EFFECT OF PRIVATE SECTOR CREDIT AND INVESTMENT ON ECONOMIC GROWTH IN NIGERIA

BY
OKEZIE, STELLA OGECHUKWU
ENYERIBE, VIVIAN A.

Abstract

The study analysed the effect of private sector credit and investment on economic growth in Nigeria (1988-2018). Secondary data used were sourced from CBN bulletin. A linear relationship is established between economic growth proxied by GDP the dependent variable and the independent variables of the study which include foreign portfolio investment, foreign direct investment, Nigerian lending interest rate and private sector credit. Data generated were analysed with econometric statistical package E-View 10. Test statistics used were Augmented Dickey Fuller (ADF) unit root test, and Autoregressive Distributed Lag (ARDL) model. ADF unit root test showed that variables in the model were integrated at order one, 1(1) and 1(0). Findings from the long and short run regression estimate of the ARDL model showed that probability of T- statistics of the Private Sector credit is significant while that of Foreign Direct Investment, Foreign Private Investment and Nigerian Lending Interest rate were insignificant. This led to the conclusion that Private Sector Credit does significantly increases GDP, while Foreign Direct Investment, Foreign Portfolio Investment and Nigerian Lending Interest Rate are not. The bound test for Co-integration showed that the relationship is sustained in the long run. The Error Correction Coefficient (ECM) CointEq(-1), is -0.47048, it showed that the model corrects its previous periods disequilibrium at a speed of 47% estimated annually. The study therefore recommend that the Nigerian government needs to formulate policies that; would encourage private sector investment, enhance saving, stabilize interest rate to improve the confidence of the foreign investors in the economy, as this might lead to sustainable economic growth in Nigeria among others.

Keywords: Private Sector Credit, Foreign Direct Investment(FDI), Error Correction Coefficient(ECM), Disequilibrium

Introduction

Banks play very important roles in the economic development and growth of any nation. As an important component of the financial system, they channel scarce resources from the surplus economic units to the deficit economic units in the economy (granting credit) as such these activities form part of their existence. Sound financial system is recognized as a necessary and sufficient condition for rapid growth and development for every modern economy (Sanusi, 2012). Economic growth and development depend essentially on a country's ability to invest and make efficient and productive use of its resources. In fact, there cannot be growth without investment of sufficient amount and quality. Bayraktar (2003) noted that investment is the result and cause of economic growth. A fall out from debates on financial intermediation in extant literature reveals a growing consensus that private sector investment has been the engine of employment and income creation, provision of infrastructure as well as social services. International organizations have equally acknowledged the role of the private sector in enhancing economic growth of developing countries.

European Union (EU) (2014) observed that the private sector has the potential for generating inclusive and sustainable growth in developing countries. The International Finance Corporations (IFC) (2011) further observed that the private sector is a critical component in addressing the development challenges of the developing countries through its contributions in many areas, including growth, employment, poverty reduction, service delivery, food security, climate change mitigation, environmental sustainability, and contributions to taxes. This means that the presence of

the private sector can spur economic growth and reduce poverty. Hence the role of the private sector is important both in its contributions to quantity of gross domestic investment and its ability to allocate and employ resources efficiently. There is no gainsaying the fact that any nation that needs to meet her objectives of economic growth needs investment. As an essential component of aggregate demand, investment contributes meaningfully to economic development and its role in this regard cannot be overemphasized. In the world today, developed countries crave for more development while developing and under-developed countries work towards development. Thus, the attainment of economic growth has over time been the macro-economic goal of economies, which of course should lead to economic development irrespective of size and status. However, despite the indices used to measure the level of economic growth in either the developed or developing country which of course is gross domestic product, the bottom line is that economic growth is an indicator of societal progress. Kalu and Mgbemena (2015), says that societal progress is directly and or indirectly associated with investment expenditure; and investment is a propellant of economic growth and development. Growth and development of economies stems from investment in such economies. Thus, as postulated by the classical economists, increased investment expenditure is key to promoting economic growth which results also in economic development.

