Financial Development and Economic Growth Nexus in Nigeria

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Abstract: The study assessed the impact of financial development on economic growth in Nigeria using time series data from 1970 to 2012. The Autoregressive Distributed Lag bounds testing approach to cointegration was utilized for this study. The result from the ARDL model indicate that the variables for this study are cointegrated while the error correction term appeared significant and confirms that short-run disequilibria are corrected up to about 50 percent annually. The empirical results reveals that financial development exerts positive and significant impact on economic growth in the long-run while trade liberalization variables exert negative impact on economic growth in the long-run indicating non-competitive nature of non-oil domestic products in the international market. In the short-run, domestic credit is insignificant which indicates a dearth of investible funds in the economy. There is evidence that financial development policies influence economic growth in the long-run and not in the short-run. This study among others recommends the urgent need to implement policies that will strengthen the deposit mobilization and intermediation efforts in the banking system in order to deepen the financial system. Nigerian trade performance should be improved through economic diversification and further availability of funds to private sector at competitive interest rate in order to produce internationally competitive products.

Keywords: finance, development, economic growth.

I. Introduction

Economic growth literature agrees that financial development and sustainable economic growth are highly related (King and Levine, 1993; McKinnon, 1973; Shaw, 1973.) Many cross-country studies exist on the finance-growth nexus with mixed results. However, studies on developed economies that experienced long-term growth in real output showed that they possess a very robust and stable financial sector. An important constituent of the financial sector of any economy is the banking sector. The role of the banking sector in the economic growth process cannot be over-emphasized. Banks are specialized institutions that provide financial intermediation between savers and investors, mobilize savings, pools risk and remain a vehicle for monetary policy implementations.

In the 1980s, many developing countries experienced poor macroeconomic performance due largely to poor policy choices. Consequently, most of these countries turned to International Monetary Fund (IMF) and World Bank for assistance in order to restore macroeconomic stability and sustainable economic growth path. This assistance was conditioned on the implementation of the Structural Adjustment Programs (SAP) designed by IMF. The key principles of SAP are based on the adoption of liberalization and deregulation policies of economic activities including financial sector reforms. The reforms in the financial sector comprises of the liberalization of the financial market and interest rate, strengthening of the role of market forces in resource allocation, reduction in government intervention, improving the capacity of financial institutions to mobilize domestic savings, promotion of competition and efficiency in the financial system; and the enhancement of the effectiveness of monetary policy instruments (Balogun, 2007). Nigeria adopted SAP alongside other developing economies and implemented the reforms that accompanied the program which included the financial sector reforms. An integral part of financial sector reforms involves the restructuring of the financial sector institutions and markets through various policy measures. In order to contribute to economic growth and development, the financial sector needed to be strengthened through various reform measures so as to effectively play its intermediation role amongst economic agents in the economy.

In the past three decades, Nigeria has implemented some financial sector reforms aimed at liberalizing the market to promote efficiency in resource allocation, expansion of the savings mobilization base, promotion of investment and growth through market-based interest rates, improvement of the regulatory and surveillance framework of monetary authorities, fostering healthy competition in the provision of services and laying the basis for inflation control and economic growth (Anyanwu, 2010). Many researches have been conducted to confirm if financial sector reforms have led to the anticipated growth of the Nigerian economy pre-SAP and post-SAP. While some research works adopted descriptive methods, others utilized econometric techniques to investigate the impact of these reforms on the various macroeconomic indicators of the Nigerian economy. However, the objective of this study of financial sector reform covers the entire period of the reform that began

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in the 1980s while adopting the bounds test to cointegration analysis to investigate the impact of financial sector reforms on the growth of Nigerian economy.

This paper is organized into five sections. Section one is introduction followed by section two which is theoretical framework and literature review. Section three discusses methodology and empirical analysis while section five concludes the paper with some policy recommendations.

