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THE EFFECTS OF FINANCIAL DEVELOPMENT-TRADE OPENNESS NEXUS ON NIGERIA'S DYNAMIC ECONOMIC GROWTH

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ABSTRACT. This study attempts to investigate the short and long-run cointegration with the causal nexus between financial developments, trade and output growth in Nigeria. The financial instability index was generated using the residual based analysis to account for the effect of financial instability on growth. To examine the cointegration effects, the study used Autoregressive Distributed Lag (ARDL) model. The non-Granger causality analysis was also employed to determine the direction of causality between the variables. We found that financial instability retards growth significantly while financial liberalization indicates positive impact, but insignificant effect on growth. The study concluded that there is a long-run nexus between financial development and economic growth in Nigeria. We recommend that proactive measures need to be established to sustain economic growth in the country through enhancing productivity level, encouraging savings culture and economizing resources to promote capital accumulation.

JEL Classification: C52, G20, O16

Keywords: Financial development, Dynamic growth, Trade openness.

Introduction

The target of every country is to achieve a sustainable economic growth that will lead to economic development in the long-run and many sectors of the economy contribute to the growth of a nation. Financial intermediaries supported the efforts of these sectors by mobilization and allocation of funds in order to boost their activities. Nigeria has been making economic policies in order to be part of global reality in developing the financial system. These activities encouraged mobilization and allocation of funds to various sectors of the

economy. The Nigerian banking sector in 2004 was consolidated where mergers and acquisition, as well as other investment decisions took place. These made deposit money banks become more reliable, sound and healthy which lead to increase in consumer confidence. Insurance companies, specialized banks, industrial development banks, bank of industries, rural development bank, mortgage of financial institutions and the Nigerian stock exchange, also play a significant role in Nigeria's financial development. Acceleration of investments in the Nigerian financial sector can be attributed to government liberalization policies in the past decades and financial reforms of successive regimes. Records from National Bureau of Statistics (2014) indicated that, Nigerian finance and insurance sector contribution to the nominal GDP was on average around3% in 2016. However, there is an increase in 2017 to the tune of averaging 4%, and in terms of real GDP, finance and insurance contribution was also recorded increases on average at 3% in 2017. The target of Nigerian government is to accelerate these growth potentials. However, despite the growth records in the financial sector and her contributions to GDP in Nigeria, the country's economic growth is not stable. It is also difficult to ascertain whether financial development causes economic growth in the long-run or vice versa.

Over the years, there has been discussion from both the policy makers and within the academic circle on the nexus between financial development and economic growth (Pietrucha & Acedański, 2017; Ibrahim, Xiang, Nik Azman & Zulkafli, 2018; Štreimikienė et al., 2016; Kasperowicz, 2015; Simionescu et al., 2016; Onyusheva, et al., 2018; Milovic, & Jocovic, 2017; Vovk, Vovk & Lyashuk, 2017; Wu, & Chen, 2017). Earlier works of scholars such as Schumpeter (1911), Patrick (1966), McKinnon, (1973), Shaw (1973) and Lucas (1988), among others contributed immensely to the study of the relationship between financial development and sustainable economic growth. They asserted that, financial sector development contributes in the quest to achieve economic growth while Lucas (1988), concentrated more on the impact of human capital development, increase in capital stock, technological change and income levels using neoclassical growth theories as factors determining economic growth rather than finance cause growth and believe that, the emphasis giving to finance is very badly over-stressed. Levine et al. (2000) in their cross-sectional study involving 74 countries covering the period 1960 to 1995 came to the conclusion that, financial intermediary development is positively related to economic growth and support the idea of supply-led-growth hypothesis. Ibrahim (2007) revealed that, financial market development has promoted growth and there is very minimal evidence that support the role of economic development influencing financial development in Malaysia. While, Taha et al. (2009) findings suggested the existence of the long-run equilibrium relationship between financial development and economic growth in Malaysia by employing a similar method used by Ibrahim (2007).Recent study by Rahim et al. (2014), found a unidirectional causality running between economic growth and financial development in Malaysia. Consequently, Awojobi (2013) also found a causal relationship running between financial development and economic growth in Greece mainly reflected from the debt crises faced by the country.

