THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Impact of Financial Deepening on Economic Growth in Nigeria

Omuemu Stanley Osasere
Ph.D. Student, Department of Finance, University of Lagos, Nigeria
Umoru Bashiru
Ph.D. Student, Department of Finance, University of Lagos, Nigeria
Ogbeifun Favour Ehis
MS.C. Student, Department of Finance, University of Lagos, Nigeria

Abstract:
This study seeks to examine the impact of financial deepening on economic growth in Nigeria. An annual data covering the period of 1990 – 2017 was used. In other to test the objective of the study, multiple regression techniques were used, also, error correction model was conducted to test the long run equilibrium of the model. Findings revealed that the variable has a long run effect on economic growth since the ECM result reveals a negative and significant relationship. Also based on the short run test, the result reveals that there is a negative and insignificant relationship between the ratio of credit to private sector to gross domestic product (CPS_GDP) and gross domestic product (GDP). There is also a negative and insignificant relationship between inflation rate (INFL) and gross domestic product (GDP).Furthermore, the result shows that there is a positive and insignificant relationship between the ratio of gross fixed capital formation to gross domestic product and gross domestic product (GDP).Also, it was found that there is a negative and insignificant relationship between the ratio of money supply to gross domestic product in the economy and gross domestic product (GDP). Based on the findings, we recommended that government policy should motive financial institutions to grant low cost loans and advances to private investors and to monitor the use of the loan in the economy. Government should also ensure that they create enabling environment for domestic investors to invest funds. Finally, the government yearly budgets should be directed towards capital expenditure rather than recurrent expenditure in the country

Keywords: Financial deepening, credit to private sector, money supply, inflation rate economic growth

1. Introduction

Financial institution expert has been concern with the achievement of economic and financial development in both emerging and developed economy of the world. In any case, this issue has motivated researchers to examine the effect of financial deepening on the growth in the economy. As needs be, this relationship between financial sector deepening and economic development has since gotten a significant thought in Nigeria economy. All around, it has been discovered that financial sector has been adding to the development in the economy.

The extent of a country's financial deepening enhances the contribution of the financial sector to the growth in the economy through it set of lay down framework that facilitates these growth (Nzotta and Okereke, 2009). In like manner, financial deepening objectives can improve the pace of financial advancement and growth in the economy. Financial deepening suggests the advancement in financial assets in an economy. According to Shaw (1973) the raise in the supply of financial assets in the economy will broaden the users of financial instruments, increase the new borrowers and subsequently develop the financial structure of the economy. In line with Gezer (2018 as stated by Todaro and Smith, 2009), financial deepening is a consistent expansion the financial product in an attempt to bring about growth in the productive output of the country

Over the year there have been various reasons and need to investigate the nexus between financial deepening and economic growth. In any case, past financial sector theory by Schumpeter (1911), Gurley and Shaw (1955), supported the fact that financial sector development enhanced economic growth. They believe that financial sector led economic growth. However, contrary to the financial sector led economic growth theory, Levine and Zervos (1996) stated that financial sector do not led to the economic growth. This implies that there is no contribution of financial sector on economic growth. Further, there is no obvious and apparent commitment of financial deepening on economic growth in the post-SAP period in Nigeria (Ayadi, Adegbite and Ayadi, 2008 and Ayadi, 2009), this finding supported the Levine and Zervos (1996). Notwithstanding, as substantiated by Nzotta and Okereke (2009), some studies investigated the economic growth and financial development in Nigeria and found a positive and significant impact (see Ogun, 1986; Edo, 1995; Ndebbio, 2004; and Akinlo and Akinlo, 2007). Also, various studies have been conducted, with different approaches in an attempt to unravel the controversial debate about the direction of causality between financial deepening and economic growth in Nigeria. Although, several policies in Nigeria has been adopted in other to strengthen and deepen the financial sector of the, therefore, there is a need to verify whether or not the supply-leading hypothesis of the finance–growth relationship is

supported in Nigeria by employing a completely different set of financial deepening variables from 1990 to 2018, and advancing the methodology using the error correction model on a multiple regression analysis, this studies additionally contribute to existing literature by increasing the scope of studies using current out there information on financial deepening variables printed within the Nigeria statistical bulletin.

