

FINANCIAL DEEPENING AND ECONOMIC GROWTH NEXUS IN NIGERIA

BY

Ezeocha, Chukwuemeka Maurice

Department of Banking and Finance,

The Federal Polytechnic, PMB 1012, Kaura Namoda, Zamfara State, Nigeria

E-mail: ezewhite255@yahoo.com

Abstract

This study focuses on the relationship between the development of the financial sector (financial deepening) and growth of the Nigerian economy. The financial deepening vigorously attracts the reservoir of savings and idle funds 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 development. Despite this, Nigerian financial deepening has failed to experience impressive performance such as attraction of foreign investment or halt capital flight. The study therefore examines if credit allocation to the private sector contributes significantly to the real sector of the economy and also assesses the relationship between financial deepening and investment. The Ordinary Least Square Regression method is employed in analyzing the data transcribed from financial reports of the Central Bank of Nigeria Statistical bulletins (various issues), and National Bureau of Statistics, covering 1986-2018. Essentially, it is revealed among other things that the financial sector development is a great determinant of the level of growth in the Nigerian economy. It is recommended that, though the financial sector development affects economic growth, external factors such as political unrest, insecurity, international influence, etc, which also exert influence on economic growth, should be properly addressed by the Government.

Key words: *Development, Economic Growth, Financial Sector, Financial Deepening, Nexus.*

Background of the study

The earliest establishment of the link between finance and growth in literature could be traced to the work of Kaur and Kaur (2010) in which they contend that entrepreneurs require credit in order to finance the adoption of new production techniques with banks as key agents to facilitate financial intermediating activities.

In this way, it is expected that a well-functioning banking system will provide intermediation services to productive entrepreneurial activities which will spur technological, innovative, and productive activities that increase real sector growth.

There are several ways in which financial development can affect real growth of output. As observed by Bencivenga and Smith (1991), the first way is to raise the volume of investment and the second is to improve the volume and structure of savings. McKinnon (1973) and Shaw (1973) have also emphasized on the role of financial intermediaries and financial markets in the growth process. The McKinnon model assumes that investment in a typical developing economy is mostly self-financed hence given its lumpy nature, investment cannot materialize unless sufficient saving is accumulated in the form of bank deposits (McKinnon, 1973). Also, Shaw (1973) has postulated that financial intermediaries promote investment and raise output growth through borrowing and lending. The result of such financial liberalization, Ang (2007) argues, will lead to increased output growth.

Financial deepening implies the level of development and innovation of traditional and non-traditional financial services (Ayanwale, 2007). Financial deepening is the ability of financial institutions in an economy to effectively mobilize savings for investment purposes. The financial deepening vigorously attracts the reservoir of savings and idle funds 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 development. Despite this, Nigerian financial deepening has failed to experience impressive performance such as attraction of foreign investment or halt capital flight.

Financial deepening is to improve economic performance through increased competitive efficiency within financial markets thereby indirectly benefiting non-banking sectors of the economy. The Nigerian financial system is broadly divided into two sub-sectors, the informal and formal sectors. The informal sector has no formalized institutional framework, no formal structure of rates and comprises the local money lenders, thrifts, savings and loans associations and all forms of associations. This informal sector is poorly developed and not integrated into the formal financial system. Its exact size and effect on the economy remain unknown and a matter of speculation.

Objective of the study

1. To examine if credit allocation to the private sector contributes significantly to the real sector of the Nigerian economy.
2. To assess the relationship between financial deepening and investment in Nigeria.

Research Hypothesis

- 1 H_{01} : Credit allocation to the private sector has not made any significant contribution to the real sector of the Nigerian economy.
- 2 H_{02} : There is no significant relationship between financial deepening and investment in Nigeria.

REVIEW OF RELATED LITERATURE

Theoretical Framework

The study is based on the 'Supply-Leading' hypothesis, which posits a unidirectional causation that runs from financial deepening to economic growth, implying that new functional financial markets and institutions will increase the supply of financial services. This will definitely lead to high but sustainable real economic growth.

Empirical Review

There exists an extensive body of literature on the link between finance sector development, economic growth and poverty reduction. In one of the early studies on this subject, Guha and Mukherjee (2008) examine the historical role of finance in the U.S from 1790-1850 and find a strong support for finance led growth. Darrat (1999), contributing to the role of financial deepening on economic growth examined three Middle-Eastern countries of Saudi Arabia, Turkey, and the United Arab Emirates using multivariate Granger causality tests within an error-correction framework. They tried to determine the causal link between financial deepening and economic growth in order to discriminate between several alternative theoretical hypotheses. The results generally support the view that financial deepening is a necessary causal factor for economic growth, although the strength of the evidence varied across

countries and across the proxies used to measure financial deepening. The causal relationships were also predominately long-term in nature, hence their recommendations that government policies aimed at promoting financial deepening in those countries must be persistent and sustainable in order to foster economic development.