Investment is that part of savings that is not consumed but spent on capital goods such as machines, instruments, factories, provision of basic infrastructure or on increasing the stock of raw material or finished goods. In other words, it is the commitment of resources with the hope of realizing benefits which are expected to occur over a reasonable time period. Investment is majorly sub-divided into public and private investments. Public sector investments are investment by government, its ministries, departments and/or agencies. This investment comes in form of capital expenditure (which in Nigeria includes expenditure on administration, economic services, social community services and transfers). Such investments are not geared towards making profit but to enhance the well-being of the people. On the other hand, private sector investments are investments made by corporate entities and individuals other than government. Private investment is profit oriented and motivated. Such can be in form of real investment (private domestic investment and foreign direct investment). However, foreign private investment comprised foreign direct investment and foreign portfolio investment. Foreign direct investment (FDI) is a direct investment into production or business in a country by an individual or company of another country, either by buying a company in the target country or by expanding operations of an existing business in that country.

Economic growth is the endless improvement in the capacity to satisfy the demand for goods and services, resulting from increased production scale, and improve productivity which is usually measured over a certain period of time (Olowofeso et al, 2015). Oluitan (2009) explains that Economic growth entails positive change in the national income or the level of production of goods and services by a country over a certain period of time It therefore measures the annual percentage increase in the real GDP over a certain period of time.

In Nigeria, there is little information about how private sector credit and investment affect economic growth. In view of this development, the objective of this study is to examine the impact of bank lending on economic growth in Nigeria for the period 1986 to 2018. Furthermore, in order to examine the effect of private sector credit on economic growth in

Nigeria, the following hypothesis is postulated: there is no significant relationship between private sector credit and economic growth in Nigeria. Private sector investment is one among the macroeconomic goals Nigeria seeks to achieve as these engender economic growth and development. Therefore, any study that would be useful in achieving growth of private sector investments in Nigeria must be well appreciated.

Literature Review

Finance is a fundamental part of most productive economies. It is, to an extent, the lifeblood of an economy, allowing entrepreneurs and businesses take risks to expand their operations or implement new ideas. An ongoing debate on the role of finance in economic development has been since the works of works of Schumpeter (1911) who advocated for finance-led growth. The financial sector performs the intermediation role of channelling savings into productive investment. Typically, the most dominant source of finance is through bank lending. Banks and other financial institutions are well recognised for performing this function of sourcing finance to support private sector consumption and investment in Nigeria. Olowofeso, Adeleke and Udoji (2015) defined credit to the private sector as financial resources provided to the private sector, such as loans and advances, purchases of non-equity securities, trade credits and other accounts receivable, which establish a claim for repayment. Several empirical studies have shown that the efficient provisioning of credit has a positive and significant effect on output. A strong and inclusive financial system; and availability of investable funds play vital roles in financing economic project and activities that would promote economic growth and development. This is because access to credit enhances the productive capacity of firms and enhances their potential to grow.

Investment is an important variable in the economic growth and development of developed, underdeveloped, and developing countries. Over the years, investment in developing economies has steadily increased and as such a continued analysis of its role in the economic growth of these economies cannot be overemphasized. Apart from being a "sine qua non" for growth and development, investment has also been known to be an ardent booster of standard of living, employment rate, education, human capital development, per capita income among others. However, increases in investment in developing countries with little or no effect on the growth indices have made investment a subject of national and international discourse.

The term, investment, according to Ibenta (2005), may be defined as accumulation and commitment of fund in financial and real assets with the objective of obtaining income over time. He further posits that it is a commitment of resources made in the hope of realizing benefits that are expected to occur over a reasonable long period of time in the future. Investment can also be referred to as the production of capital goods (Heim, 2008). Investment thus includes new plant and equipment, construction of public works like roads, dams, buildings, etc. Investment can be defined as the outlay of money for future use (Agu, 2015). On the bases of the above definitions, investment involves an outlay of fund with the expectation of future income.

