Financial development and economic growth in the era of financial liberalization

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1. Introduction

Financial Institutions play crucial intermediary roles in achieving a nation's economic growth which is achieved by the way financial intermediaries consolidate funds and channel them between the surplus and deficit sectors of an economy (Nwaeze Chinweoke 2014). The strengthening of these financial institutions goes a long way in ensuring macroeconomic stability and sustainable economic growth. Financial development ensures that financial institutions improves information communication in terms of possible investment opportunities and capital allocation, firm monitoring, exertion of corporate governance, savings pool mobilization as a means of payment.

A specialized designation in financial intermediation involves credit analyst assessing the credit worthiness of firms who wish to obtain funds and ensure proper execution of project plan. These financial intermediation roles carried out by commercial banks helps to mitigate against possible risk in project execution on investments and such boosts the economic performance of a nation. This desire for equal access to funds by individual investors, agents and firms birthed the first set of indigenous banks in Nigeria. The colonial era in Nigeria witnessed a dual banking system of both the indigenous and colonial banking system. Indigenous banking system was formed to give indigenes equal access to funds, however they were no match to the colonial banks by means of skills and ample reserve. The hostile environment made it difficult for the first indigenous bank in Nigeria to thrive.

Liberalization is the removal of government control in the financial sector, in this study, the financial sector will be narrowed down to the commercial banks and this is because commercial banks serves as the backbone of financial intermediation in the country. Credit allocation by commercial banks are said to be the fundamental source of external funding in all countries, as compared to capital market. This can be attributed to the roles bank plays in corporate governance especially during the periods of a firm's distress and bankruptcy (Gary. G and Andrew. W, 2002). However, the Nigerian economy since the era of liberalization have witnessed increasing levels of investment, in terms of non-private sectorial loans while credit to the private sector have been on the decline since 1986. This implies that while government can be said to have taken a hands-off approach in the financial sector, evidence has it that commercial banks feels more comfortable with investment practices tailored towards government parastatals. This study therefore, examines why the liberalization policy have not resulted in improved financial services by commercial banks to the private sector as compared to other sectors of the Nigerian economy.

2.   Trend Analysis of Financial Intermediation and Economic growth in Nigeria

Lending Interest rate in Nigeria as a major determinant of financial intermediation has been on a steady increase since the post-SAP periods before the policy on financial liberalization. This makes investors policy decisions uncertain and deterrent to forecasting. A lot of factors could be responsible for interest rate volatility such as poor management practices of commercial banks, selective intermediation practice, inflation, distress borrowing by firms, unstainable government deficits and exchange rate volatility. During this period the interest rate was market driven, banks were running at a loss and due to the increased rate of competition, banks were tempted to invest in risker projects in order to recover losses quickly. This was also the case in the post liberalization era in southern cone countries as many banks increased deposit interest rate to very high levels and sometimes interest was paid by attracting new deposit, making commercial banks operation a Ponzi scheme. (Tybout1985).

