Financial System Development and Economic Growth in Nigeria: A Causality Test

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ABSTRACT

This study examined the relationship and direction of causality between financial system development and economic growth in Nigeria. The study used data from 1970 to 2013, obtained from World Bank database. The presence of unit root in the time series was tested, using Augmented Dickey-Fuller and Philips-Perron tests. While Johansen co-integration technique was used to test long run relationship among the variables, Granger causality test was used to investigate the direction of causality between financial system development indicators and economic growth. The results showed that there was long run relationship between financial system developments and economic growth. Also, there was unidirectional causality, running from financial system development to economic growth in Nigeria, and there was no feedback effect. This supported supply-leading view. The paper therefore recommended that Nigeria government needed to introduce more policies that would improve efficiency of financial sector which in turn would accelerate economic growth of the country.

Keywords: Financial System Development, Economic Growth, Causality Test, Granger Causality Test, Nigeria.

INTRODUCTION

There are massive studies on the relationship between financial system development and economic growth in the recent time. Some of them concluded that there is a strong links between financial system development and economic growth, while some provided evidence that is tilted in rejection of their view. According to Hussain & Chakrabory (2012), the study of relationship between financial system development and economic growth can be traced back to the work of Schumpeter (1911) who argued that financial services are paramount in promoting economic growth. The studies of McKinnon (1973) and Shaw (1973) confirmed the conclusions of earlier work of Schumpeter (1911) on the importance of financial development on economic growth of a nation. This view provides the ground that a well-functioning financial system is a precondition for the efficient allocation of resources and the exploitation of economy’s growth.

Furthermore, many previous empirical studies produced conflict results on the direction of the causal relationship between financial system development and economic growth. The direction of causality between the two variables has always been a matter of great controversy. Akinlo & Egbertunde (2010) explained that there is no consensus on direction of causality between financial development and economic growth. Understanding the direction of causality between the two variables will assist the country policy makers in formulating policies that will improve financial system or enhance economic growth. Several previous studies showed that financial development caused economic growth, unidirectional and supply-leading view (Djoumessi, 2009; Ndako, 2010; Akinlo & Egbertunde, 2010 and Hussain & Chakraborty, 2012). However, other studies showed that economic growth caused financial development, unidirectional and demand-following view (Deidda & Fattouch 2002; Blanco, 2009 and Ahmed, 2013).
Apart from these two views, some studies argued in favour of bi-directional causality between financial development and economic growth. They explained further that financial development caused economic growth and there was a feedback effect from economic growth to financial development (Sinha & Macri 2008; Odeniran & Udeaja, 2010 and Osuji & Chigbu, 2012). While other studies rejected the existence of causality between financial development and economic growth. They argued that financial development and economic growth are not causally related. That is neither financial development caused economic growth nor economic growth caused financial development (Suleiman & Aamer, 2005; Kucukozmen & Vuranok, 2009 and Dabos & Gantmann, 2010). This study, like other previous studies, re-examines the relationship and direction of causality between financial system development and economic growth in Nigeria. The study differs from other previous studies in the following way: it focused on single country, rather than cross-country analysis, it used combined variables of financial system development rather one or two variable(s), for a long period of forty-four years, 1970 – 2013. Lastly, it also investigated the causality effect of financial system development indicators on economic growth indicator. Hence, the objectives of this study are to examine the relationship between financial system development and economic growth, and to investigate the direction of causality between the two variables in Nigeria. Following this introductory section, the rest of this study is organized as follows: section 2 reviews the theoretical and empirical literature. Section 3 describes model specification and methods of data analysis. Section 4 contains data presentation, analysis and interpretation, while last section concludes the study.

**Theoretical Literature**

The study of Schumpeter (1911) which explained that a well-developed financial system can facilitate technological innovation and economic growth through the provision of financial services. Following Schumpeter (1911), McKinnon (1973) and Shaw (1973) explained that financial repression theory based on neo-classical and neo-Keynesian view, used by many developing countries needs to be replaced. They argued that financial repression policies affect savings negatively and caused financial markets inefficiencies which had adverse effects on macro-economic performance. They introduced financial liberalization theory to solve the problems of financial repression policies. Financial liberalization refers to the deliberate and systematic removal of regularly controls, structures and operational guidelines that may be considered inhibitive of orderly growth competition and efficient allocation of resources in the financial system (Kucukozmen & Vuranok, 2009).

