SSRG International Journal of Economics and Management Studies
ISSN: 2393 – 9125 / https://doi.org/10.14445/23939125/IJEMS-V7I2P109

Volume 7 Issue 2, 59-63, February 2020

Review Article

Financial Deepening and Economic Growth of Nigeria (1981-2018)

F.O.C. Osunkwo

Lecturer , Department of Economics, Abia State University Uturu, P.M.B 2000, Nigeria

Received Date: 09 January 2020
Revised Date: 16 February 2020
Accepted Date: 19 February 2020

Abstract *- This study analyses the effect of financial deepening on Nigeria's economic growth between the period 1981-2018. The data were subjected toa stationarity test using the augmented dickey fuller unit root technique, and the data were found to be stationary at their first differencing. A long-term relationship between the dependent and independent variables was revealed with the Johansen cointegration technique. The data were analyzed using the vector error correction mechanism. The findings revealed that financial deepening indicators –the ratio of credit to the private sector to GDP is positively related while the ratio of the money supply to GDP is negatively related with economic growth, and also the speed of adjustment of theshort-run equilibrium was low, rightly signed and significant as shown in the error correction term. It was recommended that the government or monetary authorities should advance more credit to the private sector and as well ensure that increase in money supply is adequately monitored.*

Keywords *- financial deepening, economic growth, co-integration.*

I. INTRODUCTION

Economic theory suggests that the financial sector of any economy is an engine of growth. The argument is that as the financial sector extends credit to the productive sectors of the economy affordable costs, the overall economy grows inclusively.

Financial deepening refers to the increasing provision of financial services. This implies that for there to be effective financial deepening, there must be developed financial institutions and an increase in the diversity of financial instruments. A financial market is made up of institutions, operators, financial instruments (assets and liabilities), rules and regulations that guide the mobility of funds from surplus units to the deficit units of the economy. A developed financial system broadens access to funds which promotes investment and economic growth. This can also be promoted through the introduction of diverse financial reforms and policies.

In the words of Okeke and Nzotta (2009), financial deepening is the ability of financial institutions in an economy to effectively mobilize savings for investment purposes. Financial deepening mobilizes excess funds from the surplus units and allocates same to entrepreneurs, businesses, households, and government for investments projects and other purposes with a view of returns which forms the basis for economic growth. Financial deepening generally means an increased ratio of money. The more liquid money is available in an economy, the more opportunities exist for continued growth. The Central Bank of Nigeria (CBN), which is the sole operator of the nation's monetary system, has been trying hard to ensure that the financial sector in Nigeria maintains a standard that is comparable to those of the developed nations of the world. There have been a series of reforms that are necessitated in response to the challenges posed by developments in the financial sector, such as globalization and economic meltdown. These reforms, in one way or the other, seek to strengthen the financial system in conformity with what is obtainable in western countries. Some of these reforms include the privatization policy, the 25billion Naira Capital Base, interest rate deregulation, the introduction of the Bank Verification Number (BVN), and the recent adoption of e-banking by all the financial institutions in Nigeria. All these are aimed at maintaining a healthy financial sector that will lubricate the wheel of investment and growth in the country.

The ratio of gross domestic product to money supply has been increasing steadily to about 11% in 1988 and later falls to 9.5% in 1990. It rises up again the year 1991 and reaching an all-time high of 15.4% in 2001. The trend continues in rising and declining order till 2011, when it maintains an upward trend (CBN, 2018). The ratio of credit to the private sector to gross domestic product has

maintained a 0ne-digit rate from 1981 till 2006 excepting in 1993 when it attains two-digit rate. From 2007 till date, the rate has been two-digit rate with the highest rate of 20.77% recorded in 2016.

A. Statement of the Problem

Despite the various financial reforms in the country, the Money supply, which is controlled and managed by the central bank, has been unstable in terms of value and volume in recent times as the CBN has been manipulating it to achieve economic objectives. The essence of financial deepening is to broaden the resource base, raise the capital needed to stimulate investment through savings and credit, and boost the overall productivity. Can the country boost or increase gross domestic product due to an increase in money supply and available credits to the private sector? This study intends to find an answer to the above question.

