
FINANCIAL LIBERALIZATION AND ECONOMIC DEVELOPMENT: EVIDENCE FROM NIGERIA

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Abstract

The study investigates the impact of financial liberalization on the economic development in Nigeria using annual data for the period of 1980 to 2011. Ordinary Least Square (OLS) technique was employed. Two different financial sector development indicators were used as proxy for financial liberalization to determine whether the sensitivity of financial liberalization on the economic growth depends on the choice of financial sector indicator used. The ADF test suggests that the series are random walk processes in their level form. The empirical findings suggest evidence of long run equilibrium relationship between financial liberalization on economic growth. It further shows that both the ratio of broad money supply to GDP and the ratio of bank credit to private sector to GDP have positive effect on economic growth in Nigeria. While both effects are positive on economic growth, the effect of the ratio of bank credit to private sector to GDP is infinitesimal relative to that of the ratio of broad money supply to GDP suggesting that the effect of financial liberalization on the economic growth depends on the choice of financial liberalization index used.

Keywords: Financial Liberalization, Economic Development, Ordinary Least Square.

The Nigerian financial system prior to the introduction of the world Bank IMF supported structural Adjustment program (SAP) in 1986 has been impeded in its pivotal role of savings mobilization and allocation by an environment where market forces had not been permitted to fully determine price. Liberalization which commenced in 1987 was therefore, prompted by growing realization that controls had become less effective over time. Government recognized that the prolonged use of interest rate ceilings and directed credit programs would lead to low savings with the financial system and inefficient use of resource which overall would hinder the development of a better financial system (Okorie and Uwalake, 2010).

Financial liberalization encompasses much more than freeing interest rates from government control to a complete deregulation of the financial sector by moving away from direct to indirect monetary and credit control, as well as moving of capital through the use of market-based instrument, the liberalization of entry conditions for new firm into the financial system and the relaxation of all regulatory controls that tend to hinder the efficient operation of the financial system. Generally, the trend towards financial liberalization is part of a broader tendency towards reduced direct intervention of the state in the economy. Liberalization measures, however, tend to increase financial fragility and susceptibility to exogenous shocks which necessitate putting in place sound regulatory and supervisory measures and their effective enforcement to reduce, if not eliminate crisis in the banking and financial institutions (Akpan, 2008).

The aim of domestic financial liberalization is to improve economic performance through increased competitive efficiency within financial markets thereby indirectly benefiting non financial sector of the economy and therefore leading to economic growth and development. But for the purpose of this work, growth and development may be used interchangeably.

The objective of this paper is to investigate the impact of financial liberalization on economic development in Nigeria. This paper is structured into five parts. Following this introduction is part II which provides the literature review; part III presents the Econometric analysis while part IV deals with the interpretation of the results and findings. The work is concluded in chapter V where policy recommendations are provided.

Literature Review-Theoretical Literature Review

Financial liberalization theory is mainly discussed in the work of McKinnon (1973) and Shaw (1977). The Mckinnon Shaw hypotheses postulate that government control and intervention in the financial system, limit the operation of market mechanisms, leads to finance repression, and slows economic growth and development. Under financial repression, investment is repressed by a shortage of savings, which

results from administered real interest rates at below market-clearing levels. Liberalizing the financial sector however, causes real interest rates to rise thus generating more domestic savings and investment.

Other proponents of financial liberalization as leading to growth have emphasized two main channels through which private investment is expected to rise. The first channel is through an increase in the availability of credit that would follow the removal of interest rate ceiling due to increased private savings; thereby increasing the marginal productivity of investment (McKinnon 1988). Elimination of financial repression would also improve bank efficiency by ensuring positive interest rates, eliminating excessive requirements and removing mandated credit allocations, (McKinnon, 1991).

According to Mathieson, (1980) and fry, (1988) the basic McKinnon hypothesis has augmented their ideas by focusing on investment levels and investment quality respectively as lending shifts from curb markets into the banking system.