McKinnon (1973) and Shaw (1973) presented a theoretical framework highlighting the important role of financial liberalization as a key factor in promoting financial development; the quantity and the quality of capital accumulation and growth enhancing policies which spurred economic development and accelerated the economic growth rate in developing countries (Ahmed, 2013). Endogenous growth theory addresses some of the weakness of McKinnon and Shaw hypothesis. The theory stated that growth rate is endogenous as such technological progress and population growth are not necessary to generate per capital growth. AK production model explained the role of financial intermediaries on economic growth. The model stated that the amount of output saved by the economy is available for investment.

Neo-structuralist model asserted that financial liberalization affects investment and growth negatively. The model criticized the McKinnon and Shaw hypothesis for not including the unorganized money markets in their model given the importance and the widespread use of curb markets in developing countries. The model explained further that increase in the official money market deposit rate brought about by financial liberalization reduces the total supply of credit and spurs on the curb market rate. In turn higher curb market rate on the one hand, dampening the total supply of loan-able funds available for the business sector, depresses the level of investment and harms the rate of economic growth.

**Empirical Studies**

Many studies have examined the direction of causality between financial system development and economic growth using different techniques. Eita & Jordaan (2007) analysed the causal relationship between financial development and economic growth in Botswana for the period 1977 to 2006, used Granger causality through cointegrated vector auto-regression method. The results showed that there is a stable
long run relationship between financial development and economic growth. Financial development caused economic growth in Botswana and the causality ran from financial development to economic growth (unidirectional and supply-leading). Sinha & Macri (2008) examined the relationship between financial development and economic growth and conducted multivariate causality test. The regression results showed a positive and significant relationship between the two variables. The multivariate causality tests showed a two-way causality relationship in India and Malaysia, One-way causality from financial development to economic growth (supply-leading) in Japan and Thailand, and one-way causality from economic growth to financial development (demand-following) in South Korea, Pakistan and Philippines. Kucukozmen & Vuranok (2009) investigated the effects of financial development on economic growth used cointegration analysis and Granger causality technique. The results of the study revealed that financial development does not caused economic growth in the sampled countries. Djuomessi (2009) used auto-regression distributed lag and vector error correction model to analyse the relationship and the causal link between financial development and economic growth in two Sub-Saharan African countries between 1970 and 2006. The study results found that in both countries there is a positive and long run relationship between financial development and economic growth. The study found that financial development caused economic growth in Cameroon, and economic growth caused financial development in South Africa. Ndako (2010) investigated long run causality between financial development and economic growth in Nigeria and South Africa used multivariate vector auto-regressive technique for the period of 1960 to 2004. The results of the study suggested the existence of unidirectional causality from financial development to economic growth for Nigeria. The results for South Africa found the existence of bidirectional causality between financial development and economic growth. Odeniran & Udeaja (2010) examined the relationship and direction of causality between financial sector development and economic growth in Nigeria used vector auto-regression method for the period of 1960 to 2009. The study results showed that there is a long run relationship between financial development variables and economic growth variable. Causality test results indicated bidirectional. Chakraborty (2010) used bivariate regression method to investigate whether financial development caused economic growth in India. The results of the study suggested the existence of a stable long run relationship between financial development and economic growth. However, the direction of causality ran from economic growth to financial development, unidirectional and demand-following. Akinlo & Egbeutunde (2010) examined long run and causal relationship between financial development and economic growth for ten countries in Sub-Saharan Africa for the period of 1980 to 2005. The study used vector error correction model and showed that there is a long run relationship between financial development and economic growth in the selected Sub-Saharan African countries. The results also showed that financial development caused economic growth in Central African Republic, Congo Republic, Gabon and Nigeria, while economic growth caused financial development in Zambia. However, bidirectional relationship between financial development and economic growth was found in Kenya, Chad, South Africa, Sierra Leone and Swaziland. Hussain & Chakraborty (2012) used time series techniques to assess the relationship between financial development and economic growth and their causality for the period of 1985 to 2009 in India. The study found a long run relationship between financial development and economic growth. Furthermore, Granger causality test indicated that financial development caused economic growth in India (unidirectional and supply-leading). Osuji & Chigbue(2012) examined the impact of financial development variables on economic growth in Nigeria, employed time series data for the period of 1960 to 2008. The study used ordinary least squares method and the results revealed that financial development variables have a long run relationship with economic growth variable. The causality test indicated that financial development variables caused economic growth variable and also economic growth variable caused financial development variables (bidirectional causality). Ahmed (2013) investigated the relationship between financial system development and economic growth in Egyptian economy. The study used vector error correction model for the period of 1980 to 2010. The study showed that there is a long run relationship between financial system
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development and economic growth. While causality test revealed that economic growth caused financial development (unidirectional and demand following).