Adeniyi et al. (2015) has re-examined the relationship between financial development and economic growth in Nigeria. An inverse effect of financial development on growth were reported and threshold analysis indicates a direct effect of financial development on the country's economy. Ductor and Grechyna (2015) assessed the interdependence between financial development and real sector output and economic growth and the findings suggest that increase in financial development is as a result of the rise in the private credit and real output. The result further indicated that the influence of financial development on the economy will change in a negative irrespective of a growth in private credit if the real sector output reduces. Similar outcome in the case of private credit support for growth was reported by Abubakar et al. (2015) for the Economic Community of West African States (ECOWAS)

in terms of the effect of financial development and human capital accumulation on growth. The findings revealed that private credit increases the level of economic growth in ECOWAS. Samargandi and Kutan (2016) also reaffirmed the evidences from the above studies by employing the Global VAR econometric analysis to investigate a dynamic relationship between private credit flows and economic growth in Brazil, Russia, India, China and South Africa (BRICS countries). The result shows a positive credit flow effect on growth of some BRICS countries, especially China and India.

Abid et al. (2016) used a non-parametric stochastic dominance and the multivariate vector autoregressive approaches to investigate the nature of the influence of financial development on economic growth (Dinu, 2015; Ohanyan & Androniceanu, 2017). The findings show that, GDP growth has dominant indicate on the financial development, while stock market dominance reflect a lower influence. Luintel et al. (2016) found that, market-based financial system account for a sizable economic influence on the high-income countries than the middle and low income nations. Vithessonthi and Kumarasinghe (2016) analyzed the effect of financial development and international trade on stock market integration in 15 Asian developed and developing economies. The result shows that, financial development of the countries has a direct influence on the integration of their stock markets in the rest of the world. Batuo et al. (2017) conducted a study on African countries revealed that, liberalization of the financial system and its development have a direct effect on financial instability in the countries. Economic growth tends to decrease the financial instability, especially during the pre-liberalization period. In the case of financial inclusion and growth, Kim et al. (2017) employs panel data for 55 Organization of Islamic Cooperation (OIC) countries discovered that, financial inclusion is positively related to economic growth and the panel Granger causality analysis indicated that, financial inclusion and growth have a mutual causal effect.

Furthermore, Inekwe et al. (2017) has developed an ex-ante measure of distress in the financial system to predict the United States' also showed a higher negative effect on exports and investment. Neaime and Gaysset (2018) re-examined the impact of financial inclusion on stability, poverty and inequality in MENA countries. The GMM and GLS methods were utilized and the results suggested that, financial integration contributes to financial instability in the region. Further evidence revealed that financial inclusion has a positive influence on financial stability with the absence of a direct effect on poverty in the region. Pradhan et al. (2018) used a panel data for European countries and found that the innovation and financial development has Granger-caused by growth. According to Robin et al. (2018), the financial reform does not have a significant influence on the return on asset, but the net interest margin has raised in Bangladesh and the asset quality and capital has strength diversified profitability for the banks.

The above reasons motivated us to study the causal relationship between financial development, trade openness and endogenous output growth in Nigeria. This research will provide government with the direction on where it should focus its attention with regards to the design of policy framework and implementation. The rest of the paper is organized as follows. Section 2 describes the source of data and the estimation strategies. Section 3 is about the finding and discussion, and section 4 provides a summary and policy recommendations.

2. Data and estimation strategies

This study employs the annual frequency data over the period of 1980 to 2016 and the data is obtained from the World Development Indicators (The World Bank, 2018). All series are transformed into logarithm specification in order to provide efficient findings without

robustness problem. The fundamental empirical modelling framework of this study followed the Cobb-Douglas type of production function as shown in equation (1):

$$Y = AK^{\alpha}L^{\beta} \tag{1}$$

where, Y is output level, K is capital stock and L represent the labour stock. A is the total factor productivity, while φ and α are the coefficients. The fundamental Cobb-Douglas model, leads this study to formulate the following empirical model.

$$RGDP_t = f(CPL_t, TO_t, MS_t, Fin_t) \tag{2}$$

where, the *RGDP*, *CPL*, *TO*, *MS and Fin* are the real domestic product taking deflator consideration, gross capital formation as a percentage of GDP, trade openness (composition of exports and imports) as a percentage of GDP, money supply as a ratio of GDP and the financial instability, respectively. The money supply as a percentage of GDP are measures based on M2 annual money supply and the financial instability series are generated using the OLS residual based analysis based on the Domestic Credit to Private Sector (DCFS) series as a percentage of GDP introduced by Loayza and Ranciere (2006).