**Theoretical Framework And Literature Review**

There are several debates in economic growth literature on the relationship between financial development and economic growth. While there are points of divergence in the opinion of different scholars, enormous theoretical and empirical evidences support the fact that financial sector development is positively related to economic growth. Generally, the function of the financial system in the economy has been that of intermediation between the areas where surplus financial resources exists and areas where there are deficits through the channels provided by financial institutions. Neoclassical growth model tells us that an increase in the efficient investment of savings in new and innovative projects is one of the main engines of economic growth. According to Iganiga (2010) studied financial sectorings in new and innovative projects is one of the main engines of economic growth and development and economic growth and an open, vibrant economic system.

Following the work of Schumpeter (1912), financial development has theoretical link to economic growth through the services provided by financial intermediaries. These services are the essential drivers for innovation and growth. The formalization of this argument came later from the work of McKinnon (1973) and Shaw (1973). The McKinnon-Shaw paradigm postulate that government restrictions on the operations of the financial system, such as interest rate ceiling, direct credit programs and high reserve requirements may hinder financial deepening. This may further affect the quality and quantity of investments and hence, have a significant negative impact on economic growth. Therefore, the McKinnon-Shaw financial repression paradigm implies that a poorly functioning financial system may retard economic growth. McKinnon (1973) and Shaw (1973) have been regarded as the most influential works that underpin the hypothesis of finance led growth and this suggest that better functioning of financial systems lead to more robust economic growth.

Similarly, the new growth theorists (NGT) or endogenous growth models lay credence to the positive impact of financial development on the steady-state growth. Their empirical evidence show that robust financial systems are able to mobilize household savings, allocate resources efficiently, diversify risks, induce liquidity, reduce transaction costs and provide an alternative to raising funds through individual savings and retained earnings (see Bencivenga and Smith, 1991; Bencivenga, Smith, and Starr 1995). These functions suggest that financial development has a positive impact on growth. Other theoretically notable works include supports the theoretical frame work and literature review. Section three discusses methodology and empirical analysis while section five concludes the paper with some policy recommendations.
sector analysis using OLS show that while loan and advances from micro finance/commercial banks positively influenced output of manufacturing, building and construction and mining and quarrying sectors, the same could not be established for the agricultural sector.

Anyanwu (2010) in an overview of the banking sector reform and the real sector of the Nigeria economy concluded that the priority attention accorded to the real sector through the banking sector reforms is well deserved because it has great potentials to be the engine of growth in Nigeria. Idowu and Babatunde (2011) studied the effect of financial reforms on capital market development of Nigeria over the period of 1986 to 2010 using the OLS and the Chow-breaking point test to assess the impact of the capital market reform introduced in 1995. The findings revealed that the reform of 1995 impacted significantly on the capital market development of Nigeria. Oke and Adeusi (2012) examination of the impact of capital market reforms on economic growth using the OLS method show that the capital market reforms impact positively on economic growth in Nigeria. Mike and Lawal (2012) studied financial sector reforms and the growth of small and medium scale enterprises in Nigeria and accept that financial sector reforms have positive impact on the growth of SMEs in Nigeria.

The different literatures on the relationship between financial sector reform and economic growth have divergent views. Some believe that both are positively correlated while some have contrary opinion that financial developments have insignificant relationship with economic growth. Most of these research works where post SAP reform studies while some where pre SAP reform studies and this may have been a contributory factor to the divergent views. This paper tries to look at financial sector development both pre and post SAP in order to find out the extent of the relationship between financial development and economic growth in Nigeria.