DATA AND METHODOLOGY

This study employed data on selected variables for the period of 1970 to 2013; the data were sourced from World Development Indicators (WDI). In line with previous empirical studies, such as Eita & Jordaan (2007), Akinlo & Egbetunde (2010) and Maduka & Onwuka (2013), we used Gross Domestic Product Growth Rate (GDPGR) to measure economic growth, while ratio of Broad Money to GDP (BD/GDP), ratio of Bank Deposits to GDP (BD/GDP) and ratio of Domestic Credit to Private Sector to GDP (DCPS/GDP) were used to measure financial system development. Two additional control variables were also employed; they are: Trade Openness (TO) and Real Interest Rate (RIR).

Instead of a single variable used by many studies to capture financial system development, this study used multiple variables in order to improve the robustness of the results. The first variable used to measure financial development is ratio of Broad Money to GDP (BM/GDP). This ratio measures the degree of monetization in the economy as well as the depth of the financial sector. It also shows the ability of financial system in channeling funds from surplus units to deficit units. The ratio is the most commonly used in the literature as a good indicator of financial system development. The second variable used to measure financial development is ratio of Bank Deposits to GDP (BD/GDP). This ratio determines the capacity of the banking sector to perform its core role of savings and how savings are effectively mobilized for investment. The ratio of Domestic Credit to Private Sector to GDP (DCPS/GDP) is the third indicator used to measure financial development. The ratio measures the extent to which financial system channels funds to the private sector in order to facilitate investment and economic growth. Trade Openness (TO) and Real Interest Rate (RIR) were used as additional variables. Trade Openness measures the country exports and imports of goods and services. It shows all the transactions between the residents of a country and the rest of the world. The ratio used to measure trade liberalization. Real Interest Rate shows the real cost of funds to the borrower and real yield to the lender after the effect of inflation has been removed. The rate measures the impact of real cost of funds on savings mobilization and economic growth.

MODEL SPECIFICATION

Following detailed review of previous studies, such as Gregorio (1998), Demetriades & Law (2004) and Christoupolous & Tsionas (2014), economic growth (Y) can be expressed as a function of financial development (X) and a set of control variables (Z). This can be expressed in equation form as:

\[ Y = f(X,Z) \]  

Equation 1 can be expanded to accommodate the economic growth variable, financial system development variables and control variables, then, becomes:

\[ \text{GDPGR}= f (\text{BM/GDP}, \text{BD/GDP}, \text{DCPS/GDP}, \text{TO}, \text{RIR}) \]  

The relationship between the economic growth variable, financial system development variables and control variables can be expressed as:

\[ \text{GDPGR}=\alpha_0+\alpha_1(\text{BM/GDP})+\alpha_2(\text{BD/GDP})+\alpha_3(\text{DCPS/GDP})+\alpha_4(\text{TO})+\alpha_5(\text{RIR}) \]  

