at a critical value of 0.05. This implies that the entire model is significant.

The Durbin Watson statistics (DW) value of 0.22 shows a trace of serial autocorrelation and Breusch-Godfrey (BG) LM test confirmed the serial correlation with an  $X^2$ -value of 16.9 and P-value of 0.00. A test of heteroscedasticity with Breusch – Pagan (BP) showed equal variance in the residuals. The null hypothesis is rejected while the alternate hypothesis accepted. This implies that bank credit has positive and significant impact on economic growth in Nigeria.

## V. CONCLUSION

The paper investigates the impact of bank credit on economic growth in Nigeria over the period 1987-2012. The causal links between the pairs of variables of interest were established using Granger causality test while the Ordinary Least Squares (OLS) estimation technique was used for the regression. The results from this paper show that bank credit to the private sector has positive and significant impact on economic growth in Nigeria. Evidently from the results, CPSR has a statistically significant positive relationship with economic growth represented by real GDP. Our findings are corroborative of theoretical and empirical evidence. For instance, the postulation that financial or credit development can stimulate economic growth.

Therefore, this paper concludes that continuous growth of the Nigerian economy is contingent upon developing and implementing policies that will address increase in bank credit to critical areas like research and education, manufacturing, agriculture, power, infrastructural development, etc.

## REFERENCE

- Ademu, W.A. (2006), The Informal Sector And Employment Generation in Nigeria: | The Role of Credit, Employment Generation in Nigeria. Selected papers for the Annual Conference of the Nigerian Economic Society held in Calabar, August 22nd to 24th. | Afolabi, L. (1998), Monetary Economics, Lagos: PERRY BARR Ltd. | Agada, A.O. (2010), Credit as an Instrument of Economic Growth in Nigeria, Bullion 34(2), pp 45 Central Bank of Nigeria Publication, Abuja. | Akpansung, A., and Babalola, S. (2008), Banking Sector Credit and Economic Growth in Nigeria: An Empirical Investigation, CBN Journal of Applied Statistics 2( 2). | Barro, R.J. (1996), Determinants of Economic Growth: A Cross-Country Empirical Study, The MIT Press. | Baye, M.R. and Jansen, D.W. (2006), Money, Banking, and Financial Markets: An | Economic Approach, Delhi: A.I.T.B.S. Publishers and Distributors. | Besley J, and Bringham H. (2009), Principles of Finance, USA: South Western cengage Learning. | Bhatia H. (2002), Public Finance, 25th Edition Vikas Publishing House, PVT Ltd, India. | Burda and Wyplosz. (2003), Macroeconomics: A European Text, New York: Oxford Printing Press. | Cevik, S. and Rahmati, M. (2013), "Searching for the Finance-Growth Nexus in Libya", IMF Working Paper WP/13/92, Middle East and central Asia Department. | Chakraborty, I. (2008), "Financial Development and Economic Growth in India: An Analysis of the Post-Reform period", OCCASIONAL PAPER 12, Institute of development studies Kolkata. | Christopoulos, D.K. and Tsionas, E.G. (2004), Financial Development and Economic growth: Evidence from Panel Unit root and cointegration tests. Journal of Development Economics 73(2004): pp 55-74. | Central Bank of Nigeria (1987-2012), CBN Annual Report December 31st December, Abuja: CBN. | Central Bank of Nigeria (2003), CBN Briefs: Research Department. | Central Bank of Nigeria (2010), CBN Monetary, Credit, foreign Trade and Exchange Policy, Circular. No.38 5th January, 2010. | Fadare, S.O. (2010), Recent Banking sector Reforms and Economic Growth in Nigeria, Middle Eastern Finance and Economics – Issue 8 (2010): 146-152. | Geoff, R. (2006), Macroeconomics/International Economy, OECD World Economic Outlook. | Greenwood, J. and Jovanovich, B. (1990), Financial Development, Growth and Distribution of Income, Journal of Political Economy. 98 pp 1076-1107. | Gujarati, D.N. and Porter D.C (2009), Basic Econometrics Fifth Edition, Singapore: | Mcgraw- Hill International Edition. | Levine, R. (1997), Financial Development and Economic Growth: Views and | Agenda, Journal of Economic Literature 32(2) | Melicher, R. and Norton, A. (2011), Introduction to Finance: Markets, Investments, and Financial Management, Ohio: John Wiley & Sons, Inc.. | Nwanyanwu, O.J. (2008), An Analysis of Banks' Credit on Nigerian Economic Growth, Jos Journal of Economics, 4(1) pp 45-55. | Nzotta, S.M. and Okereke, E.J. (2009), Financial Deepening and Economic Development of Nigeria: An Empirical Investigation, African Journal of Accounting, Economics, Finance and Banking research, 5(5) pp 55-66. | Oluitan, R.O. (2012), Bank Credit and Economic Growth: Evidence from Nigeria. International Business and Management. 5(2): pp 102-110 | Osada, M. and Saito, M. (2010), "Financial Integration and Economic Growth: An Empirical Analysis using international panel Data from 1974-2007", Bank of Japan Working Paper Series, No. 10-E-5, April 2010. | Ray, D. (1998), Theory of Economic Development, TEXAS: Beecham Publishing. | Shittu, A. (2012), Financial Intermediation and Economic Growth in Nigeria, British Journal of Arts and social Sciences, 4(2). | Tuuli, K. (2002), "Do efficient Banking sectors Accelerate Economic Growth in Transition Countries," (December 19, 2022). BOFIT Discussion Paper No. 14 (2004). |