Financial reforms in Nigeria

Banking sector regulation in Nigeria predates the structural adjustment program and practically began prior to the passage of the bank ordinance of 1952 after the failure of 21 banks out of 25 banks in existence from 1947. The creation of the Central Bank of Nigeria by the Central Bank Ordinance of 1958 further strengthened the bank regulatory structure of Nigeria. The 1960s and 1970s saw more financial institutions being created and a greater role of the Nigerian government in owning and regulation of banks in Nigeria. The Indigenous Enterprises Promotion Decrees of 1972 and 1977 set a policy of government ownership of significant portions of the economy. As a result, the Nigerian government took ownership of 60% of the equity in expatriate banks operating in Nigeria, including First Bank, Union Bank, and United Bank of Africa. Even though private ownership of banks began after 1979, government owned banks still dominated the Nigerian banking industry with federal government leading in the ownership until the introduction of the Structural Adjustment Program.

Part of the condition for obtaining the IMF loan was based on economic liberalization which involves deregulation and privatization of the banking sub-sector. This effectively decreased government ownership of banks and further eased bank licensing requirement which led to more private ownership of banks. As a result, the number of banks increased from 40 banks to 120 banks between 1985 and 1992 (Duncan, 2012). In 1988, the Nigerian Deposit Insurance Corporation was created to offer deposit insurance to depositors in situations of bank failure. Later in 1991, the Bank and Other Financial Institutions Decree was enacted and this decree brought the supervision and regulation of all financial institutions (bank and non-bank) under the Central Bank of Nigeria. Prior to this time, supervision of non-banks was shared between CBN and the Ministry of Finance. By 1992 government divested itself from the seven banks where it had 60% equity holding in line with the new private sector – driven development and privatization. It was believed a full private – sector owned banks would be more efficiently managed and hence more effective in its operations and performance.

Anyanwu (2010) identified five distinct phases of banking sector reforms in Nigeria. The first occurred between 1986 and 1993. This reform was characterized by the deregulation of the sub-sector which includes the deregulation of the rate of interest both on loans and on deposits. Banks became free to charge whatever rates of interest they desired on their different products based on the forces of demand and supply for them and to allow private sector participation. With this the sector was dominated by banks which emerged from the indigenization policy of the 1970s that saw the state and federal government owning majority shares. The reform also required that at least 50% of a bank’s capital must take the form of core or primary capital, that is, equity plus reserves. In 1990 the equity capital of commercial banks was raised from N20 million to N50 million, while that of the Merchant banks rose from N12 million to N40 million. The 1990 Prudential Guideline directed banks to make adequate provisions for bad and doubtful debt. Banks were required to stop accruing interest on non-performing loans, while interest that had already accrued on such accounts should be discomtemed and not be recognized as income.

The second phase was the re-regulation era of 1993 to 1998 following the deep financial distress. The reforms introduced paying interest on demand deposits otherwise known as current account, the cash reserve ratio which before the reforms had been virtually stagnant was revised, to now begin to work as an indirect instrument of credit control, granting of loans on the strength of foreign exchange held in foreign accounts was
prohibited while all government deposits held by the commercial and merchant banks were withdrawn so as to allow the banks function without undue government interference.

The third round of reforms began in 1999 with the return of liberalization and the adoption of the universal banking model including the licensing of foreign owned banks. The fourth phase commenced in 2004 with the banking sector consolidation as a major component and was meant to correct the structural and operational weaknesses that hindered banks from operating efficiently and play the role of financial mobilizers. Following this reform, banks capital base was increased from N2bn in 2002 to N25bn in 2004.

The last and current phase was motivated by the need to address the combined effect of the global financial and economic crises as well as banks huge exposure to oil/gas and marginal loans, which were largely non-performing. This phase is also set to address corporate mis-governance and corruption among operators in the sector. This last phase of reforms therefore seek to substantially improve the banking infrastructure, strengthen the regulatory and the supervisory framework. It also addresses the issue of impaired capital and provision of structured finance through various initiatives so as to provide cheap credit to the real sector and financial accommodation for small and medium scale enterprises.