1.1. Objectives of the Study

         The study is to ascertain the impact of financial deepening on economic growth in Nigeria. Specifically, the objectives are

- To determine the impact ratio of money supply to gross domestic product on economic growth
- To examine the impact ratio of credit to private sector to gross domestic product on economic growth
- To ascertain the effect of inflation on economic growth
- To analyse the impact ratio of gross capital formation to gross domestic product on economic growth

2. Empirical Framework

2.1. Local Empirical

         Ogbonna (2018), examines the impact of financial deepening on economic growth in Nigeria between 1970 and 2015, using Vector Error Correction Model, Impulse Response Function, and Forecast Error Variance Decomposition, with a distinction between size and activity variables of financial deepening. The results show that financial deepening and economic growth have a stable long-run relationship, and that activity variables of the financial deepening have more stimulating effect on economic growth than the size variables. The results supported existing literature that financial structure has positive and significant impact on economic growth; with bank base exert more influence than market base. Werigbelegha and Ogiriki (2018) investigated the relationship between financial deepening and the growth of Nigerian economy; for the period (1990-2017). The study used Gross Domestic Product as proxy for growth of Nigerian economy and employed as dependent variable; Total Bank deposits, Market Capitalization and Credit to the Private Sector were used as the explanatory variables to measure financial deepening. Hypotheses were formulated and tested using time series econometrics model. The study concluded that financial deepening had a causal relationship with the growth of Nigerian economy.

         Nwanna and Chinwudu (2016) studied financial deepening and economic growth in Nigeria from 1985 to 2014. It focused on the impact of stock market and bank deepening variables such as money supply, market capitalization, private sector credit and financial savings have on economic growth of Nigeria. The study adopted the supply leading hypothesis. The study used annual time series data for 1985 to 2014 obtained from the Central Bank of Nigeria statistical bulletin. The ordinary least square (OLS) econometric techniques were employed in which variations in the dependent variable, economic growth, measured by gross domestic product growth rate were regressed on money supply ratio to gross domestic product, private sector credit ratio to gross domestic product, market capitalization ratio to gross domestic product and financial saving ratio to gross domestic product using time series data from 1985 to 2014. The result of the analysis reveals that both bank based and stock market financial deepening proxies has significant and positive effect on economic growth and that the banking sector and stock market in Nigeria has an important role in the process of economic growth.

2.2. Foreign Empirical

         Abual-Foul, Genc and Darayseh (2016) did a study on the causal link between financial development and economic growth: case of Jordan. this paper empirically examines the causal relation between financial development and economic growth in the case of Jordan for the period 1965 to 2004 using Toda and Yamamoto (1995) granger-no-causality model, the results reveal that there is a unidirectional granger causality from economic growth to financial development (as defined by log (dc/gdp)).

         Luqman (2014) studied the financial deepening and economic growth in Pakistan, the result show that foreign direct investment, inflation, economic growth and financial deepening proxy by credit to private sector are cointegrated hence long run relationship exists among them. The study tests the variable using the vector error correction model and found out that the level of financial deepening in Pakistan has remained relatively low.

         Ndlovu, (2013), examined financial sector development and economic growth in Zimbabwe for the period 1980–2006. The study used real Gross Domestic Product (GDP) per capita as a measure of economic growth, including Stock Market Capitalization Ratio to GDP, Liquid Liabilities to GDP ratio, and Domestic Credit to Private to GDP; three control variables were used, namely Inflation, Real Interest Rate, and Openness of economy. Using a multivariate Granger causality test, the study found demand-following financial development in Zimbabwe, where there is unidirectional causality from economic growth to financial development

2.3. Theoretical Framework

         This study is anchored on the supply-leading hypotheses of the financial deepening–growth nexus. According to Agu and Chukwu, (2008), the leading proponent of the supply-leading hypothesis is Schumpeter, (1911), supported by Calderon and Liu, (2003), Gurley and Shaw, 1967, King and Levine, 1993 and McKinnon, (1973), among others. The hypothesis asserts that financial development contributes to the growth of the economy. Accordingly, the effect runs from financial development to economic growth and it is caused by an improvement in the efficiency of capital accumulation or

an increase in the rate of savings as well as the rate of investment. The additional benefit of this theory is that entrepreneurs have new access to the supply-leading funds.