Following the post liberalization antecedence in Nigeria, government had to re-introduce regulation in 1994 but will soon not last as the policy was reinitiated during the civilian government of 1999. The CBN have made sure there is stringent regulatory framework and guideline upholding the banking sector in view of the financial liberalized banking sector over the past decade, this is necessary to ensure a financially strong and efficient banking system. Despite the efforts put into play by the apex bank in Nigerian the intermediation role of commercial banks in the Nigerian economic climate still remains question from 1986 to date, lending Interest rate have increased by an average of 22.82%, in total from liberalization era of 1986 to date thus resulting to the decline of credit allocation as a private sector % of GDP. While real economic growth trended upwards at a decreasing rate from 1981 to 1992 but grew at an increasing rate from year 1992 to 2013. Also, the naira witnessed steady depreciation before the 21st century and money supply was increasing at decreasing rate. Nigeria recorded the highest broad money supply growth rate of 57.8 percent in 2008, noting that the country had since 2005 pursued expansionary monetary policy.
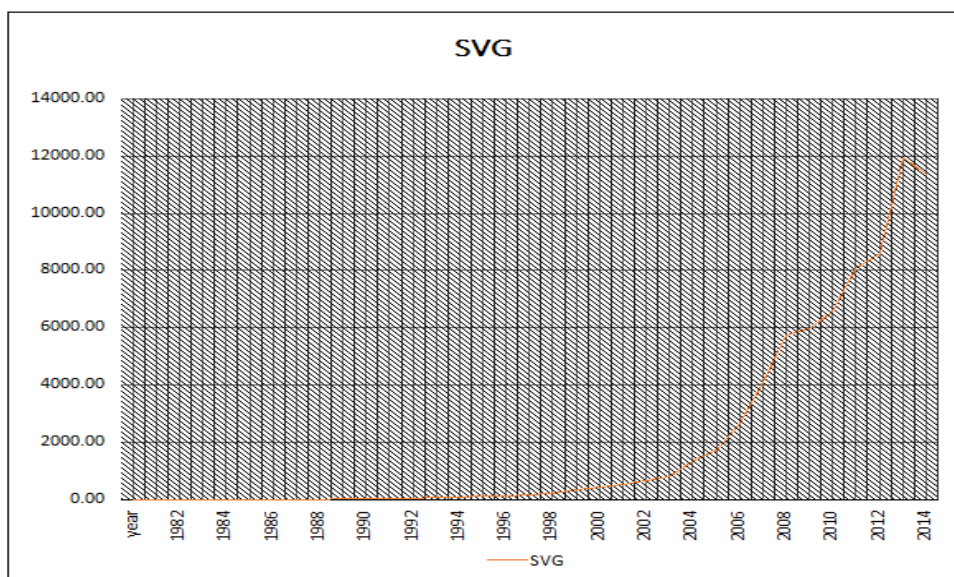
Trend of Interest Rate in Nigeria
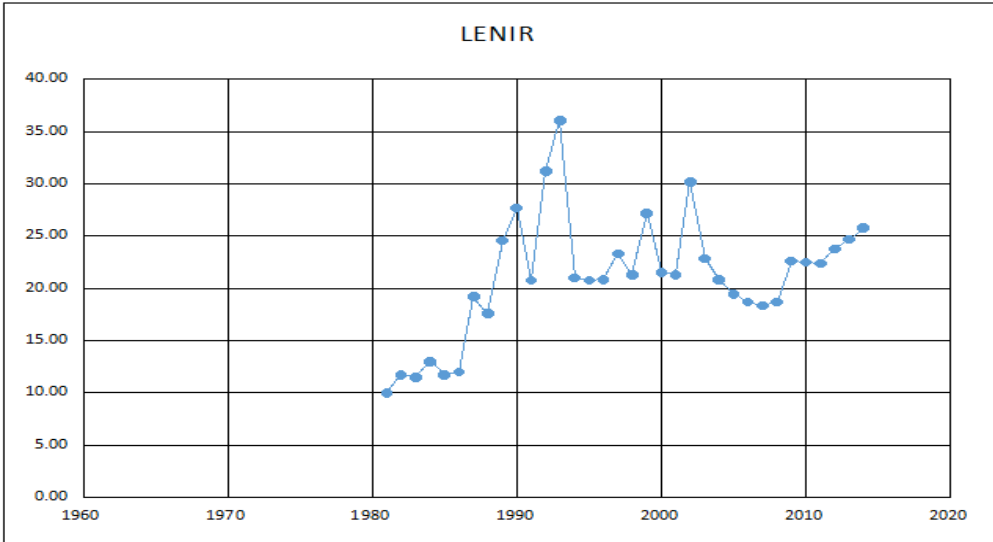
Source Author's compilation from Excel

Trend of Credit to Private Sector in Nigeria
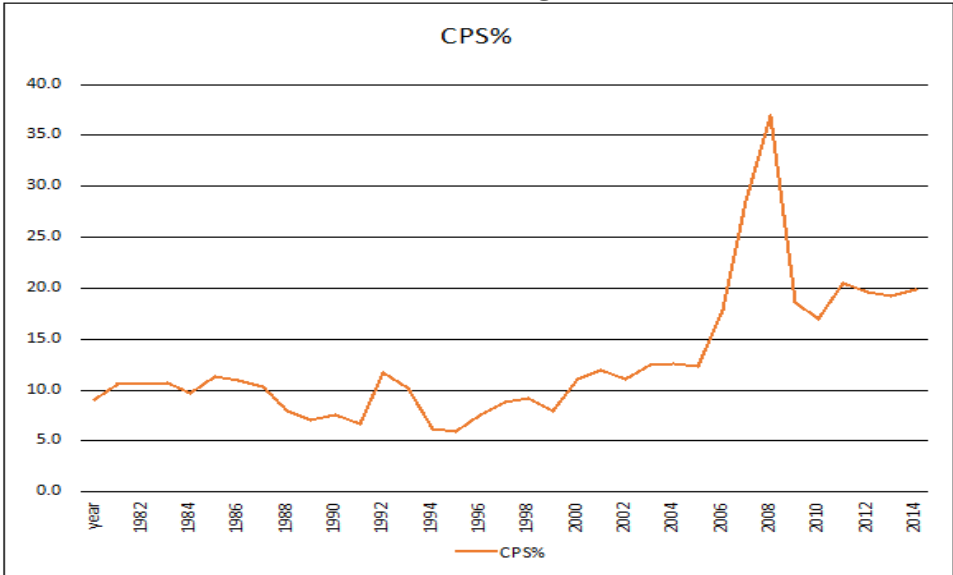
Trend analysis of Savings in Nigeria