Apergies, *et al* (2007) examined whether a long-run relationship between financial development and economic growth exists. They employed panel integration and cointegration techniques for a dynamic heterogeneous panel of 15 OECD and 50 non-OECD countries over the period 1975–2000. Their findings support the existence of a single long-run equilibrium relation between financial deepening, economic growth and a set of control variables. Further, the evidence points to a bi-directional causality between financial deepening and growth. Similarly, Ayanwale (2007), using a panel data, show that causality runs from finance to growth. However, Demetriades and Hussein (1996), using time-series analysis, find causality running both ways, especially for developing economies. Most studies review the link between finance and economic growth. For example, Moore (1986) employed a general equilibrium approach and concludes that as savers gain confidence in the ability of the financial intermediaries, they place an increasing proportion of their savings with intermediaries.

Empirical studies on Nigerian finance-growth dynamics are not only limited in number, but restricted in scope in terms of the measure of financial development. Ndebbio (2004), using an ordinary least square regression framework, finds that banking sector development weakly affect per capita growth of output. He attributed the result to shallow finance and the absence of well-functioning capital markets. The finding of Nnannaand Dogo (1998) was more disturbing. They, also using ordinary least square regression technique, concluded that banking sector development did not significantly affect per capita growth of output. Similarly, Ariyo(1997), based on two stages least analytical framework for a period starting from 1986 to 2007, concluded that financial deepening did not support economic growth in Nigeria.

However, Ayanwale (2007), using three stage least square estimation technique on a data spanning 1970 to 2005, found that a developed financial system alleviates

growth by increasing bank credit and investment activities with resultant rise in output. The finding of Agu and Chukwu (2014) is quite different from other Authors in Nigeria. They employed the Augmented Granger Causality Test to ascertain the direction of causality between financial deepening and economic growth in Nigeria between 1970 and 2005. Their findings revealed evidence to support both demand- and supply-leading hypotheses, depending on the financial deepening variable that is used.

Akinlo and Olufisayo (2007) examined the effect of financial developments, money and public spending on national income in Nigeria. The study employed the Vector Error Correction Model. The empirical results show weak evidence for supply-leading view of financial development. Aye (2013) investigated the dynamic causal relationship between financial deepening, economic growth and poverty in Nigeria using annual time series covering 1960 to 2011 periods. The Johansen co-integration test was used to examine the long-run relationship between finance, growth and poverty. The results indicated no evidence of long run equilibrium relationship between finance, economic growth and poverty, but a short-run unidirectional causality from growth to poverty conditional on finance.

METHODOLOGY

Research Design and Data Sources and method of analysis

The exploratory survey research (*ex-post facto* research design) was used because the research study involves collection of data from published work. The data used for analysis is time-series data, obtained from financial reports of the Central Bank of Nigeria Statistical bulletins (various issues), and National Bureau of Statistics covering 1986-2018. The Ordinary Least Square Regression method was employed in analyzing the model after testing for the stationary state of our data using the Levin, Lin and Chu t^* stationary test. The E-view and SPSS 17.0 software packages were used to run the Ordinary Least Square (OLS) for the models.

Model Specification for Hypotheses I

$$GDP=f(CRD, LOAN, LEND)$$

The model was specified in a linear estimation form as;

$$LGDP = \alpha_0 + \alpha_1 LCRD + \alpha_2 LOAN + \alpha_3 LEND + \mu_t$$

Where: α_0 = Intercept; $\alpha_1, \alpha_2, \alpha_3$ are the various slope coefficients and; μ = stochastic disturbance factor

Model Specification for Hypotheses II

$$GDP = f(INV, LOAN, LEND)$$

The model was specified in a linear estimation form as;

$$LGDP = \gamma_0 + \gamma_1 INV + \gamma_2 LOAN + \gamma_3 LEND + \mu_t$$

Where: γ_0 = Intercept; $\gamma_1, \gamma_2, \gamma_3$ are the various slope coefficients and; μ = stochastic disturbance factor. In the models above, GDP represents the Gross Domestic Product, CRD represents credit allocation to private sector, INV stands for investment rate, LOAN represents commercial bank loans, and LEND stands for the lending rates.