B. Objectives

The broad objective of this study is to find the effect of financial deepening on economic growth in Nigeria. However, the specific objectives are;

1. To examine the effect of money supply on the gross domestic product.

2. To determine the effect of credit to the private sector on gross domestic product from 1980-2018

II. LITERATURE REVIEW

A. Modern Quantity Theory of Money

According to Ndugbu (2001), the modern quantity theorists accept the proposition that an increase in the money supply may manifest itself in an increase in real output and perhaps a slight decrease in income velocity in the short – run, as well as an increase in the level of prices. From the equation of exchange MV=PT, it is believed that the great bulk of any increase in M shows up in increased expenditure (MV) rather than in reduced velocity. In other words, the monetarists share the view that money has a significant role to play in an economy, and money supply influences the periodic movement of economic activities and especially the magnitude of income and price level. Money supply, according to Ihekweme (2015), is the amount of money available in an economy. The money supply is guided by two main theories of determination; the exogenous and endogenous determinants (Jhingan, 2010). The exogenous determinant is done by the central bank alone via required reserve and bank reserve, while the endogenous determinants include changes in economic activities that can influence the supply of money and the desire of people to hold currency relative to deposits.

Financial deepening variables for this study include the ratio of credit to the private sector to gross domestic product (CPS/GDP) and the ratio of the money supply to gross domestic product (MS/GDP).

B. Empirical Review

Osuji and Chigbu (2012) investigated the impact of financial deepening variables on economic growth in Nigeria using three variables: gross domestic product (GDP), money supply (M2), and credit to the private sector (CPS). Granger causality testing and the Error Correction Model (ECM) were employed on time series data from 1960to 2008, and the results revealed that Money Supply (MS) and Credit to Private Sector (CPS) are positively related to the economic growth of Nigeria. Okoli (2010) examines the relationship between financial deepening and stock market returns and volatility in the Nigerian stock market for the period 1980-2009, using the GARCH statistical technique revealed that financial deepening measured as the ratio of the value of stock traded to GDP do not affect the stock market and there is no news about volatility. Adelakun (2010) empirically examined the relationship between financial development and economic growth using the annual growth of the gross domestic product, real interest rate, the ratio of gross domestic savings to GDP, the ratio of domestic credit to the private sector to GDP, the ratio of liquidity liabilities to GDP, the ratio of gross fixed capital formation to GDP, and trade openness. In using the Ordinary Least Squares Estimation Method (OLSEM), the results show that there is a substantial positive effect of financial development on economic growth in Nigeria.

Ndebbio (2004) investigated financial deepening, economic growth, and development for Sub-Saharan African countries. The study employed two financial deepening variables, namely the degree of financial intermediation measured by M2 as a ratio to GDP and the growth rate of per capita real money balances. The study revealed that development in the financial sector of these countries spurs sustainable economic growth.

Olofin and Afangideh's investigation on financial structure and economic growth in Nigeria, using a three-stage least square estimation technique on data spanning 1970 to 2005, discovered that a developed financial system reduces growth financing constraints by increasing bank credit and investment activities, with a resultant rise in output.

Darrat and Haj (2002) carried out a study to model the effect of financial development on economic growth volatility for the period 1970 and 1999 for four countries (Egypt, Jordan, Saudi Arabia, and Tunisia) using GARCH and Error Correction Mechanism, concluded that there exists a long-term relationship between financial deepening and economic growth rate for these four countries.

Khan (2008) used the Autoregressive Distributed Lag (ARDL) framework to examine the relationship between financial development and economic growth in Pakistan from 1961 to 2005. His results revealed that in the short and

long run, financial development and investment impact positively on economic growth. The results also revealed that in the short run, real deposit rate impacts significantly on real output, while in the long-run real deposit rate and economic growth have aninsignificant positive relationship.