Methodology and empirical analysis

The data set utilized for this study was sourced from the World Bank Development Indicators (WDI). The data are time series covering the period between 1970 and 2012. The variables for this study include Gross Domestic Product (GDP), Money and quasi money (M2), Net domestic credit, values of Exports and Imports of goods and services. All variables are measured in constant local currency units which is the naira. The choice of variables was based on theoretical connection between financial development and growth in real income (McKinnon, 1973). Similarly, empirical studies show that trade liberalization is known to have a strong and positive correlation with economic growth (Barro, 1991; Sachs and Warner, 1995; Jin, 2000). It is well documented in economic literature that trade and financial liberalization policies improve efficiency in the production process which positively influences economic growth. This notion derives from the fact that countries with more open trade and financial policies tend to grow faster than those with restricted trade and financial policies. Higher degree of openness is expected to have positive impacts on economic growth. Following these theoretical and empirical postulates, output growth is hypothesized to depend on financial development and trade liberalization. The initial model is thus given as

\[ y_t = b_0 + b_1 fd_t + b_2 tl_t + e_t \]

Where

- \( y_t \) = \( GDP \) is a measure of economic growth
- \( fd_t \) = Financial deepening measured by M2 plus net domestic credit
- \( tl_t \) = Trade liberalization (openness) measured by import and exports.

In order to test the existence of long run equilibrium relationship between economic growth (GDP), financial development and trade liberalization, we utilized the bounds test to cointegration approach based on the Autoregressive Distributed Lag (ARDL) framework as proposed by Pesaran et al (2001). All variables are in their natural logarithm form. The choice of this modeling approach is informed by four major advantages: (1) It can be implemented irrespective of whether the times series are strictly I(0) and I(1) or fractionally integrated (2) the model involves single-equation set-up which makes it simple to implement and interpret (3) different variables in the model can be assigned different lag-lengths and (4) it is implementable for time series of short period.

Following the ARDL model \((p,q)\) of equation (1), we formulate the unrestricted error correction model (UECM) as follows:

\[ \Delta y_t = \sum_{j=1}^{p-1} \beta_j \Delta y_{t-j} + \sum_{j=1}^{q-1} \alpha_j \Delta x_{t-j} + \phi \{ y_{t-1} - \{ \beta + \delta \} x_{t-1} \} + \epsilon_t \]  

Where \( \Delta y_t \) is difference stationary economic growth variable (GDP), \( \Delta x_t \) is a vector of difference stationary explanatory variables (i.e M2, credit, Import and Export), \( \beta \) and \( \alpha \) are short-run coefficients of the determinants of economic growth in our model, \( \delta \) represents long-run coefficients of the first lag of the explanatory variables, \( \phi \) is the speed of adjustment to long-run equilibrium relationship and \( \epsilon_t \) is a white noise
error term. We have represented the term in the bracket as the long-run equilibrium relationship which is given as follows:

\[ y_t = \beta + \delta_t x_t + u_t \]  

(3)

From equation (3), \( u_t \) is distributed as an I(0) process before cointegration can be concluded. Bounds testing approach to cointegration as proposed by Pesaran et al (2001) is based on the F-statistics or Wald test which is non-standard under the asymptotic distribution. The test is couch under the null hypothesis of no cointegration between the examined variables, irrespective of whether they are distributed as purely I(0) or I(1). To implement the bounds test, the null hypothesis is tested on the UECM of equation (2) based on the joint significance test performed as follows:

\[ H_0 : \delta_t = 0 \text{ and } H_0 : \delta_t \neq 0 \]

Two sets of critical values were constructed by Pesaran et al (2001) to test at a given level of significance. One set assumes that all the variables are I(0) while the second assumes that they are all I(1). If the calculated F-statistics exceeds the upper critical bounds value, the null hypothesis of no cointegration is rejected. If the calculated F-statistics lies below the critical bounds value, the null hypothesis of no cointegration is not rejected and if the calculated F-statistics fall between the lower and upper critical bounds value, the test is inconclusive.