REGRESSION RESULTS AND ANALYSIS

Table 1: Result for Hypothesis I

Dependent Variable: LGDP
Method: Least Squares
Date: 01/12/2020 Time: 01:04
Sample (adjusted): 1986 2018

Included observations: 27 after adjustments

Convergence achieved after 1 iteration

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOAN	-9.31E-08	4.43E-08	-2.101368	0.0479
LEND	0.008943	0.010217	0.875362	0.3913
LCRD	1.192506	0.049692	23.99817	0.0000
INV	-1.29E-06	4.31E-07	-2.998379	0.0068
C	7.843341	0.187188	41.90090	0.0000
AR(2)	0.001916	0.213375	0.008980	0.9929
R-squared	0.992088	Mean dependent var		13.90026
Adjusted R-squared	0.990205	S.D. dependent var		2.039412
S.E. of regression	0.201843	Akaike info criterion		-0.169520
Sum squared resid	0.855555	Schwarz criterion		0.118444
Log likelihood	8.288517	F-statistic		526.6653
Durbin-Watson stat	1.711370	Prob(F-statistic)		0.000000
Inverted AR Roots	.04	-.04		

The result shows that finance sector development has contributed to the real sector of the economy through credit given to the private sector. It has a T- stat of (23.99817) and a P value of (0.0000). It shows that credit is significant to economic growth. Therefore, the alternative hypothesis that Credit allocation to the private sector has contributed significantly to the real sector of the economy is accepted, while null is rejected

Table 2: Result for HypothesisII

Dependent Variable: LGDP
Method: Least Squares

Date: 01/12/2020 Time: 01:04

Sample (adjusted): 1986 2018

Included observations: 27 after adjustments

Convergence achieved after 1 iteration

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOAN	-9.31E-08	4.43E-08	-2.101368	0.0479
LEND	0.008943	0.010217	0.875362	0.3913
LCRD	1.192506	0.049692	23.99817	0.0000
INV	-1.29E-06	4.31E-07	-2.998379	0.0068
C	7.843341	0.187188	41.90090	0.0000
AR(2)	0.001916	0.213375	0.008980	0.9929
R-squared	0.992088	Mean dependent var		13.90026
Adjusted R-squared	0.990205	S.D. dependent var		2.039412
S.E. of regression	0.201843	Akaike info criterion		-0.169520
Sum squared resid	0.855555	Schwarz criterion		0.118444
Log likelihood	8.288517	F-statistic		526.6653
Durbin-Watson stat	1.711370	Prob(F-statistic)		0.000000
Inverted AR Roots	.04	-.04		

The result shows that finance sector development has brought about changes to the economy through the level of investment. It has a T- stat of (2.998379) and a P value of (0.0068). It shows that investment is significant to economic development. Therefore, the alternative hypothesis that there is a significant relationship between financial deepening and investment, is accepted, while the null is rejected.

OLS Estimate Analysis

Table 3: OLS when logged Dependent Variable: LGDP

VARIABLE	COEFFICIENT	T- STAT	PROBABILITY
C (constant)	8.052949	50.20471	0.0000
LCRD	1.171103	22.77914	0.0000
INV	-1.21E-06	-2.746683	0.0112
LOAN	-9.00E-08	-2.113976	0.0451
LEND	0.003953	0.384475	0.7040
R ²	0.99		
R ⁻²	0.98		
F-STAT(PROB)	687.6033(0.000000)		
DW STAT	1.38		

The regression table shows the results of the analysis in our study based on the OLS. The result of GDP was regressed on explanatory variables (CRD, INV, LOAN and LEND). The table also shows the relationship between the dependent (GDP) and explanatory variables (CRD, INV, LOAN and LEND). GDP and CRD figures were logged as a result of huge figures as seen in the table. The R² and Adj R² represent a good fit. CRD was especially logged because it is a major focus of the study. The Durbin Watson statistic was low at 1.38 i.e there was the presence of autocorrelation.

INTERPRETATION OF RESULTS AND FINDINGS

There is a significant relationship between the lending rate and Gross domestic product which signifies that they are linearly related. An increase in lending rate will increase the GDP by 0.03953. This doesn't agree with the apriori specification. There is a significant relationship between Credit to the private sector and the Gross domestic product which signifies that they are linearly related. An increase in Credit will increase the GDP by 1.171103. There is a negative relationship between the Investment and the Gross domestic product which signifies that they are inversely related. An increase in Investment will reduce the GDP by -1.21E-06. This doesn't agree with the apriori specification. There is a negative relationship between the Loan and the Gross domestic product which signifies that they are inversely related. An increase in commercial bank loan and advances will reduce the GDP by -9.00E-08. This doesn't agree with the apriori specification. Therefore, only

lending rate, and credit agreed with the apriori specification while investment and loan didn't.

The T-test is statistically significant for CRD, INV and LOAN at (22.77914, 2.746683, 2.113976 respectively), leaving lending insignificant at (0.384475). The F-test statistic is statistically significant at the 1 percent level using the probability statistics of (0.000000). The R-square is a very good fit because it shows that over 99 percent of the variation in the GDP is accounted for with less than two percent not accounted for within the model and this is due to the error term (U_t). The R bar-square is also a very good fit because it accounts for over 99 percent of the variation in the GDP is accounted for with less than two percent not accounted for within the model and this is due to the error term (U_t). The D-W is 1.38. Presence of auto-correlation.