3. Methodology

Data are sourced from secondary sources form the Central Bank of Nigeria (CBN) report. Information is also gathered from different reports which are related to this study. An annual data covering the period of 1990 – 2017 are used.

3.1. Model Specification

The functional form of the model specified for this study is given as:

MODEL

GDP = f (Ms/GDP, CPS/GDP, INF, GCFC/GDP,)

Where

Ms/GDP = Money supply to gross domestic product

CPS/GDP = Credit to private sector to gross domestic product

INF = inflation Rate

GFCF/GDP =.Gross fixed capital formation to gross domestic product

GDP= Gross domestic product

3.1.1. Econometric Specification

GDP= β_0 + β_1Ms/GDP + β_2CPS/GDP + β_3INF + β_4GFCF/GDP+ μ

Where;

β_0 β_1 β_2 β_3 β_4 are the parameter of the model

μ is the error term

3.1.2. A Priori Expectation

$\beta_0 > 0, \beta_1 > 0. \beta_2 > 0, \beta_3 < 0, \beta_4 > 0$

3.2. Data Analysis

This study made use oferror correction model (ECM) to analysethe short and long run effect of financial deepening on economic growth in Nigeria. The analysis was conducted using econometric software known as **EVIEWS 10** in estimation of the result.

4. Analysis and Interpretation of Results

This section focus on data analysis and interpretation of result computed. However, in other to test for stationarity, a unit root test followed by the cointegration test as well as that granger causality test and the error correction regression was presented.

4.1. Presentation of Unit Root Results

Since data series for all variables are readily available, we proceed to test for their stationary of the data using the ADF Test

Variable	DF	ADF Test Critical value	ADF Test Statistics	Order of Integration
GDP	1% 5% 10%	-3.724070 -2.986225 -2.632604	-6.554209	1(2)
M2_GDP	1% 5% 10%	-3.711457 -2.981038 -2.629906	-4.769477	1(1)
INF	1% 5% 10%	-3.711457 -2.981038 -2.629906	-4.161879	1(1)
GFCF_GDP	1% 5% 10%	-3.711457 -2.981038 -2.629906	-5.603710	1(1)
CPS_GDP	1% 5% 10%	-3.711457 -2.981038 -2.629906	-5.511437	1(1)

Table 1: Unit Root
Source: Autrhors' computation, 2019

For the ADF statistics, the 99%, 95%, and 90% critical values are shown after each ADF test critical value at the left hand side of second column of table 1. The data series are found to contain a unit root at level except for gross domestic product (GDP), whose unit root is at second level that is the null hypothesis is not rejected. This can be seen by comparing the observed values of the ADF test statistics at 1%, 5% and 10% levels of significance. The computed ADF test-statistic is smaller than the critical values at 10%, 5%, 1% significant level, respectively, therefore we can reject Ho. It means the series doesn't have a unit root problem and the variables are stationary.

4.2. Presentation of Johansen Co-Integration Test Results
Table 2 below represents the Johansen co-integration test results. The purpose of this equation is to determine the long run relationship or co-movement between the series under consideration.