Source Author's compilation from Excel

3. Estimation and Discussion of Results

Unit Root Test (test for stationarity)

A unit root test tests whether a time series variable is non-stationary using an autoregressive model; a well-known test that is valid in large samples is the Augmented Dickey-Fuller test. A common test for large samples is the augmented dickey fuller (ADF) test is to determine the order of integration of a variable; also unit root test is crucial to test the nature of time series data set to determine whether our estimate coefficients are stationary or non-stationary in order of integration.

ADF Unit Root Test and Order of Integration

Variables	Lag length	ADF Statistics	5% Schwarz Info Criterion	Remark	Order of Integration
Lrgdp	1	-4.337114	-2.954021	Stationary	I(1)
LM2	1	-5.237347	-2.954021	Stationary	I(1)
LCPS	1	-5.756974	-2.957110	Stationary	I(1)
LSAV	1	-4.637758	-2.954021	Stationary	I(1)
LLENIR	1	-5.856273	-2.957110	Stationary	I(1)
LGEXP	1	-5.931437	-2.954021	Stationary	I(1)
LINFR	1	-6.487627	-2.954021	Stationary	I(1)

Source: *Author's Computation from Eviews9.0*

Since all the variables were stationary after first difference, thus, they are integrated of order one. This fulfills the condition for the use of Johansen co-integration test for long run association.

Assessment of Cointegration over OLS

Granger (1989), posits that ''when the stochastic process is non-stationary at levels, the use of OLS gives invalid estimates yielding spurious regression results with no economic meaning'' which limits the use of OLS estimation technique hence the use of Johansen normalized co-integration technique in this study since most of our estimated parameters were non stationary at levels. Therefore, the choice of this cointegration technique over the ordinary least techniques lies on the following:-

I.   Most time series data are not stationary, implying that the assumption of a constant mean, a constant variance and a constant auto variance for every successive lag is mostly violated, so the use of OLS method of estimation could only yield spurious results.

II. Cointegration approach is a convenient approach for the estimation of long run parameters.

III. The cointegration approach provides a direct test of economic theory and enables utilization of the estimated long run parameters into the estimation of the short run disequilibrium relationships.

IV. The traditional approach is criticized for ignoring the problems caused by the presence of unit roots variables in the data generating process. However both unit root and cointegration have important implications for the specification and estimation of dynamic models.

Johansen Cointegration Estimation Technique

The main aim of this test is to find out if a linear combination of the integrated variables becomes stationary in the long run period; if this holds then Cointegration exists among the variables (i.e. long run relationship among the variables). The two types of Johansen test; Trace test and Maximum Eigenvalue are used to determine number of integrating ranks and vectors.

Test of co-integration Hypotheses:

H_0: $\gamma = 0$ (No Co-integrating equation)
H_1: $\gamma \neq 0$ (Co-integrating equations)

Table 1   Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.884731	183.9241	125.6154	0.0000
At most 1 *	0.707644	112.6280	95.75366	0.0021
At most 2 *	0.560806	72.04514	69.81889	0.0328
At most 3	0.516523	44.89231	47.85613	0.0925
At most 4	0.331245	20.90948	29.79707	0.3633
At most 5	0.172898	7.632315	15.49471	0.5055
At most 6	0.040607	1.368015	3.841466	0.2422

Table 2   Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.884731	71.29617	46.23142	0.0000
At most 1 *	0.707644	40.58283	40.07757	0.0438
At most 2	0.560806	27.15283	33.87687	0.2553
At most 3	0.516523	23.98283	27.58434	0.1353
At most 4	0.331245	13.27716	21.13162	0.4271
At most 5	0.172898	6.264301	14.26460	0.5796
At most 6	0.040607	1.368015	3.841466	0.2422

Source: *Author's Computation from Eviews 9.0*

The table above presents the Unrestricted Co-integration Rank Test. The trace statistic (183.92) is greater than 5% critical value (125.62) hence, we reject the null hypothesis of no co-integrating equation and accept the alternate hypothesis of co-integrating equations. Therefore, using the unrestricted co-integrating rank test (trace), there are three co-integrating equations since the trace statistics (44.89) is less than the critical value (47.88) at 5% level of significance.