Then, taking the logarithm of the variables, the equation (3) will be specified as:

\[ \ln\text{GDPGR}=\alpha_0+\alpha_1\ln(\text{BM/GDP})+\alpha_2\ln(\text{BD/GDP})+\alpha_3\ln(\text{DCPS/GDP})+\alpha_4\ln(\text{TO})+\alpha_5\ln(\text{RIR})+\epsilon_t \]  

Simple model of Granger causality test could be written as follows:

\[ \Delta\ln Y=\alpha_0+\alpha_1\Delta\ln x_t \]  

\[ \Delta\ln X=\alpha_0+\alpha_1\Delta\ln Y+\epsilon_t \]  

Substitute the economic growth variable, financial system development variables and control variables to equation (5) and equation (6) as applicable, then, it becomes:

\[ \Delta\ln(\text{BM/GDP})=\alpha_0+\alpha_1\sum\Delta\ln\text{GDPGR}+\epsilon_t \]  

\[ \Delta\ln(\text{GDPGR})=\alpha_0+\alpha_1\sum\Delta\ln(\text{BM/GDP})+\epsilon_t \]  

\[ \Delta\ln(\text{BD/GDP})=\alpha_0+\alpha_1\sum\Delta\ln(\text{BD/GDP})+\epsilon_t \]  

\[ \Delta\ln(\text{DCPS/GDP})=\alpha_0+\alpha_1\sum\Delta\ln(\text{DCPS/GDP})+\epsilon_t \]
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\[
\Delta \ln(GDPGR) = \alpha_0 + \alpha_1 \sum_{i=1}^{n} \Delta \ln(DCPS/GDP) + \varepsilon_t \quad (12)
\]

\[
\Delta \ln(TO) = \alpha_0 + \alpha_1 \sum_{i=1}^{n} \Delta \ln(GDPGR) + \varepsilon_t \quad (13)
\]

\[
\Delta \ln(GDPGR) = \alpha_0 + \alpha_1 \sum_{i=1}^{n} \Delta \ln(TO) + \varepsilon_t \quad (14)
\]

\[
\Delta \ln(RIR) = \alpha_0 + \alpha_1 \sum_{i=1}^{n} \Delta \ln(GDPGR) + \varepsilon_t \quad (15)
\]

\[
\Delta \ln(GDPGR) = \alpha_0 + \alpha_1 \sum_{i=1}^{n} \Delta \ln(RIR) + \varepsilon_t \quad (16)
\]

Where:

- GDP = Gross Domestic Product Growth Rate.
- BM/GDP = Ratio of Broad Money to GDP.
- BD/GDP = Ratio of Bank Deposits to GDP.
- DCPS/GDP = Ratio of Domestic Credit to Private Sector to GDP.
- TO = Trade Openness.
- RIR = Real Interest Rate.
- \(\varepsilon_t\) = Error Term.

**METHOD OF DATA ANALYSIS**

Data analysis begins with the test of stationary of the data using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) statistics. The stationary test will show the number of time a variable has to be differenced, which indicates its order of integration. If the variables under consideration are at most stationary after the first difference, then the next step is to test whether they are cointegrated. Cointegration test will determine whether or not there is any long run relationship among the variables under consideration. This was done by using Johansen technique developed by Johansen (1988 and 1992).

After the stationary and cointegration tests the study moved further to investigate the direction of causality. Causality test will examine whether or not changes in one variable helps to explain changes in another variable. Granger causality was used to examine the direction of causality between financial system development indicators and economic growth indicator. This technique was employed due to the fact that it can provide causality direction in both short run and long run.