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.745073	95.33698	69.81889	0.0001
At most 1 *	0.685095	59.80075	47.85613	0.0026
At most 2	0.467173	29.75815	29.79707	0.0505
At most 3	0.257195	13.38964	15.49471	0.1013
At most 4 *	0.195604	5.659264	3.841466	0.0174

Table 2: Johansen Co-Integration test Results
Source: Autrhors' computation, 2019

Under the Johansen Co-integration test, for both Unrestricted Co-integration Rank Test **(**Maximum Eigen value**)** and trace value, co-integration is said to exist if the values of computed Eigen values are significantly different from zero or if the trace statistics is greater than the critical value at 5 percent level of significance. The result of the co-integration in table 2 above indicates five co-integrated equation. Condition to satisfy long run relationship states that the trace statistics must be greater than the critical value at 5 percent level of significance in at least two of the hypothesized equations. Similarly, the computed Eigen value is significantly different from zero in one of the hypothesized equations. Hence, the researcher denotes that three of the hypothesized equations satisfy this condition and therefore the null hypothesis of no co-integration among the variables is rejected in at least two equations. Thus, there is therefore a long run relationship between the variables used for the analysis in Nigeria within the period under study 1990-2017.

4.3. Presentation of Granger Causality Test
The granger test helps to examine the direction of the relationship between the variables of interest. The results was presented in table 3

Pairwise Granger Causality Tests			
Date: 01/26/19 Time: 06:45			
Sample: 1990 2017			
Lags: 1			
GDP does not Granger Cause GFCF_GDP	27	5.49479	0.0277
GFCF_GDP does not Granger Cause GDP		8.82729	0.0066
GDP does not Granger Cause CPS_GDP	27	2.37080	0.1367
CPS_GDP does not Granger Cause GDP		5.01541	0.0347
	BU		
INF does not Granger Cause GDP	27	0.35727	0.5556
GDP does not Granger Cause INF		0.50937	0.4823
M2_GDP does not Granger Cause GDP	27	7.73814	0.0104
GDP does not Granger Cause M2_GDP		2.38938	0.1352

Table 3: Granger Causality Test
Source: Autrhors' computation, 2019

From the above table, there is bi-directional causality between the rate of gross fixed capital formation variables to gross domestic product (GCFC_GDP) and economic growth. This implies that gross capital formation to gross domestic product ratio can cause economic growth and vice versa. Also, the result of the test reveals that there is a unidirectional causality between the rate of credit to private sector to gross domestic product (CPS-GDP) and economic growth. This implies that the rate of credit to private sector to gross domestic product can only cause economic growth and not necessarily economic growth affecting credit to private sector. Similarly, unidirectional causality exitsbetween the rate of money supply to gross domestic product(M2_GDP) and economic growth. This therefore implies that all financial deepening ratios have a unidirectional causality showing that financial sector lead economic growth in Nigeria. Finally, there is no directional causality between the rate of inflation and economic growth.

4.4. Presentation of ECM Regression Results

The regression result was presented in table 4 below;

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-61040.23	1005124.	-0.060729	0.9522
D(CPS_GDP)	-145.6832	150.7277	-0.966533	0.3459
D(INF)	-7.287561	19.23020	-0.378964	0.7089
D(GFCF_GDP)	18460.08	10713.29	1.723101	0.1011
D(M2_GDP)	-198.9653	160.2385	-1.241683	0.2295
ECM1(-1)	-0.112281	0.045772	-2.453036	0.0240
R-squared	0.852379	Mean dependent var		4350.600
Adjusted R-squared	0.805762	S.D. dependent var		3614.423
S.E. of regression	1592.963	Akaike info criterion		17.80938
Sum squared resid	48213116	Schwarz criterion		18.14810
Log likelihood	-224.5220	Hannan-Quinn criter.		17.90692
F-statistic	18.28471	Durbin-Watson stat		2.388578
Prob(F-statistic)	0.000001			

Table 4: ECM Regression Results
Source: Autrhors' computation, 2019

From the regression results, the coefficient of determination **R^2** and its adjusted counterpart **R^2** of 0.852 and 0.806 respectively are high. This actually shows that the model has a good fit. However, the DW- Statistics of 2.388578 indicates there is no presence of the problem of serial correlation or autocorrelation in the model. Also the F test shows an overall significance of the model.