As found in Apkan (2008), critics of this proposition such as Taylor (1991) are skeptical that increased financial intermediation will result from liberalization because of shift from curb markets that are not subject to the reserve requirement that apply to the banks. Hence, if substitution takes place between time deposits and curb market, total supply of funds available to the business sector will decline.

Empirical Literature Review

Many works have shown that there exists a relationship between liberalization and economic growth. What is not certain is the actual role of liberalization. It is believed that liberalization will give interest rates an upward push which will stimulate private saving and investment leading to economic growth. Fajana, (1990) contend that the high lending rates which liberalization is likely to also induce, increases cost of production and consequently reduces the utilization of savings. Bandiera etal (1999) suggested that financial liberation may actually not increase private savings. According to them, the effect of interest rates on savings is ambiguous, as the income effect might offset substitution effects.

Empirical studies proving the positive relationship between financial development and economic growth are found in the works of many authors. Oazi and Shalida (2013) studied the impact of financial liberalization on economic growth during 1971-2007 using Pakistan as a case study and concluded that financial liberalization index is positively related to economic growth in the short run. Considering 77 Countries during 1960-1981 period, King and Levine (1993), showed that financial development helps to explain long run growth. Silke, Buman, Niels and Robert (2013)

adopted a Meta Analysis on about 60 empirical works and found that on the average there is a positive effects of financial liberalization on growth, though the significance of the effect is weak. Herine and Zervos (1998) also support the long run relationship. Ghossoub and Reed (2006), Roussean and Wachel (2000), Beck, Levine and Loayza (2002) using panel VAR estimates concluded that measures directed towards financial sector development have a significant cause effect on growth. In the works of Geert et'al (2001) and Andrew Bells (2013) it was found that financial liberalization leads to one percent increase in annual real economic growth.

Oshikoya, (1992) used time series econometrics to show how interest rate liberalization has affected economic growth in Kenya. He used data from 1970 to 1989 and the results showed a negative and insignificant coefficient for the real interest rate. The sample was split into two sub-periods: 1970-1979, and 1980 -1989. The real interest rate had a negative and significant coefficient for the 1980-1989 period, but was positive and significant for the 1980-1989 period, thus offering no robust result of the effect of interest rate liberated on growth.

No doubt, not all researchers' believe that financial liberalization is so important in growth process as some Economists emphasized. David et al (2007) are of the opinion that liberalization of foreign portfolio investment has no positive effect on economic growth and increased post liberalization stock market turnover had a negative effect on economic growth. They concluded that liberalization of capital account is necessary but not sufficient for economic growth, instead countries need to adopt and implement credible macroeconomic policies meant to stabilize foreign capital flows in order for them to benefit fully from liberalization. Other works that argue against the positive contribution of financial liberalization to economic development are Single, (1997), Macro, (1995), Niels (2005) and Lucas (1988); who believe that financial development may induce volatility and discourage risk-averse investors from investing and therefore impede economic growth and that financial liberalization combined with weak regulatory structure may have strong adverse effect on growth.

The above discussion highlights the fact that there is no consensus in existing empirical studies on the relationship between economic growth and financial liberalization. The results seem to be sensitive to the different Time periods, countries, and the specification of the models and are not robust enough for definite inference to be made from them.

However, the researchers cannot ascertain the effect of financial liberalization policies on economic growth from these studies because many of them used interest or variables that are directly influenced by interest rate as main variables without explicitly dealing with many other variables involved in financial liberalization.

Financial liberalization involves more than just interest rate liberalization. It includes an array of measures such as directed credit abolition, bank denationalization, and the removal of restriction of entry into banking among others.

The main contribution of this paper is that the researchers improved on previous works by including other liberalization policies and establishing whether the impact of financial liberalization depends on variable selection.

Overview of Financial Sector Reform

Financial sector reform can be defined as a set of policy measures designed to transform the financial system and its structures with a view to achieving a deregulated market-oriented system within an appropriate regulatory framework. It is also the introduction of market-based procedures for monetary control, the promotion of competition in the financial sector, and the relaxation of restrictions on capital flows (Waqabaca, 2000). All these are steps towards the liberalization of the economy.