**RESULTS AND DISCUSSIONS**

**Stationary Test**

Stationary tests were performed for all the variables using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. These tests examined the presence of unit root. The results of ADF and PP statistics tests for levels and first differences are presented in table 1 below.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model Specification</th>
<th>Augmented Dickey-Fuller (ADF) Test</th>
<th>Phillips-Perron(PP) Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDPGR</td>
<td>Intercept</td>
<td>-5.739***</td>
<td>-8.695*** -5.745*** -13984***</td>
</tr>
<tr>
<td></td>
<td>Trend and Intercept</td>
<td>-5.9223***</td>
<td>-8.622*** -5.942*** -14.222***</td>
</tr>
<tr>
<td>BM/GDP</td>
<td>Intercept</td>
<td>-3.314**</td>
<td>-5.608*** -2.465 -6.468***</td>
</tr>
<tr>
<td></td>
<td>Trend and Intercept</td>
<td>-3.274**</td>
<td>-5.553** -2.424 -7.269***</td>
</tr>
<tr>
<td>BD/GDP</td>
<td>Intercept</td>
<td>-1.701</td>
<td>-5.124*** -1.957 -4988**</td>
</tr>
<tr>
<td></td>
<td>Trend and Intercept</td>
<td>-1.684</td>
<td>-5.059** -1.948 -4.910**</td>
</tr>
<tr>
<td>DCPS/GDP</td>
<td>Intercept</td>
<td>-1.797</td>
<td>-7.014*** -2.283 -8.301***</td>
</tr>
<tr>
<td></td>
<td>Trend and Intercept</td>
<td>-4.011**</td>
<td>-6.913*** -2.589 -7.978***</td>
</tr>
<tr>
<td>TO</td>
<td>Intercept</td>
<td>-2.681</td>
<td>-8.774*** -2.533 -8.746***</td>
</tr>
<tr>
<td></td>
<td>Trend and Intercept</td>
<td>-2.492</td>
<td>-8.986*** -2.397 -9.111***</td>
</tr>
<tr>
<td>RIR</td>
<td>Intercept</td>
<td>-6.857***</td>
<td>-8.008*** -6.873*** -36.462***</td>
</tr>
<tr>
<td></td>
<td>Trend and Intercept</td>
<td>-7.155***</td>
<td>-7.915*** -7.539*** -38.772***</td>
</tr>
</tbody>
</table>

Note: ** and *** indicate rejection of the null hypothesis of non-stationary at 5% and 1% significant level based on the Mackinnon Critical Values.

Source: Authors’ computation using E-view, 2017.

Results from table 1 showed that all the variables are stationary at first difference, apart from Gross Domestic Product Growth Rate (GDPGR) and Real Interest Rate (RIR) that are stationary at level in both the ADF and PP statistics tests. Therefore, the variables are integrated of order 1 at 5% and 1% significance level. Both the ADF and PP tests rejected the hypothesis of non-stationary of variables, and
thus we concluded that variables used are integrated of the same order.

**Cointegration Test**

After confirming stationarity of the variables, this study proceeds to cointegration test in order to ascertain that the variables are cointegrated. This test investigated whether there is long run relationship among the variables. The study used Johansen technique developed by Johansen (1988 and 1992). Johansen technique offers two tests results: the trace test results and maximum eigenvalue test results, with a view to identifying the number of cointegrating relationship. Table 2 below reported the results of Johansen co-integration tests.

### Table 2. Johansen Co-integration Tests Results.

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Alternative Hypothesis</th>
<th>Statistic Value</th>
<th>Critical Value (0.05)</th>
<th>Prob.</th>
<th>Alternative Hypothesis</th>
<th>Statistic Value</th>
<th>Critical Value (0.05)</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>r = 0</td>
<td>r ≥ 1</td>
<td>123.6380**</td>
<td>95.7537</td>
<td>0.0002</td>
<td>r = 1</td>
<td>48.4973**</td>
<td>40.0776</td>
<td>0.004</td>
</tr>
<tr>
<td>r ≤ 1</td>
<td>r ≥ 2</td>
<td>75.1407**</td>
<td>69.8189</td>
<td>0.0176</td>
<td>r = 2</td>
<td>30.4127</td>
<td>33.8769</td>
<td>0.1227</td>
</tr>
<tr>
<td>r ≤ 2</td>
<td>r ≥ 3</td>
<td>44.7280</td>
<td>47.8561</td>
<td>0.0955</td>
<td>r = 3</td>
<td>26.9419</td>
<td>27.5843</td>
<td>0.0603</td>
</tr>
<tr>
<td>r ≤ 3</td>
<td>r ≥ 4</td>
<td>17.7860</td>
<td>29.7971</td>
<td>0.5819</td>
<td>r = 4</td>
<td>9.0656</td>
<td>21.1316</td>
<td>0.8271</td>
</tr>
<tr>
<td>r ≤ 4</td>
<td>r ≥ 5</td>
<td>8.7204</td>
<td>15.4947</td>
<td>0.3919</td>
<td>r = 5</td>
<td>5.3949</td>
<td>14.2646</td>
<td>0.6914</td>
</tr>
<tr>
<td>r ≤ 5</td>
<td>r ≥ 6</td>
<td>3.3255</td>
<td>3.8415</td>
<td>0.0682</td>
<td>r = 6</td>
<td>3.3255</td>
<td>3.8417</td>
<td>0.0682</td>
</tr>
</tbody>
</table>