Azege (2004) examined the empirical relationship between the level of development by financial intermediaries and growth in Nigeria. The study employed data on aggregate deposit money bank credit over time and gross domestic product to establish that a moderately positive relationship exists between financial deepening and economic growth.

III. METHODOLOGY

This study is a time series study, and the data are secondary dataextracted from the central bank of Nigeria's statistical bulletin of variousyears. The data are subjected to a stationarity test using the augmenteddickey fuller unit root technique. The data were found to be stationary attheir first difference, 1(1). The data were also subjected toa long-runrelationship test using the Johansen cointegration technique. It was found out that there exists a long-run relationship between the dependent and the independent variables.

A. Model Specification

Vector Error Correction Specified Model

The VECM for the variables is specified below

GDP = βt ++μ1t

Where βt, and are parameters to be estimated

GDP-

GDPM2-

GDPCPS- Gross domestic product

The ratio of GDP to the Money supply

The ratio of GDP to Credit to the private sector

B. Stationarity Test

Granger (1969) opined that most time series data are non-stationary, and using non-stationary variables in a model might lead to spurious regressions. The first order and second differenced terms of most of the variables will usually be stationary. The presence of cointegration forms the basis for error correction model specification. This was done by incorporating one lagged residual from the static regression. The error correction model was designed to capture the short-run deviations that might have occurred in estimating the long-run cointegrating equation (Engle and Granger, 1991).

C. Cointegration and Error Correction Model Technique

It has been observed virtually the body of statistical estimation theory is based on asymptotic convergence theorems, which assumed that time series isstationarity. However, econometric tools are increasingly being brought to bear on non-stationary data, which are not even asymptotically consistent with the notion of convergence.

D. Johansen cointegration Test

This technique represents an improvement in the sense that cointegrating relationship and error correction equation will be jointly estimated. Moreover, no variable is arbitrarily set as a dependent variable.

Stationarity test results using the unit root technique

Variables	Order of integration	ADF
GDP	1(1)	-9.964618
CPS/GDP	1(1)	-4.876972
MS2/GDP	1(1)	-5.643062

Critical Values

1%	-3.632900
5%	-2.948404
10%	-2.612874

Source: Author's Computation

The result above shows that the variables are stationary at their first Differencing. This calls for the use of cointegration to establish if there Exist a long-run relationship.

Cointegration test result

Date: 02/09/20 Time: 04:03				
Sample (adjusted): 3 38				
Included observations: 36 after adjustments				
Trend assumption: Linear deterministic trend				
Series: GDP CPSGDP MSGDP				
Lags interval (in first differences)				
ed	Trace	5 Percent	1 Percent	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Critical Value
None **	0.446188	37.47574	29.68	35.65
At most 1 *	0.232193	16.20227	15.41	20.04
At most 2 **	0.169599	6.690458	3.76	6.65
Trace test indicates 3 cointegrating equation(s) at the 5% level				
Trace test indicates 1 cointegrating equation(s) at the 1% level				
*(**) denotes rejection of the hypothesis at the 5%(1%) level				

The result shows three cointegrating equations at the 5% level of Significance. This implies that there is a long-run relationship between gross Domestic product and financial deepening variables.

E. Research Hypothesis

HO: Money Supply and Credits to the private sector have no significantimpact on gross domestic product.

HA: Money Supply and Credits to the private sector have a significantimpact on gross domestic product.