Since 1986, the government through the central Bank has adopted a number of monetary and structural policies aimed at deepening the financial industry. These measures include, the licensing of new banks, strict enforcement of prudential guidelines, abolition of sectoral credit allocation and interest rate ceiling, phased elimination of mandatory stabilization security requirements, deregulation of interest rate regime and increase in minimum paid-up-capital aimed at boosting operational viability of the bank and the mass liquidation of distressed banks to eliminate contagion effects, assesses risks and early warning mechanism to prevent financial sector vulnerability to excessive macroeconomic framework as well as adequate supervision and monitoring capacity by the monetary authorities (Akpa, 2008). Whether these reforms have impacted on economic development is part of the assessment this work is going to carry out.

The central Bank of Nigerian (CBN) took a stringent step in July, 2004 when it announced a comprehensive reform of the banking sector. Prior to 2004, the Nigerian banking sector comprised 89 banks. Key elements of the reform among others included: increase in the minimum capitalization for banks from N2.0 billion to N25.0 billion; withdrawal of public sector funds from banks starting from July 2004; consolidation of banking institution through mergers and acquisitions, etc. At the expiration of the deadline on 31st December, 2005, twenty five (25) banks emerged. By the end of December 2007, two banks merged bringing the total number of banks to 24. Nevertheless banking sector consolidation has deepened the financial market and restored some confidence in the banking public.

Data and Methodological Issues

Annual series data were used for this analysis. Data were sourced from Central Bank of Nigeria statistical bulletin (2011). The study covered the period 1980 to 2011. Following the objectives of the study, Ordinary Least Square (OLS) technique was used to determine the impact of financial liberalization on economic growth in Nigeria. The functional form is stated as: $LGDP = f(M_2/GDP, BCP/GDP, INT, DOP) \dots$ (1) where LGDP = natural log of gross domestic product used as proxy for economic growth, M_2/GDP = Broad money relative to GDP, BCP/GDP = Bank credit to the private sector relative to GDP. These variables are used as proxy for financial liberalization. INT = Interest rate and, DOP = trade openness. INT and TOP are used as control variables. In order to estimate equation 1, the researchers specified it in econometric form as:

$$LGDP_t = \alpha_0 + \alpha_1 \frac{M_2}{GDP_t} + \alpha_2 \frac{BCP}{GDP_t} + \alpha_3 INT_t + \alpha_4 DOP_t + \mu \dots (2)$$

where α_0 = intercept, α_i (where $i = 1, 2, \dots, 4$) = parameters to be estimated, and μ = iid stochastic error term.

To fully explore the data generating process, we first examined the time series properties of model variables using the Augmented Dickey- Fuller test. The ADF test regression equations with constant are:

$$\Delta Y_T = \alpha_0 + \alpha_1 Y_{T-1} + \sum_{j=1}^k a_j \Delta Y_{T-1} + \varepsilon_T \dots (3)$$

where Δ is the first difference operator ε_T is random error term that is iid k = no of lagged differences Y = the variable. The unit root test is then carried out under the null hypothesis $\alpha = 0$ against the alternative hypothesis of $\alpha < 0$. Once a value for the test

statistics $ADF_\tau = \frac{\hat{\alpha}}{SE(\alpha)} \dots \dots \dots (5)$ is computed we shall compare it with the

relevant critical value for the Dickey-Fuller Test. If the test statistic is greater (in absolute value) than the critical value at 5% or 1% level of significance, then the null hypothesis of $\alpha = 0$ is rejected and no unit root is present. If the variables are non-stationary at level form and integrated of the same order, this implies evidence of cointegration in the model. The researchers therefore used the Engle-Granger cointegration procedure to test for cointegration in the model. Thus, the model in equation 6 is therefore used to determine both short and long run impact of financial liberalization on economic growth in Nigeria.