Private Sector Credit Investment and Economic Growth in Nigeria

Credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations. Private sector initiative and investment are critical for poverty reduction. In parallel with public sector efforts, private investment, especially in competitive markets, has tremendous potential to contribute to growth. Private markets are the engine of productivity growth, creating productive jobs and higher incomes. And with government playing a complementary role of regulation, funding, and service provision, private initiative and investment can help provide the basic services and conditions that empower poor people by improving health, education, and infrastructure.
On a global scale, economies predominantly developing economies often experience serious capital constraints. This has negative impact on macroeconomic variables thereby hindering financial intermediation by banks and other financial institutions. Following the global financial crises, central banks around the world including that of Nigeria tried to reverse the trend by adopting unconventional credit easing policies of injecting liquidity into the banking system. Thus income and employment expansion were promoted at both firm and aggregate levels building basic infrastructure and engendering overall sustainable development.

The experience of Nigeria leaves no doubt that capital is a prerequisite for its economic growth and social progress as well as for effective public policy making (Amoo, Eboreime, Adamu & Belonwu 2017). Domestic credit to private sector by banks (% of GDP) in Nigeria was 15.66 as of 2016. Its highest value over the past 56 years was 38.35 in 2009, while its lowest value was 3.70 in 1960.

Theoretical Literature

Ample theoretical evidence reinforced by a number of empirical works which supports a positive relationship between private sector credit and investment and economic growth are replete in extant literature. The theoretical link between financial development and economic growth for this study hinges on the neo-classical theory of investment-growth nexus. The Neo-Classical Model of Growth was first devised by Robert Solow, hence it is called the Solow model. The model believes that a sustained increase in capital investment increases the growth rate. The neoclassical theory of investment explains that inducement to invest may also be simulated by favourable changes in relative prices. The neo-classical approach to investment is an improvement on the Harrod–Domar formulation. The Harrod – Domar Model (1939, 1946) highlights the importance of determining the rate of investment (S/Y), which is necessary to achieve a certain rate of economic growth. The model shows the possibility of increasing the rate of growth, by either reducing a factor (capital/income) or increase the rate of investment (savings/income). To most optimally utilize capital, private sector investment no doubt remains the engine of growth with the public sector providing the enabling environment. This theory thus captures the relationship between private sector investment and economic growth.

Empirical Literature

A substantial body of empirical work on finance and growth assesses the impact of the operations of the financial system on economic growth, and the particular role played by financial system in fostering growth and development. Akinbobola, Ibrahim and Razaq (2017) carried out a study using Wald causality methodology to uncover the direction of causal relationship between foreign portfolio investment and economic growth in Nigeria between 1986 and 2013. The empirical results suggest that foreign portfolio investment and economic growths are positively cointegrated indicating a stable long run equilibrium relationship. Further, the findings revealed a bidirectional causality between foreign portfolio investment and economic growth and the complementary role of domestic savings and interest rate in growth. Nadeem, Khalil and Muhammad (2016) explored the long and short run effect of interest rate on private sector credit in Pakistan for the period of 1975 to 2011. The data was analyzed using Autoregressive Distribution Lag (ARDL) model for the purpose of determining the long and short run relationship. The results revealed significant negative effect of interest rate on private sector credit in the long run, and also in the short run. The results also indicated significant positive effect of inflation on private sector credit in long and short run. However, exchange rate was found to have no effect on private sector credit.

Olowofeso, Adeleke and Udoji (2015) studied the impact of private sector credit on economic growth in Nigeria using the Gregory and Hansen (1996) cointegration test that accounted for structural breaks. Quarterly data spanning 2000: Q1 to 2014: Q4 was regressed using modified ordinary least squares to estimate the model coefficients. The study found a cointegrating relationship between output and the selected explanatory variables. Findings from the Error Correction Model (ECM) confirmed a positive and statistically significant effect of private sector credit on output.

Akpansung and Babalola (2012) examined the association between credit in banking sector and economic growth in Nigeria for the period from 1970 to 2008 utilizing the least squares approach (two-stage). The study establishes evidence that credit in private sector positively affected economic

growth while lending rate slows down economic growth. In addition, in Nigeria and for the period 1970-2010 Shittu (2012) investigated the association between the ratio of broad money supply (M2) to nominal gross domestic product (NGDP) as a measure of financial intermediation and the ratio of domestic credit to the private sector (CPS) to the nominal gross domestic product (NGDP). As well as economic growth measured by the growth rate of the real gross domestic product. The study utilized unit root test and Johansen- Co integration test and error correction model to test the hypotheses. The study discovered that financial intermediation has direct effect on economic growth.