CONCLUSION AND RECOMMENDATIONS

There is a direct relationship between GDP and Credit allocation. A growth in credit allocation to the private sector is an indication of a desire for real sector financing which as a result, increases the GDP. The result shows that financial deepening has contributed to the real sector of the economy through credit given to the private sector. It shows that credit is significant to economic growth. Similarly, there is a significant relationship between the lending rate and Gross domestic product which signifies that they are linearly related. An increase in lending rate will increase the GDP. Conversely, there is a negative relationship between Investment and the Gross domestic product which signifies that they are inversely related. An increase in Investment will reduce the GDP. This doesn't agree with the a priori specification. More so, there is a negative relationship between the Loan and the Gross domestic product which signifies that they are inversely related. An increase in commercial bank loan and advances will reduce the GDP. This doesn't agree with the a priori specification. Therefore, only lending rate, and credit agreed with the apriori specification while investment and loan didn't.

However, in Nigeria, the financial sector development is a great determinant of level of growth in the economy. The rate of lending was however found to have been unstable so far, but credit granted to the private sector has increased tremendously. Thus, it can be said that the importance of this sector cannot be over emphasized as total credits to the private sector are still on the increase in spite of the major

constraints posed by the government regulations, institutional constraints and other macro-economic factors.

Based on the findings of this study, the following recommendations are advanced:

1. Both Government and commercial banks should strive to provide conducive and supportive environments as important factors in the bank performance and behavior in order to guarantee good lending and investment behaviour.
2. Substantial efforts must be made by the Government, through its appropriate Authorities to stabilize the monetary and macroeconomic sector, by reducing the inflationary pressures through the reduction in fiscal deficits and the tightening of monetary and credit policies.
3. Macroeconomic stabilization is key to economic growth. It should be noted that, though the financial sector development affects economic growth, external factors as well exert their own influence. Factors such as political unrest, insecurity, international influence, etc, should be properly addressed by the government.

REFERENCES

- Agu, D. and Chukwu, G. (2014). *Nigerian Banking Structure and Performance: The Banking System Contribution to Economic Development*. Onitsha, Africana FEP Publishers.
- Akinlo, A.E. and Olufisayo, A. (2011). Financial Development, Money, Public Expenditure and National Income in Nigeria. *Journal of Social and Economic Development* Vol. 9(1), Pp 1-24.
- Ang, J.B. (2007). Financial Deepening and Economic Development in Malaysia. *Asian Business and Economics Research Unit, Discussion Paper 42*,
- Apergis, N., Filippidis, I. & Economidou, C. (2007). Financial Deepening and Economic Growth Linkages: A Panel Data Analysis. *Rev. World Econ.* 143, 179–198.

- Ayanwale, A.B. (2007). Foreign Direct Investment and Economic Growth: Evidence from Nigeria" AERC Research Paper 165 African Economic Research Consortium, Nairobi.
- Bencivenga, V.R. and Smith, B.D (1991). Financial Intermediation and Endogenous Growth.*Review of Economic Studies*, 58(2), Pp 403-444
- Central Bank of Nigeria Statistical Bulletin. Various Issues
- Central Bank of Nigeria Annual Report and Statement of Account. Various Issues
- Darrat, A.F. (1999). Are Financial Deepening and Economic Growth Causally Related? Another look at the Evidence", *International Economic Journal*, Vol. 13, Pp 19-35
- Demeriades. P.O. and Hussein, K.A, (1996). Does Financial Development Cause Economic Growth? Time-Series Evidence from 16 Countries.*Journal of Development Economics*, Elsevier, vol. 51(2), Pp 387-411
- Guha S. and J. Mukherjee, (2008). "Does Stock Market Development Cause Economic Growth? A Time Series Analysis for Indian Economy", *International Research Journal of Finance and Economics*, Issue 21:142-149
- Kaur, P. and kaur, G. (2010). Impact of Mergers on Cost Efficiency of Indian commercial Banks, *Eurasian Journal of Business and Economics*, 3(5) Pp 27 - 50
- Mckinnon, R. (1973) Money and Capital in Economic Development, Washington D.C. Brooking Institute.
- Moore, B.J (1986), "Inflation and Financial Deepening" *Journal of Development Economics*. Vol., issue 1, January-February, pp 125-133
- 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, Nairobi.

Nnanna, O. J. and Dogo, Mela (1998) Structural Reform, Monetary Policy and Financial Deepening: *The Nigerian Experience, Economic and Financial Review*, Vol. 36 No. 2, June. Pp 1-29.

Shaw, E.S (1973), *Financial Deepening in Economic Development*. New York: Oxford University Press