From the above table 3, the error correction terms (u (-1)) is rightly signed and significant which tells about the rate at which it corrects the previous period disequilibrium of the system if it is negative and significant. The coefficient of the error correction is negative (-0.112281) and significant at 5% level. This implies that the model adjust or corrects its past period disequilibrium at a speed of 11.22% annually. This implies that the model adjust for disequilibrium at 11.22% annually in order to get to the long run steady state equilibrium. Thus, there exist a strong long run relationship between financial deepening and economic growth.

4.5. Test of Hypothesis

The estimated regression result indicates that the independent variable of the ratio ofprivate sector to gross domestic product (CPS_GDP) impacts negatively and insignificantly on the dependent variable captured by gross domestic product (GDP). The result of the analysis indicated that the coefficient of the ratio of credit to private sector to gross domestic product (CPS_GDP) is accompanied by a negative sign and the t-statistic of -145.6832 (-0.37896) is also accompanied by a probability value of 0.3459. Since the probability value is greater than the significant level at 5%, it is based on this that we can accept the null hypothesis. We can therefore conclude that there is a negative and insignificant relationship between the ratio of credit to private sector to gross domestic product (CPS_GDP) and gross domestic product (GDP).

The estimated regression result indicates that the independent variable inflation rate (INFL) impacts negatively and significantly on the dependent variable captured by gross domestic product (GDP). The result of the analysis indicated that the coefficient of inflation rate (INFL) is accompanied by a negative sign and the t-statistic of -7.287561 (0.100762) is also accompanied by a probability value of 0.7089. Since the probability value is greater than the significant level at 5%, it is based on this that we can accept the null hypothesis. We can therefore conclude that there is a negative and insignificant relationship between inflation rate (INFL) and gross domestic product (GDP).

The estimated regression result indicates that the independent variable of the ratio of gross fixed capital formation to gross domestic product(GFCF_GDP) impacts positively and insignificantly on the dependent variable captured by gross domestic product (GDP). The result of the analysis indicated that the coefficient of the ratio of gross fixed capital formation to gross domestic product (GFCF_GDP) is accompanied by a positive sign and the t-statistic of 18460.08(1.723101)is also accompanied by a probability value of 0.1011. Since the probability value is greater than the significant level at 5%, it is based on this that we can accept the null hypothesis. We can therefore conclude that there is a positive and insignificant relationship between the ratio of gross fixed capital formation to gross domestic product and gross domestic product (GDP).

The estimated regression result indicates that the independent variable of the ratio of money supply to gross domestic product (M2_GDP) impacts negatively and insignificantly on the dependent variable captured by gross domestic product (GDP). The result of the analysis indicated that the coefficient of the ratio of money supply to gross domestic product is accompanied by a negative sign and the t-statistic of -198.9653 (-1.241683)is also accompanied by a probability value of 0.2295. Since the probability value is greater than the significant level at 5%, it is based on this that we can reject the null hypothesis. We can therefore conclude that there is a negative and insignificant relationship between the ratio of money supply to gross domestic product in the economy and gross domestic product (GDP).

5. Conclusion and Recommendation

The result of the model above shows that, credit to private sector has a long run inverse relationship with economic growth in Nigeria and this result does not conform to the apriori expectation. This was because during the period covered, it was observed that there is an obsession with investment in financial assets rather than productive capital (real assets), thus reduces potential growth and adds nothing to the current capacity of the economy to generate sufficient output to maintain employment levels. Credit to private sector can also have a negative impact on the economy if the cost of borrowing to private sector and inflation rate is greater than the return on their investment. This will lead to high indebtedness of the private sector which can ruin the investment and lead to economy retrogression. Also, the inflation rate in this study was adverse to the nation's economy and this result conforms to apriori expectation. However, we expect that the high rate of inflation, the lower the purchasing power of money and standard of living. Adverse inflation also increases the cost of doing business, lending rate, and lowergovernment bond yield. Inflation discourages the growth of local and small scale industry in the economy because it places them at a competitive disadvantage with foreign investors. The result also reveals that there is a positive and insignificant relationship between the ratio of gross fixed capital formation to gross domestic product and gross domestic product (GDP). This implies that the growth of Nigeria economy is positively affected by the level of domestic investment. Thus financing the domestic investment will directly imply encouraging economic growth. This finding was supported by the theory of Keynes which stated for government to drive growth in national income, they must encourage capital formation in the country because there is a linear relationship between gross domestic investment and economic growth. Finally, the study found that there is a negative and insignificant relationship between the ratio of money supply to gross domestic product in the economy and gross domestic product (GDP). This implies that in Nigeria money supplied into the economy are not productively utilized for growth in the economy. Practically, it has been observed that more that 50% of the country's budget is for recurrent expenditure as such money supplied through the fiscal aspect of the economy are not put into use for output growth.