Fidelis, Ogwumike and Salisu (2010) observed the relationship between bank deposit liability, credit to private sector, real discount rate and stock market capitalization (elements of financial development) and economic growth of Nigeria expressed by real gross domestic product for the period 1975 to 2008. The study used the Bound test Autoregressive Distributed Lag (ARDL) approach. The outcomes demonstrated that there is a unique long run association between financial progress and economic growth.
Furthermore, Egbetunde and Mobolaji (2010) looked at the causality and the long-run connection between financial development represented by private credit, bank credit, liquid liabilities and broad money and per capita real GDP as a measure of economic growth for ten Sub-Saharan African economies for the period 1970–2005. They used different tools, such as unit root test, Co-integration test, Granger causality test and Vector Error Correction Model (VECM) to inspect the hypotheses. The VECM and Co-integration consequences displayed that financial development and economic growth have a long-run association. Granger causality test illustrated that financial development Granger cause economic growth for Burundi, Cameroon, Mali and Nigeria. Besides, there was bidirectional causality between financial development and economic growth for Cote d'Ivoire and Ghana.

Narayan (2013) using the pair-wise Granger causality test examined the impact of private foreign capital inflows on economic growth in India on monthly data for the period from 1995:04 to 2011:07 using pair wise Granger causality test. The causality test suggested a short and long run equilibrium relationship between the variables like economic growth and foreign direct investment and economic growth and foreign portfolio investment and vice-versa. The most important observation is that economic growth granger causes FDI and FPI. Guluzar and Bener (2013) analyzed the relationship between foreign portfolio investments and macroeconomic factors in Turkey for the period between 2006-2012 using VAR, Granger Causality Tests, Impulse Responses and Variance Decomposition. The study found no causal links between foreign portfolio investment and industrial production index and no relationship between them in the short run. Onuorah and Akujuobi (2013) applied ordinary least square method combined with pair wise granger causality test to examine the impact of macroeconomic variables on the performance of FPI in Nigeria, it found that GDP and Money Supply had inverse relationship with foreign portfolio investment while Interest Rate, Exchange Rate and inflation rate were directly related to foreign portfolio investment. Granger causality results based on F-statistic computed value revealed that there was no causality among all these macroeconomic variables and foreign portfolio investment. Finally, the study found out that there was no long run relationship existing between GDP, inflation rate, exchange rate, Money Supply, interest rate and foreign portfolio investment.

Methodology

A multiple linear relationship is established between economic growth proxied by GDP the dependent variable and the independent variables of the study which include private sector credit, foreign private investment, foreign direct investment and Nigerian lending interest rate. The study draws extensively on secondary data sourced from CBN Statistical bulletin The model is specified thus:
GDP = {PSCR, FPI, FDI, INTR, PSCR}

The model is expressed in the econometric form as

$GDP = \beta_0 + \beta 1PSCR + \beta_2 FDI + \beta_3 INTR + \beta 4FPI + U_t$

Where

β_0 = Intercept of the modely
$\beta_1, \beta_2, \beta_3, \beta_4$ = Parameter Estimates
GDP = Gross domestic product
FPI = Foreign private investment
FDI = Foreign direct investment
INTR = Interest rate
PSCR = Private sector credit
U_t = Error term

In order to empirically analyze the long-run relationships and short run dynamic interactions among the variables of interest the Autoregressive Distributed Lag (ARDL) cointegration technique was used as a general Vector Autoregressive (VAR) model. The ARDL bounds test is based on the assumption that the variables are integrated at order I(0) and I(1). The first step in the Bounds test approach is to estimate the F-statistic for the joint significance of the coefficients of the lagged levels of the variables, i.e.,: H_0: $b_{1i} = b_{2i} = b_{3i} = b_{4i} = 0$ against the alternative one: H_1: $b_{1i} \neq b_{2i} \neq b_{3i} \neq b_{4i} \neq 0$ for i = 1, 2, 3, 4.