Another way to check for the presence of co-integration is the use of Unrestricted Co-integration Rank Test (Maximum Eigenvalue). Here, the Max-Eigen statistic (71.30) is greater than 5% critical value (46.23). Hence, reject the null hypothesis of no co-integrating equations and accept the alternate hypothesis of the presence of co-integration. Also, the p-value of the null hypothesis from the Max-Eigen table (0.004) is less than 0.05. Also, reject the null hypothesis and accept the alternate hypothesis. Therefore, using the unrestricted co-integrating rank test (Max-Eigen), there are two co-integrating equations.

We therefore concluded that both unrestricted co-integrating rank test (Trace) and unrestricted co-integrating rank test (Max-Eigen) confirmed the presence of co-integrating equations. Hence, there is a long run relationship between financial development and Nigeria's economic growth implying that financial sector development plays a crucial for attaining sustainable growth and development in Nigeria particularly in the era of financial liberalization.

Long Run Normalized Co-integration Estimates

The results of the normalized co-integration test as shown below were explained with respects to its signs and magnitude of the variable in the normalized co-integration result. The signs are explained in their reversed form. That is, if the coefficient of the variable carries negative sign, it is interpreted as positive and vice versa.

Normalized cointegrating coefficients (standard error in parentheses)

LRGDP	LM2	LCPS	LSAV	LLENIR	LGEXP	LINFR
1.000000	0.772170	-1.154582	-0.160278	-0.612185	0.186412	-0.165360
	(0.21588)	(0.20988)	(0.05254)	(0.12074)	(0.05170)	(0.04202)

Source: *Author's Computation from Eviews 9.0*

The coefficient of financial sector development (LM2) at 0.77 is greater than twice of the standard error thus the coefficient is statistically significant. Hence, LM2 has a significant

influence on economic growth in the long run (LRGDP). Specifically, 0.77 percent change in real LM2 will lead to a less than proportionate decrease in Nigeria's economic growth.

In absolute terms, the coefficient of credit to private sector (LCPS) at -1.16 is greater than twice of the standard error thus the coefficient is statistically significant. Hence, credit to private sector exacts significant influence on economic growth in the long run. Specifically, 1.16 percent change in credit to private sector will lead to a greater than proportionate increase in Nigeria's economic growth.

Also, in absolute terms, the coefficient of savings (LSAV) at -0.16 is greater than twice of the standard error thus the coefficient is statistically significant thus exact significant influence on economic growth in the long run. Specifically, 0.16 percent change in savings will lead to a less than proportionate increase in Nigeria's economic growth on the long run.

In absolute terms, the coefficient of lending interest rate (LLENIR) at -0.61 is greater than twice of the standard error thus the coefficient is statistically significant thus lending interest rate exact significant influence on economic growth. Specifically, 0.61 percent change in lending interest rate will lead to a less than proportionate increase in Nigeria's economic growth on the long run.

Similarly, in absolute terms, the coefficient of government expenditure (LGEXP) at 0.19 is greater than twice of the standard error implying that the coefficient is statistically significant and thus government expenditure exacts significant influence on economic growth. Specifically, 0.19 percent change in government expenditure will lead to a less than proportionate increase in Nigeria's economic growth on the long run.

Conclusively, in absolute terms, the inflation rate (LINFR) at 0.17 is greater than twice the standard error implying that the coefficient is statistically significant and thus the rate of inflation exacts significant influence on economic growth. Specifically, 0.17 percent change in inflation rate will lead to a less than proportionate increase in Nigeria's economic growth on the long run.

Conclusion

We can thus generalize that effective Financial Intermediation by financial Intermediaries provides the solid bedrock for the nation's growth and development. The demand leading hypothesis from our findings does not suit the Nigerian economy. This is because the Banking system in Nigeria have gone through the odds and weathered all forms of financial distresses. Today there are Banks that have been around since independence, they are well abreast of the Nigerian environment and possibly the organizational and behavioral patterns of Nigerian investors. Their experience over the years have helped commercial banks provide specialized products and service to customers through the financial intermediation of commercial banks, government have experienced successful project execution, Investors have enjoyed first hand privileges of project risk assessment, the banks have branded their service delivery providing the necessary relationship needed to ensure potential investors are well equipped with the access to information necessary to achieving success, at the end the sectorial success tiers of investors add up to economic growth.

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