Notwithstanding, we recommended that government policy should motive financial institutions to grant low cost loan and advances to private investor and to monitor the use of the loan in the economy. Government should also ensure that they creates enabling environment for domestic investors to invest funds. Finally, the budget should be directed towards capital expenditure rather than recurrent expenditure in the country

6. References

i. Abu Al-Foul, B.M., Genc, I.,& Darayseh, M. (2016). On the causal link between financial development and economic growth: Case of Jordan. *Corporate Ownership & Control*, 13(2-3), 518-520. http://dx.doi.org/10.22495/cocv13i2c3p2

ii. Agu, C. C., & Chukwu, O. J. (2008). Toda and Yamamoto causality tests between bank-based financial deepening and economic growth in Nigeria. *European Journal of Social Sciences*, 7(2), 189-198

iii. Akinlo, A.E. & Akinlo, O. (2007). Financial development, money, public expenditure and national income in Nigeria. *Journal of Social and Economic Development* 1

iv. Calderon, S,& Lui, L (2003). The direction of causality between financial development and economic growth; Journal of Development Economics, 72(1), 321-334

v. Edo, S. E (1995). An estimation of a model of long-term securities investment in Nigeria. *Economic and financial Review*, 1 (12).

vi. King, R. G. & Levine, R. (1993a). Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics*, 108(3):717–37

vii. Luqman (2014). Financial deepening and economic growth in Pakistan: An Application of Cointegration and VECM Approach; *Interdisciplinary Journal of Contemporary Research*, 5(12).

viii. McKinnon, R. (1973).*Money and capital in economic development*. Washington, DC: Brookings Institutions

ix. Ndebbio, J.E.U. (2004). Financial deepening, economic growth and development: Evidence from Selected Sub-Sahara African Countries, AERC Research Papers No. 142 African Economic Research Consortium, Naira.

x. Ndlovu, (2013). Financial Sector Development and Economic Growth: Evidence from Zimbabwe. *International Journal of Economics and Financial Issues*, 3, (2)

xi. Nwanna and Chinwudu (2016). The effect of financial deepening on economic growth in Nigeria; *IOSR Journal of Economics and Finance*. 7(4). 11-28

xii. Nzotta, M.S., &Okereke,E.J.(2009). Financial deepening and economic development of Nigeria: An Empirical investigation. *African Journal of Accounting, Economics, Financeand Banking Research 5(5).*

xiii. Ogbonna (2018), Re-examining the Impact of Financial Deepening on Economic Growth in Nigeria: Size or Level of Activity? *Journal of Economics and Sustainable Development,* 9(7)

xiv. Ogun, O.D. (1986). A note on financial deepening and economic growth: Evidence from Africa. *Nigerian Journal of Economic and Social Studies,*28 (2)

xv. Schumpeter, J. (1911). *The theory of economic development.* (Reprinted 1969). Oxford: Oxford University Press.

xvi. Todaro, M. P., & Smith, C. S. (2009).*Economic development* (10th ed.). New York, NY: Addison-Wesley Publications

xvii. Werigbelegha A.P & Ogiriki T. (2018). A causality investigation of financial deepening and the growth of Nigerian economy (1990-2017); *International Journal of Economics, Commerce and Management*, 6, (6)