4 Result and Discussion

Descriptive properties of GDP, PSC, FDI, FPI and INT for the Period 1986-2018

Table 1

	LOGGDP	LOGPSCI	LOGFDI	LOGFPI	LOGINT
Mean	3.98926	2.950807	2.117687	1.919669	1.281181
Maximum	5.73767	4.72635	3.68139	3.88774	1.50037
Minimum	2.30629	0.8651	-0.13324	-1.945	0.99825
Std. Dev.	0.965504	1.095841	0.986949	2.032987	0.089441
Skewness	-0.1425	-0.1761	-0.40603	-1.02155	-0.2076
Kurtosis	1.961951	1.858049	2.663229	2.355965	5.197861
Observation	33	33	33	33	33

Source: E-view 10

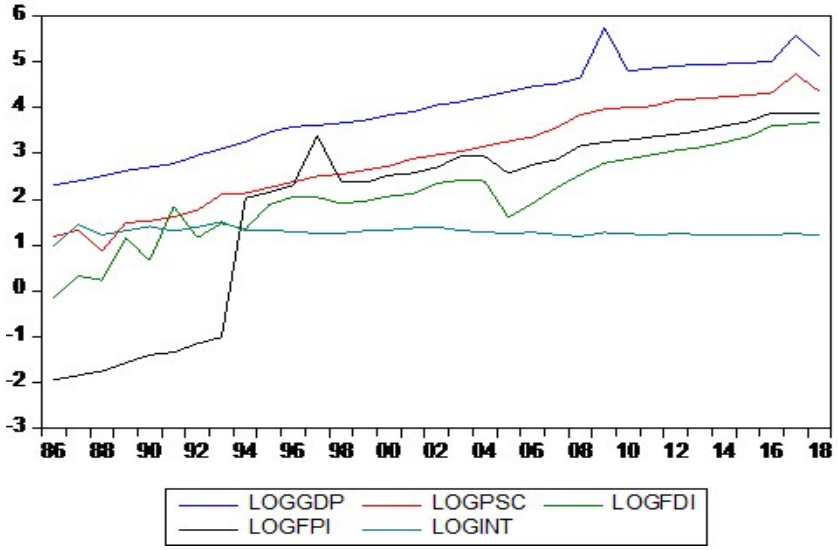
The descriptive statistics as shown in table 1 depicts the mean, standard deviation, maximum minimum, skewness and kurtosis properties of the dependent variable GDP and the independent variables, Private Sector Credit, Foreign Direct Investment, Foreign Portfolio Investment and Interest Rate Analysis shows that the GDP has a standard deviation of 0.965504 and a mean of 3.98926. The standard deviation properties of the independent variables show that Private Sector Credit has a standard deviation of 1.095841 and a mean of 2.950807 while the standard deviation value of Foreign Direct Investment is 0.986949 and the mean value 2.117687. Foreign Portfolio Investment has a mean of 1.919669 while the standard deviation is 2.032987 and Interest Rate has a standard deviation of 0.089441 from a mean of 1.281181 respectively. The Skewness and Kurtosis properties of the variables revealed normality in the distribution of the variables.

Graphical Trend of the LOGGDP, LOGPSC, LOGFDI, LOGFPI and LODINT for the period 1986-2018.

Figure 1 reveals the pattern of increases and decreases in the dependent and independent variables over the period in view. The graphical trend of the variables shows annual variations in trend movement, reflecting increases and decreases in Gross Domestic Product and the variables, Foreign

Direct Investment, Foreign Portfolio Investment and Interest Rate over the period of thirty-three (33) years observed

Figure 1: Graphical Trend of the Variables, 1986-2018



Stationary Test

The stationary test was carried out to ensure that data employed in analysis were stationary using the Augmented Dickey fuller unit root test and results are displayed in table 2

Table 2

ADF Unit Root Test Result

Variable	ADF Statistics	Critical Value	Order of Integration	Remark
LOGINT	-5.933736	-2.957110	1(0)	Stationary at level
LOGFPI	-5.858156	-2.960411	1(1)	Stationary at 1st difference
LOGFDI	-10.20531	-2.960411	1(1)	Stationary at 1st difference
LOGPSC	-8.820616	-2.960411	1(1)	Stationary at 1st difference
LOGGDP	-8.789643	-2.960411	1(1)	Stationary at 1st difference