After the identification of a long-run relationship, the short-run and long-run dynamic model for equation (2) can be estimated from the following ARDL specification

\[ \Delta y_t = \gamma_0 + \sum_{i=1}^{k} \gamma_1 \Delta y_{t-i} + \sum_{i=0}^{k} \gamma_2 \Delta M_{2, t-i} + \sum_{i=0}^{k} \gamma_3 \Delta \text{import}_{t-i} + \sum_{i=0}^{k} \gamma_4 \Delta \text{export}_{t-i} \\
+ \sum_{i=0}^{k} \gamma_5 \Delta \text{credit}_{t-i} + e_{t-1} + \eta_t \]  

(5)

Where \( e_{t-1} \) is the first lag of the stationary residual from long-run equation (3) referred to as the restricted error correction term. Further tests are performed to check the stability of the estimated parameters on the model. Firstly, unit root test was carried out using Augmented Dickey-Fuller (ADF) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) tests to confirm that none of the series are distributed as I(2) stochastic process. The ADF test is based on a null hypothesis of non-stationarit in the series, while the KPSS is based on null hypothesis of stationarity in the series. The result of the tests at level and first difference of the series are presented in Table 1.

Both ADF and KPSS unit root tests indicate that all the series selected for this study are non-stationary at level but are all stationary at their first difference. This means that all the variables are distributed as I(1) and none is I(2) process which indicate that ARDL / Bounds Test can be implemented.

In the estimation of the unrestricted error correction model of equation (2), we selected the maximum lag length of the parsimonious model from general-to-specific method while checking the significance of the model coefficients. The appropriate lag order for this study is ARDL \((1,1,1,1)\) from which we obtained the result of the Bounds test as presented in Table 2.

<table>
<thead>
<tr>
<th>Table 1. Unit Root Test.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADF Unit Root Test</strong></td>
</tr>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>LNCRREDIT</td>
</tr>
<tr>
<td>LNDGDP</td>
</tr>
<tr>
<td>LNEXPORT</td>
</tr>
<tr>
<td>LNM IMPORT</td>
</tr>
<tr>
<td>LNMC</td>
</tr>
<tr>
<td>DLNCREDIT</td>
</tr>
<tr>
<td>DLNDGDP</td>
</tr>
<tr>
<td>DLNEXPORT</td>
</tr>
<tr>
<td>DLN IMPORT</td>
</tr>
<tr>
<td>DLNMC</td>
</tr>
</tbody>
</table>

*indicates stationarity

Note: LNDGDP is trended (D) denote first difference
Based on lag order of 1, we conclude that the variables in our model are cointegrated. The computed $F$-statistics of 5.481 is greater than the upper critical bounds at both 5 and 10 percent levels of significance which implies existence of long-run relationship among the variables. Given the existence of a long-run relationship, we estimate the long-run model of equation (3) from where we extract the restricted error correction model (ECM). The result is presented in Table 3.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Dependent Variable: LNGDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>Coefficient</td>
</tr>
<tr>
<td>LNCREDIT</td>
<td>0.070201</td>
</tr>
<tr>
<td>LEXPORT</td>
<td>-0.043531</td>
</tr>
<tr>
<td>LIMPORT</td>
<td>-0.046351</td>
</tr>
<tr>
<td>LN2</td>
<td>0.558569</td>
</tr>
<tr>
<td>Intercept</td>
<td>14.99052</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.802</td>
</tr>
<tr>
<td>$F$-Stat</td>
<td>29.22152</td>
</tr>
</tbody>
</table>

The result of the long-run estimate presented in Table 3 indicates that financial development variables are positively related to economic growth in the long-run while the trade liberalization variable are negatively related to economic growth in the long-run. Among the financial development variables in our study, financial depth variable proxied by M2 has a larger and significant impact on GDP that net domestic credit. However, this result supports the prediction that financial policies have positive impact on the real GDP. This further support the evidence that financial liberalization policies enhance economic growth against a growth-induced financial liberalization.(McKinnon and Shaw, 1973; King and Levine, 1993). The trade liberalization variables have negative and insignificant impact of real GDP in the long-run. This might be an indication of non-competitive nature of domestic non-oil products in the international market. The residual from the long-run equation (3) is distributed as I(0) and therefore stationary at level. For brevity, we omitted the table of the unit root result on the residual. To find the short-run dynamic equilibrium relationship of equation (5), we estimate the error correction model (ECM) and the result is presented in Table 4.