Vector Error Correction Estimates			
Date: 02/09/20 Time: 03:54			
Sample (adjusted): 6 38			
Included observations: 33 after adjustments			
Standard errors in ( ) & t-statistics in [ ]			
CointegratingEq:	CointEq1		
GDP(-1)	1.000000		
CPSGDP(-1)	392784.2		
(83320.5)			
[4.71413]			
MSGDP(-1)	-865577.1		
(164106.)			
[-5.27450]			
C	8025210.		
Error Correction:	D(GDP)	D(CPSGDP)	D(MSGDP)
CointEq1	-0.002048	-2.69E-07	2.16E-06
(0.00093)	(1.0E-06)	(8.0E-07)	
[-2.20134]	[-0.26944]	[2.71491]	
D(GDP(-1))	0.606346	3.11E-05	0.000261
(0.21328)	(0.00023)	(0.00018)	
[2.84302]	[0.13609]	[1.42654]	
D(GDP(-2))	-0.448171	0.000711	0.000928
(0.37751)	(0.00040)	(0.00032)	
[-1.18719]	[1.75596]	[2.87175]	
D(GDP(-3))	-0.678297	-0.000305	0.000122
(0.31968)	(0.00034)	(0.00027)	
[-2.12181]	[-0.89086]	[0.44627]	
D(GDP(-4))	0.941240	-0.000535	-0.000641
(0.33785)	(0.00036)	(0.00029)	
[2.78596]	[-1.47655]	[-2.21606]	
D(CPSGDP(-1))	681.8865	-0.020494	-0.586110
(379.952)	(0.40737)	(0.32534)	
[1.79467]	[-0.05031]	[-1.80151]	
D(CPSGDP(-2))	327.1606	-0.151521	-0.411262
(331.294)	(0.35520)	(0.28368)	
[0.98752]	[-0.42658]	[-1.44975]	
D(CPSGDP(-3))	178.6703	0.174723	-0.420021
(327.752)	(0.35140)	(0.28065)	
[0.54514]	[0.49722]	[-1.49662]	
D(CPSGDP(-4))	405.6294	0.467937	0.104202
(341.502)	(0.36614)	(0.29242)	
[1.18778]	[1.27801]	[0.35635]	
D(MSGDP(-1))	-1072.734	0.198142	1.219463
(571.852)	(0.61312)	(0.48966)	
[-1.87589]	[0.32317]	[2.49041]	
D(MSGDP(-2))	-720.6397	0.345287	1.292820
(543.908)	(0.58315)	(0.46573)	
[-1.32493]	[0.59210]	[2.77587]	
D(MSGDP(-3))	-828.0323	-0.655557	0.737407

(586.571)	(0.62890)	(0.50227)	
[-1.41165]	[-1.04239]	[1.46816]	
D(MSGDP(-4))	-531.2382	-0.727581	-0.198961
(461.662)	(0.49497)	(0.39531)	
[-1.15071]	[-1.46994]	[-0.50330]	
C	2787.696	0.375577	-2.479200
(1184.30)	(1.26975)	(1.01408)	
[2.35388]	[0.29579]	[-2.44477]	
R-squared	0.918303	0.573175	0.653905
Adj. R-squared	0.862405	0.281137	0.417104
Sum sq. resids	42729837	49.11887	31.32982
S.E. equation	1499.646	1.607857	1.284110
F-statistic	16.42814	1.962673	2.761407
Log likelihood	-279.0443	-53.38761	-45.96801
Akaike AIC	17.76026	4.084098	3.634425
Schwarz SC	18.39514	4.718980	4.269307
Mean dependent	3865.766	0.328187	0.243402
S.D. dependent	4042.842	1.896376	1.681925

Source: Author's Computation

From the vector error correction result above, the coefficient of determination is high, showing that about 91.8% percent of the total variation in GDP is explained by CPDGDP and MSGDP. This is a good fit. CPSGDP at the various lag levels is positive relative to GDP, while MSGDP at various levels is negative. The long-run equation shows that the ratio of the money supply to gross domestic product is positive while that of credit to the private sector is negative. The error correction term is rightly signed and significant. It shows that about 0.2% of the disequilibrium is corrected annually. These findings conform to Audu and Okumoko (2013), who carried out a study on financial development and economic growth in Nigeria (1970-2012). Using the Johansen full information,the maximum likelihood method concluded that money supply to GDP (MGDP) and the ratio of credit issued to non-financial private firms negatively influenced economic growth, and bank credit to the private sector positively influenced economic growth. Also, estimates from the error correction model provide evidence to show that financial deepening indicators and GDP series converge to a long-run cointegrating equilibrium at a reasonably slow rate. The ECM results also show that short-run changes in financial deepening have a positive and statistically significant impact on short-run changes in GDP.