Source: Authors extraction from E-View 10

The ADF unit root test result of table 2 shows that at level, 1(0), the absolute value of the ADF statistic of interest rate-5.933736 is greater than the reported critical value of -2.957110, thus we reject the null hypothesis and conclude that interest rate is stationary at level that is integrated at order I(0). At first difference, 1(1), the absolute values of the ADF statistics of Foreign Private Investment, -5.858156, Foreign Direct Investment, -10.20531, Private Sector Credit,-8.820616 and Gross Domestic Product, -8.789643 are greater than the reported critical values of -2.960411 (in absolute term) at 5% level of significance, thus the null hypothesis is rejected with the conclusion that the four variables are stationary at first difference.

Autoregressive Distributed Lag (ARDL) Bounds Test for Co-integration.

ARDL bound test is carried out to test for long run relationship among the variables of the model having confirmed their order of integration at I(0) and 1(1) respectively. Results are presented in table 3

Table 3

ARDL Bounds Test for Co-integration

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)
		Asymptotic: n=1000		
F-statistic	7.831446	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37
		Finite Sample:		
Actual Sample Size	32	n=35		
		10%	2.46	3.46
		5%	2.947	4.088
		1%	4.093	5.532
		Finite Sample:		
		n=30		
		10%	2.525	3.56
		5%	3.058	4.223
		1%	4.28	5.84

Source E-view 10

Results of the F-Bounds test statistics of ARDL shows that the F-statistics is 7.831446, which is greater than the 5% critical value bounds of 2.56 for 1(0) and 3.49 critical values bound of 1(1). The null hypothesis of no levels relationship is therefore rejected. This therefore led to the conclusion that there is level relationship within the critical bounds of the levels 1(0) and 1(1) respectively. The finding empirically proved that the Private Sector Credit, Foreign Direct Investment, Foreign Portfolio Investment and Nigerian Interest Rate have long run effect on Economic growth for the period in view.

ARDL Error Correction Model.

The Error Correction Model technique or the long run speed of adjustment is carried out to find out the rate at which the model returns to equilibrium in the long run. Results are presented in table 4.

Table 4
ECM Result

ARDL Error Correction Regression
Dependent Variable: D(LOGGDP)
Selected Model: ARDL(1, 0, 0, 0, 0)
Case 2: Restricted Constant and No Trend
Date: 08/24/19 Time: 04:04
Sample: 1986 2018
Included observations: 32

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-0.47048	0.139886	-7.484982	0.0000

R-squared	0.611082	Mean dependent var	0.087503
Adjusted R-squared	0.611082	S.D. dependent var	0.293435
S.E. of regression	0.182996	Akaike info criterion	-0.527955
Sum squared resid	1.038112	Schwarz criterion	-0.482151
Log likelihood	9.447276	Hannan-Quinn criter.	-0.512772
Durbin-Watson stat	2.332782		

Source: E-Views 10

Results of the ECM in table 4 shows that the Error Correction Term ECM(-1) is rightly signed with a negative coefficient of -0.47048 with significant T-statistics value of -7.484982 (P-value 0.0000). This explains that the model corrects its previous periods disequilibrium at a speed of 47.04% estimated annually

ARDL Short Run Regression

This is carried out to express the short run relationship of the specified model. Thus data is estimated as follows:

GDP = £ {LOGFPI, LOGFDI, LOGINTR, LOGPSCR}.

Table 5

Dependent Variable: LOGGDP
Method: ARDL
Date: 08/24/19 Time: 04:02
Sample (adjusted): 1987 2018
Included observations: 32 after adjustments
Maximum dependent lags: 1 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (0 lag, automatic): LOGPSC LOGFDI LOGFPI LOGINT
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOGGDP(-1)	-0.047048	0.168296	-0.279553	0.7820
LOGPSC	0.903223	0.173119	5.217345	0.0000
LOGFDI	-0.116244	0.116120	-1.001066	0.3260
LOGFPI	0.044130	0.040766	1.082526	0.2890