Financial Liberalization and Economic Development: Evidence from Nigeria- Joseph Chukwudi Odionye and Chikeziem Fortunatus Okorontah

$$\Delta LGDP_t = \alpha_0 + \lambda(LGDP_t - \delta X_{t-1}) + \alpha_1 \frac{M_2}{GDP_t} + \alpha_2 \Delta \frac{BCP}{GDP_t} + \alpha_3 \Delta INT_t + \alpha_4 \Delta DOP_t + \mu_t.$$

Δ = difference operator

λ = the long run multiplier

$(LGDP_t - \delta X_{t-1})$ = the error correction term

X_{t-1} = exogenous variable that are integrated of order zero.

Data Analysis and Discussions

Unit Roots Test Result

In this study, the Augmented Dickey Fuller (ADF) unit roots test was employed to test for the time series properties of model variables. The null hypothesis is that the variable under investigation has a unit root against the alternative that it does not. The choice of lag length was based on Akaike and Schwartz-Bayesian information criteria. Thus, the optimum lag length was 1. The decision rule is to reject the null hypothesis if the ADF statistic value exceeds the critical value at a chosen level of significance (in absolute term). These results are presented in table I below.

Table 1: Unit Roots Test Result

Variable	ADF statistics			ADF statistics		
	Level	Critical values		1 st difference	Critical values	Lag length
GDP	-1.622431	5% -2.9627		-4.304960	5% -2.9665	1
M2/GDP	-1.742967	5% -2.9627		-3.639548	5% -2.9665	1
DOP	-2.365081	5% -2.9627		-4.969071	5% -2.9665	1
INT	-0.632662	5% -2.9627		-6.588047	5% -2.9665	1
BCP/GDP	-1.881253	5% -2.9627		-4.215468	5% -2.9665	1

The results of table 1 above show that all the variables are non-stationary in level form since their ADF values are less than the critical values at 5% , the null hypothesis of a unit root was accepted for all the variables but was rejected in 1st difference. Thus, the researchers concluded that the variables under investigation are integrated of order one (I(1)). Since the variables are integrated of the same order, we therefore, examine their co-integrating relationship using Engle-Granger co-integration procedure.

Results from Co-Integration Test

Given the unit root properties of the variables, the researchers proceed to implement the Engle-Granger co-integration procedure. All the variables have the same order ($I \sim (1)$) of integration; the researchers estimated their linear combination at their level form without the intercept term and obtain their residual which is then subjected to co integration test as shown in Table 2:

Table 2: Co-Integration Tests

	t-adf	Lag	5% Critical val	1% Critical val
Residual	-2.519936	2	-1.9526	-2.6423

From the table, since the residual t-adf of -2.519936 at lag length 2 is greater than the 5% critical values of -1.9526, it means that the residual is stationary at level form and hence there is linear relationship among the variables. This implies that there is a robust long run equilibrium relationship financial liberalization and economic growth in Nigeria. Consequently, the researchers adopt the Error Correction Model which was specified in case co-integration was established among the variables.

Table 3: Multiple Regression Result. Dependable Variable: DLOG(GDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	14.4452**	0.361905	39.91452	0.0000
D(M2/GDP)	1.2542***	0.157749	7.950459	0.0007
D(BCP/GDP)	0.292816	0.177952	1.645475	0.1124
D(DOP)	0.007413	0.022333	0.331954	0.7427
D(INT)	-0.029653*	0.017329	1.711199	0.0994
F-Statistic	3.31055**			0.0198
ECM (-1)	2.42E-07***	6.76E-08	3.582102	0.0014
R²=0.698355	Adjusted R²=0.678	Durbin Wat.= 1.47		
Diagnostic Test:				
Arch Test = 0.203 (0.655)				
W-Heteroskedastic Test=1.3 (0.31)				
Jarque-Bera Test=0.37 (0.83)				

***[**] (*) denotes significance of variable at 1% [5%] (10%) significance level respectively

The estimated model can be shown as:

$$\text{LOG (GDP)} = 14.45 + 1.254 (M_2/\text{GDP}) + 0.293(\text{BCP}/\text{GDP}) + 0.007 \text{DOP} - 0.029 \text{INT..(3)}$$

From the result in table 3 and in equation 7, the estimated model shows that the ratio of broad money supply to GDP used as a proxy for financial liberalization has positive impact on the economic growth in Nigeria. This is in consistence with the ‘a priori’ expectation. Specifically, a one unit expansion in financial liberalization will increase output by about 1.25 units. Interestingly, the t- statistic reveals that the variable is highly significant at 1% level of significance since the probability value is less than 0.01 (p- value < 0.01). This implies that financial liberalization has a positive and significant impact on economic growth in Nigeria.