Note: ** indicate rejection of the null hypothesis at 5% significant level based on the Mackinnon Critical Values.

Source: Authors’ computation using E-view, 2017.

Both trace statistic and maximum eigenvalue statistic tests in Johansen cointegration rejected the null hypothesis of the absence of a cointegrating relationship among the variables at 5% significance level. Therefore, there is a long run cointegration relationship between financial development variables and economic growth variable. The trace statistic indicated that there are two cointegrating relationship among the variables, while maximum eigenvalue showed that there is one cointegration relationship among the variables. The results of both trace statistic and maximum eigenvalue statistic tests confirm the presence of a long run relationship between the explained variable and explanatory variables.

**Causality Test**

Since variables under consideration are cointegrated, the next step is to determine the direction of causality and investigate the dynamic behaviour of the variables in the long run. This study used Granger causality test to test the causality between financial development variables and economic growth variable in Nigeria. The results of causality test were presented in table 3.

### Table 3. Granger Causality Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>t-Statistic</th>
<th>Prob.</th>
<th>Direction of Causality (Long run)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM/GDP</td>
<td>does not Granger Caused GDPGR</td>
<td>3053618 ** 0.0359</td>
<td>FD ➔ EG</td>
</tr>
<tr>
<td>GDPGR</td>
<td>does not Granger Caused BM/GDP</td>
<td>0.145031 0.9631</td>
<td>-----</td>
</tr>
<tr>
<td>BD/GDP</td>
<td>does not Granger Caused GDPGR</td>
<td>5.694236 *** 0.003</td>
<td>FD ➔ EG</td>
</tr>
<tr>
<td>GDPGR</td>
<td>does not Granger Caused BD/GDP</td>
<td>2.145971 0.1222</td>
<td>-----</td>
</tr>
<tr>
<td>DCPS/GDP</td>
<td>does not Granger Caused GDPGR</td>
<td>2.521867 ** 0.0462</td>
<td>FD ➔ EG</td>
</tr>
<tr>
<td>GDPGR</td>
<td>does not Granger Caused DCPS/GDP</td>
<td>1.710427 0.2128</td>
<td>-----</td>
</tr>
<tr>
<td>TO</td>
<td>does not Granger Caused GDPGR</td>
<td>4.613995 ** 0.0325</td>
<td>FD ➔ EG</td>
</tr>
<tr>
<td>GDPGR</td>
<td>does not Granger Caused TO</td>
<td>2.476102 0.1458</td>
<td>-----</td>
</tr>
<tr>
<td>RIR</td>
<td>does not Granger Caused GDPGR</td>
<td>1.443065 0.2680</td>
<td>-----</td>
</tr>
<tr>
<td>GDPGR</td>
<td>does not Granger Caused RIR</td>
<td>2.004676 0.1416</td>
<td>-----</td>
</tr>
</tbody>
</table>

Note: *** and ** indicate significance at 1% and 5% levels, respectively.

Source: Authors’ computation using E-View, 2017.