LOGINT	-0.385263	0.648425	-0.594152	0.5575
C	2.174065	0.998285	2.177801	0.0387

R-squared	0.961422	Mean dependent var	4.041853
Adjusted R-squared	0.954003	S.D. dependent var	0.931690
S.E. of regression	0.199818	Akaike info criterion	-0.215455
Sum squared resid	1.038112	Schwarz criterion	0.059371
Log likelihood	9.447276	Hannan-Quinn criter.	-0.124358
F-statistic	129.5919	Durbin-Watson stat	2.332782
Prob(F-statistic)	0.000000		

Source E-View 10

The relationship model is thus expressed:

LOGGDP = 2.174065 + 0.903223* LOGPSC - 0.116244*LOGFDI + 0.044130*LOGFPI - 0.385263*LOGINT

From the regression line of table 5 the intercept a_0 (2.17406) shows that Y (GDP) increased by 2.174065 which shows that the explanatory variables have increasing joint effect on GDP in the short run. It further revealed that Gross Domestic Product has one period lag (LOGGDP (-1)) which shows that the previous year's value decreases itself by -0.047048units, this explain that it has negative self-effect. The relationship model of equation shows that private sector credit have a positive coefficient of 0.903223495989, which indicates that it is positively related to GDP, an increase in private sector credit increased GDP the by 0.903223495989 units in the short run. Foreign Direct Investment has a negative coefficient of 0.116243861582 in the model relationship equation which shows that it has a negative effect, an increase in the variable decreases GDP by 0.116243861582 in the short run. Contrarily Foreign Private Investment has a positive coefficient value of 0.0441302618887, this affirms that an increase in the variable increases GDP by 0.0441302618887 units in the short run. Interest rate has a negative coefficient of -0.385263353598, this explain that increase in Interest Rate reduces GDP in the short run for the period in view. Test of significance with respect to the T-statistics of the model shows that the three independent variables have insignificant probability values; this is considering the fact that their probability values are higher than 0.05 in the ARDL short run regression and are therefore insignificant at 5% level of significance.

The results are: LOGFDI 0.3260 , LOGFPI, 0.2890, and LOGINTR, 0.5575, which reveal that Foreign Direct Investment, Foreign Portfolio Investment and Interest Rate do not significantly increase GDP in the short run for the period in view. Test of significance further shows that Private Sector Credit have significant probability value, 0000, this is considering the fact that the probability value is less than 0.05 in the ARDL short run regression and are therefore significant at 5% level of significance. The result therefore shows that Private Sector Credit is significantly related to GDP in the short run. The F-statistics used to test the joint statistical significant effect of the independent variables on the dependent variable showed a probability of the F- Statistics is 0.0000 which is less than 5%, it was therefore concluded that Private Sector Credit, Foreign Direct Investment, Foreign Portfolio Investment and Interest Rate have joint significant impact on GDP.

ARDL Long Run Regression

The ARDL long run Regression was further carried out to express the long run relationship of the specified model GDP = £ {LOGFPI, LOGFDI, LOGINTR, LOGPSCR} so as to evaluate the four stated hypotheses of the model. Results are also presented below

ARDL Long Run Regression

ARDL Long Run Form and Bounds Test
Dependent Variable: D(LOGGDP)
Selected Model: ARDL(1, 0, 0, 0, 0)
Case 2: Restricted Constant and No Trend
Date: 08/24/19 Time: 04:03
Sample: 1986 2018
Included observations: 32

Levels Equation
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGPSC	0.862638	0.104988	8.216530	0.0000
LOGFDI	-0.111021	0.111710	-0.993825	0.3295
LOGFPI	0.042147	0.038582	1.092419	0.2847
LOGINT	-0.367952	0.606511	-0.606670	0.5493
C	2.076377	0.845882	2.454688	0.0211

EC = LOGGDP - (0.8626*LOGPSC -0.1110*LOGFDI + 0.0421*LOGFPI
-0.3680*LOGINT + 2.0764)

Source: E- View 10

From the regression line of table above, the intercept a_0 (2.076377) shows that Y(GDP) increased by 2.076377 which shows that the explanatory variables have increasing joint effect on GDP in the long run.

Test of Significance and Hypothesis Evaluation

The T- test statistics is used to determine the individual long run significance of the relationship model: GDP = £ {LOGFPI, LOGFDI, LOGINTR, LOGPSCR}. A variable is statistically significant in the long run if the probability value in the ARDL long run regression in table 4.9 is less than 5% level of significance.