F. The policy implication of the Findings and Recommendations

The results of the findings showed that the ratio of credit to theprivate sector to the gross domestic product over the lags is positiverelative to the current gross domestic product. This might be as a result ofthe government ensuring that funds meant for selective sectors aretimely disbursed, utilized, and monitored. This implies that governmentshould continue granting more credits to the private sector as thispromotes economic growth.

Also, it was inferred that the ratio of the money supply to gross domesticproduct is negative over the lags. This might be as a result of moneysupply increases that are not properly channeled to productivesectors or funds that were not judicially spent

REFERENCES

[1] Adelakun, O.J..,Financial sector development and economicgrowth in Nigeria.Int. J. Econ. Dev. Res. Investig 1 (2010) 25–41.

[2] Audu, N.P.; Okumoko, T.P., Financial development and economicgrowth in Nigeria. Eur. J. Bus. Manag. 5 (2013) 69–81.

[3] Age, M. The Impact of Financial Intermediation on Economic Growth:

[4] The Nigerian Perspective; Research Conference Paper for theLagos State University; Lagos State University: Lagos, Nigeria,(2004).

[5] Darrat, A. F., & Haj, M., Economic fluctuations in mena: doesfinancial market development matter? ERF 9th Annual Conference,Al-Sharjah, United Arab Emirates, (2002) 26-28.

[6] Engle, R.F.; Granger, W.J.C., Co-integration and error correction:Representation, estimation, and testing. Econometrica 55 (1987)251–276.

[7] Ihekweme, S.C., Contemporary Macroeconomics (Theories andApplications). Owerri: WEBSmedia Communications ltd., (2015).

[8] Jhinghan, M.L., Macro-Economic Theory. 12th edition. India:Vrinda publications ltd., (2010)

[9] Frank, G.S.; Eric, M.N., Financial sector deepening and economicgrowth in Ghana. J. Econ. Sustain. Dev. 3 (2012) 433–448.

[10] Kar, M.; Pentecost, E.J., Financial Development and EconomicGrowth in Turkey: Further Evidence on the Causality Issue;Economic Research Paper No. 00/27; Loughborough University:Loughborough, UK., (2000).

[11] Khan, M.A., Financial development and economic growth inPakistan evidence based on Autoregressive Distributed Lag(ARDL) Approach. South Asia Econ. J. 9 (2008) 375–391.

[12] Ndebbio, John E. Udo,Financial Deepening, Economic Growth,and Development: Evidence from Selected Sub-Saharan AfricanCountries, AERC Research Paper 142, Nairobi: African EconomicResearch Consortium., (2004)

[13] Ndugbu, M.O ., Theories, Policies, and Institutions of Money.Owerri: Barloz publishers limited., (2001)

[14] Nzotta, M.S.; Okereke, J.E., Financial deepening and economicdevelopment of Nigeria: An empirical investigation. Afr. J.Account. Econ. Finance. Bank. Res. 5 (2009) 52–66.

[15] Olofin, S.O.; Afangideh, U.J., Financial structure and economicgrowth in Nigeria: A macro-econometric approach. Niger. J. Secur.Finance. 13 (2009) 1–27.

[16] Osuji, C.C.; Chigbu, E.E., An evaluation of financial developmentand economic growth of Nigeria: A causality test. Kuwait ChapterArab. J. Bus. Manag. Rev. 1 (2012) 27–44.

[17] Thornton, J., Financial deepening and economic growth:Evidence from Asian economies. Sav. Dev. 18 (1994) 41–51.