The results of the causality test showed that four out of the five explanatory variables showed evidence of causality relationship with the explained variable. The ratio of Broad Money to GDP Granger caused Gross Domestic Product Growth Rate and significant at 5%. There is no
evidence of Granger caused from Gross Domestic Product Growth Rate to the ratio of Broad Money to GDP. This implied that currency held outside the banking system, plus the demand and interest- bearing money of banks and non-bank financial institutions Granger caused economic growth in Nigeria for the period covered by the study. The ratio of Bank Deposits to GDP Granger caused Gross Domestic Product Growth Rate and significant at 1%. Like ratio of Broad Money to GDP there is no evidence of Granger caused from Gross Domestic Product Growth Rate to the ratio of Bank Deposits to GDP. This showed that effective savings mobilized by financial system enhance investment and caused economic growth. Ratio of Domestic Credit to Private Sector to GDP also Granger caused Gross Domestic Product Growth Rate and significant at 5%. Like ratio of Broad Money to GDP and ratio of Bank Deposits to GDP there is no evidence of Granger caused from Gross Domestic Product Growth Rate to the ratio of Domestic Credit to Private Sector to GDP. This indicated that credit provided to private sector from total domestic credit facilitate investment and caused economic growth.

There is unidirectional causality from Trade Openness to Gross Domestic Product Growth Rate with 5% level of significance. Like other previous variables, there is no Granger causality from Gross Domestic Product Growth Rate to the Trade Openness. This showed that transactions between the residents of Nigeria and the rest of the world caused economic growth. There is no evidence of causality from Real Interest Rate to Gross Domestic Product Growth Rate, also, Gross Domestic Product Growth Rate does not Granger caused Real Interest Rate. This implied that real interest rate and economic growth are not causally related.

The results in table 3 showed that the causality ran from financial development indicators to economic growth indicator, which is unidirectional causality. There is no feedback effect from economic growth indicator. The results provide evidence that the causal relationship between financial development and economic growth follows the supply-leading view. This indicated that Nigeria financial system development caused economic growth and economic growth did not caused financial development. The results of this study supports the supply leading view, consistent with the studies of Akinlo & Egbetunde (2010), and Ndako (2010) that found unidirectional causality ran from financial development to economic growth for Nigeria. The results are at variance with the studies of Odeniran & Udeaja (2010) and Osuji & Chigbu (2012) that found bidirectional causality for Nigeria.

CONCLUSION

This study examines the long run relationship between financial system development and economic growth and also investigates direction of causality between financial system development and economic growth in Nigeria. In line with previous studies: Gross Domestic Product Growth Rate (GDPGR) used as indicator of economic growth, while ratio of Broad Money to GDP (BM/GDP), ratio of Bank Deposits to GDP (BD/GDP) and ratio of Domestic Credit to Private Sector to GDP (DCPS/GDP) were used to measure financial system development, while Trade Openness (TO) and Real Interest Rate (RIR) were used as other control variables that affect economic growth.

Stationary test results (both Augmented Dickey-Fuller and Phillips-Perron statistics) showed that all the variables are stationary after the first difference. Cointegration test results indicated that there is a long run relationship between the financial system development indicators and economic growth indicator. Granger causality showed that four out of five explanatory variables caused the explained variable. The ratio of Broad Money to GDP, ratio of Bank Deposit to GDP, ratio of Domestic Credit to Private Sector to GDP and Trade Openness are all Granger caused indicator of economic growth (Gross Domestic Product Growth Rate) and all of them are significant at least in 5% level of significance. But there is no evidence of Granger caused from economic growth indicator to any financial system development indicators.

The results of Granger causality showed that there is unidirectional causality ran from financial development to economic growth in Nigeria. The causal relationship between financial development and economic growth follows supply-leading view. This indicated that Nigeria’s financial system development caused economic growth and no feedback effect from economic growth. This showed that Nigeria’s financial system is still in the early stages of development and the system is dominated by the banking sub-sector. The study suggests that Nigeria government needs to introduce more
regulatory policies that will improve efficiency of financial sector, which will in turn accelerate economic growth of the country. Also, policy makers need to enact more legal and regulatory policies that will encourage foreigners to participate in Nigeria’s financial sector in order to enhance operational efficiency, encourage investment and spur economy.

REFERENCES


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