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Dependent Variable: LNGDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>Coefficient</td>
</tr>
<tr>
<td>DLNGDP(1)</td>
<td>0.386561</td>
</tr>
<tr>
<td>DLNEXP(1)</td>
<td>0.064162</td>
</tr>
<tr>
<td>DLNIMP(1)</td>
<td>-0.015118</td>
</tr>
<tr>
<td>DLM2(1)</td>
<td>-0.146768</td>
</tr>
<tr>
<td>ECM(1)</td>
<td>-0.53706</td>
</tr>
<tr>
<td>C</td>
<td>0.03073</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.382756</td>
</tr>
<tr>
<td>$F$-stat</td>
<td>3.307219</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.012008</td>
</tr>
</tbody>
</table>

From Table 4, the estimated ECM term is negatively signed and statistically significant at all conventional levels. This further confirms that the variables are cointegrated. Short-run equilibrium errors are corrected up to 53 percent annually. Nearly half of previous year’s disequilibria as a result of shock adjust back to long-run equilibrium in the current year.
Based on the selected ARDL model, M2 as measure of financial depth in the economy is a long-run phenomenon as it does not have positive and significant impact on economic growth in the short-run. Similarly, domestic credit is insignificant in the short-run which indicate dearth of investible funds in the economy. This implies that financial development policy shocks influence economic growth in the long-run and not in the short-run. There is similar result for trade liberalization variables in the short-run as observed in the long-run model. Both export and import are insignificantly related to economic growth.

In order to check the stability of our chosen model for the selected period, we performed the CUSUM and CUSUM of Squares stability test as shown in Figures 1 and 2.

**Figure 1:** Plot of Cumulative Sum of Recursive Residuals.

**Figure 2:** Plot of Cumulative Sum of Squares Recursive Residuals.

At 5 percent level of significance, the CUSUM and CUSUMSQ test statistics lies within the critical bounds which confirms that the coefficients of the estimated model is stable over time.

### II. Conclusion And Policy Recommendations

The study assessed the impact of financial development on economic growth in Nigeria. The Autoregressive Distributed Lag bounds testing approach to cointegration was adopted for this study. The empirical result reveals that financial development and economic growth are highly related in the long-run while trade liberalization variables exerted negative impact on economic growth in the long-run. This result supports the finance-growth nexus of McKinnon-Shaw hypothesis. The trade liberalization variables are found to be negative and insignificantly impact real GDP in the long-run which indicate non-competitive nature of domestic non-oil products in the international market. In the short-run, domestic credit is insignificant which indicate dearth of investible funds in the economy. Overall, the financial development policy influence economic growth in the long-run and not in the short-run while trade liberalization policies has not been robust enough to impact on economic growth both at long-run and short-run. The feedback coefficient in the ECM model indicate high rate of adjustment to equilibrium while the model has been stable over the study period.
Based on the results, the paper recommends that policymakers should focus on long-run policies that will sustain economic growth. There should be creation of modern financial institutions and strengthening of the stock markets to enhance confidence of investors in the economy. There is urgent need to strengthen the deposit mobilization and intermediation efforts in the banking system so as to deepen the financial system and achieve sustainable economic growth. Furthermore, Nigerian trade performance should be improved through economic diversification so as to reduce much emphasis on oil export and availability of funds to private sector at competitive interest rate in order to produce internationally competitive products should be encouraged.

References