Results show that T-statistics of the test variable LOGPSCR is significant. This is considering the probability value which is 0.0000Since the probability value is less than 5% it is significant and denotes rejection of the null hypothesis. We therefore conclude that private sector credit and investment has a significant effect on economic growth proxied by Gross Domestic Product in Nigeria. This explains that there is a significant relationship between Private Sector Credit and GDP in the long run.

Conclusion and Recommendations

The study is an attempt to examine the effect of private sector credit and investment on economic growth in Nigeria. Using times series data over the period 1986 to 2018 with analysis based on ARDL test for co-integration for both the short run and the long run relationship between the dependent variable GDP and private sector credit, foreign direct investment, foreign portfolio investment and interest rate as explanatory variables. Findings from the result shows a strong

evidence that a significant and positive relationship exist between private sector credit and investment and economic growth both in the short and long run. It can be concluded that private sector credit and investment is an engine of economic growth. Therefore, there is need to have a stable political and economic environment and improve on the critical infrastructure, that will allow for effective and efficient allocation of resources that will impact growth and development.

References

Akinbobola, T.O., Ibrahim, T. R & Ibrahim, O (2017) Foreign Portfolio Investment-Economic Growth Nexus in Nigeria: Co Integration and Granger Causality Analyses. Research Journal of Finance and Accounting Vol.8, No.5,

Akpansung, A. O., & Babalola, S. J. (2012). Banking Sector Credit and Economic Growth in Nigeria: An Empirical Investigation. CBN Journal of Applied Statistics, 2(2), 51-62.

Amoo,G.B.A., Eboreime, M.I., Adamu, Y., & Belonwu, M.C (2017) The Impact of Private Sector Credit on Economic Growth in Nigeria. CBN Journal of Applied Statistics 8(2)

Bayraktar, B. (2003) The role of private sector investments in the economic performance of OIC member countries. Journal of Economic Cooperation. 24(1) 63-110

Egbetunde, T., & Mobolaji, H. I. (2010). An Empirical Analysis of Causality Between Financial Development Economic Growth: Further Evidence from Sub- Saharan Africa. Journal of Economics Theory, 4(2), 50-58.

Emecheta, B. C., & Ibe, R. C. (2014). Impact of Bank Credit on Economic Growth in Nigeria: Application of Reduced Vector Autoregressive (VAR) Technique. European Journal of Accounting Auditing and Finance Research, 2(9), 11-21.

Guluzar K.G. & Bener G. (2013) The Relationship between Foreign Portfolio Investment and Macroeconomic Variables, European Scientific Journal. 9(34)

Ibenta, S.N.(2005)Investment Analysis and Financial Management Strategy. Enugu Institute for Development Studies

Kalu, C.U. & Mgbemena, O.O (2015) Domestic Private Investment and Economic Growth in Nigeria: Issues and Further Consideration. International Journal of Academic Research in Business and Social Science 5(2)

Narayan (2013) Causal Relationship between Foreign Capital Inflows and Economic Growth: Empirical Evidence from India. International Journal of Economics, Finance and Management. 2(1)

Olowofeso, E. O., Adeleke, A. O., & Udoji, A. O. (2015) Impact of private sector credit on economic growth in Nigeria. CBN Journal of Applied Statistics, 6(2), 81-101.

Oluitan, R. O. (2012). Bank Credit and Economic Growth: Evidence from Nigeria. International Business and Management, 5(2), 102-110.

Onuorah, A.C.& Akujuobi, L. E. (2013) Impact of Macroeconomic Indicators on the Performance of Foreign Portfolio Investment in Nigeria European Journal of Business and Management Vol.5, No.2,

Onuorah, A. C., & Ozurumba, B. A. (2013). Bank credits: An aid to economic growth in Nigeria. In Information and Knowledge Management, 3(3), 41-50.

Shittu, A. I. (2012). Financial intermediation and economic growth in Nigeria. British Journal of Arts and Social Sciences, 4(2), 164-179.

Sanusi, L. S. (2012). Banking reform and its impact on the Nigerian economy. Lecture presented at the University of Warwick's Economic Summit, UK, Feburary, 17.