Also, the ratio of bank credit to private sector to GDP used as alternative proxy for financial liberalization has positive impact on the economic growth in Nigeria. This also is in line with the ‘a priori’ expectation. But surprisingly, the t- statistic reveals that the variable is not significant at 5% level of significance since the probability value is greater than 0.05 (p- value < 0.01). These two mixed results suggest that the test is sensitive to the financial sector indicator used as proxy for financial liberalization.

Degree of openness has a positive but insignificant impact on economic growth given the probability level of t- statistic (ie 0.74 > 0.05). The implication is that the liberalization of trade has not contributed so much in the growth of the economy.

As expected, interest rate has a negative but insignificant economic growth impact in Nigeria. The coefficient suggests that a 1 unit increase in interest rate leads to a long run decrease in economic growth by 0.029. This result conforms with the ‘a priori’ expectation implying that increase in interest rate will discourage investors since the cost of borrowing has increased and hence a decrease in total output.

The results show that the error correction term (ECM) for the estimated GDP equation is statistically significant and negative. Thus, it will rightly act to correct any deviations from long-run equilibrium. Specifically, if actual equilibrium value is too high, the ECM will reduce it, while if it is too low, the ECM will raise it. The coefficient of -0.000002 denotes that 0.0002% of any past deviation will be corrected in the current period. Thus, it will take a long time for any disequilibrium in the financial sector to be corrected.

The coefficient of determination and its adjusted values are 0.698 and 0.678 respectively implying that there exists goodness of fit in the model. This means that about 79.8% of the variation in growth of GDP is accounted for by variation in financial liberalization, interest rate and inflation rate. The overall regression is significant at 5% level of significance implying that the joint effects of all the included variables were significant. The Durbin Watson statistic of 1.475 shows evidence of no first order serial autocorrelation in the model given that it is approximately 2.

The long run structural equation of economic growth based on traditional model is reported in table 3 above. The diagnostic statistic indicates that the equation is well specified and can be used for policy making and forecasting. The model fulfilled the conditions of no serial correlation, normality of the disturbance term and there is no heteroscedasticity in the model.

Conclusions and Policy Recommendations

This paper has investigated the impact of financial liberalization on economic growth in Nigeria between the period 1980 and 2011. The estimated results point that financial liberalization has both positive and significant impact on economic growth in Nigeria.

Some major recommendations for policy can be drawn from the analysis which includes: Policies that will bring financial stability should be pursued. Also, economic reforms must target macroeconomic stability, removal of structural distortions and creation of business-friendly environment to enhance domestic production capacity in the country. Anti- inflationary policy like non- expansionary monetary and fiscal policies as well as inflation-adjusted interest rate policy should be pursued to attract foreign investors in the sector

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Financial Liberalization and Economic Development: Evidence from Nigeria- Joseph Chukwudi Odionye and Chikeziem Fortunatus Okorontah

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Empirical Evidence from Nigeria. Osinubi and Amaghionyeodiwe [Osinubi, Amaghionyeodiwe, 2003] also examined the relationship between the Nigerian stock market and economic growth during the period 1980-2000 using ordinary least squares regression (OLS).^Â In Nigeria, some authors have also attempted to examine the relationship between the stock market's development and economic growth. For instance, Adam and Sanni [Adam, Sanni, 2005] examined the role of the stock market in Nigeria's economic growth using Granger-causality test and regression analysis.^Â For economic growth and the development of any economy, the existence of a good financial system is needed.^Â Beekaert, Harvey and Lundblad [Bekaert et al., 2005] analyzed financial liberalization