$$DCFS_t = \delta_o + \delta_1 DCFS_{t-1} + \delta_2 T + \varepsilon_t \tag{3}$$

where,$DCFS_t$ represent the domestic credit to private sector provided by the financial sector at current period while $DCFS_{t-1}$is a lagged 1 period of DCFS. Therefore, the actual values of the residuals have been obtained by regressing the DCFS on it lagged value with time trend. The fluctuation of the values of the residuals over the years indicates financial instability in Nigeria. The empirical equation is transformed into logarithm specification and modelled as follows:

$$RGDP_t = \alpha_1 + \alpha_2 CPL_t + \alpha_3 TO_t + \alpha_4 MS_t + \alpha_5 Fin_t + \alpha_6 SAP_t + \mu_t \tag{4}$$

where, the RGDP, CPL, TO, MS and Fin are the natural logarithm estimation series; and SAP is a dummy series represent the Structural Adjustment Program by the Nigerian government in the year 1986. The following Figure 1 show the estimated financial instability index for Nigeria and the residuals plunged to a negative value in 1998. This was characterized as one of the periods with high level of insolvency, increased number of non-performing loans and overall distress in the financial system.

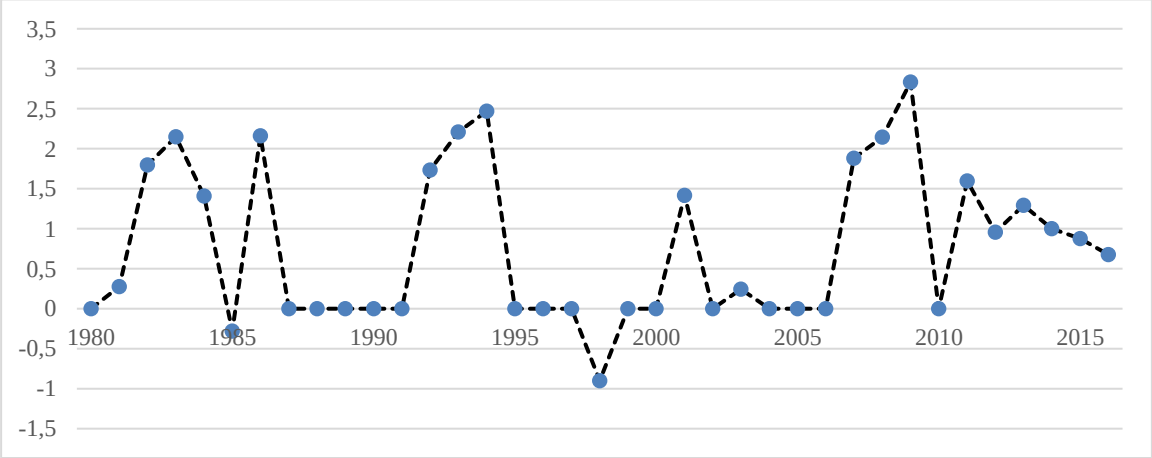

Figure 1. The Financial instability indexes for Nigeria

Although, there are numbers of unit root tests, we employ the Saikkonen and Lütkepohl (2002) or known as SL test, since there is an unstable condition of the financial instability series and the regime issues in Nigeria. This SL test involves the deterministic term shift functions and the linear trend term and shift SL model can be shown as follow:

$$y_t = \mu_0 + \mu_1 t + f_t(\theta)' + z_t \tag{5}$$

Therefore, when there is a shift function with a break, therefore the SL test formulation can be defined as follows:

$$f_t = d_t = \begin{cases} 0 \; t < T_B \\ 1 \; t \geq T_B \end{cases} \tag{6}$$

where, T_B represents the dummy variable with shift date and this may be useful when there is a structural change in the series over the estimated time period.

Next, the causal influence between variables is often investigated using the fundamental Engle and Granger (1987) method. When a long run cointegration is established, the Granger causality test can be ascertained using the error correction term. The vector error correction framework in a matrix form is given below:

$$\begin{bmatrix} \Delta GDP_t \\ \Delta CPL_t \\ \Delta TO_t \\ \Delta MS_t \\ \Delta Fin_t \end{bmatrix} = \begin{bmatrix} \alpha_1 \\ \alpha_2 \\ \alpha_3 \\ \alpha_4 \\ \alpha_5 \end{bmatrix} + \begin{bmatrix} \varphi_{11,1} & \varphi_{12,1} & \varphi_{13,1} & \varphi_{14,1} & \varphi_{15,1} \\ \varphi_{21,1} & \varphi_{22,1} & \varphi_{23,1} & \varphi_{24,1} & \varphi_{25,1} \\ \varphi_{31,1} & \varphi_{32,1} & \varphi_{33,1} & \varphi_{34,1} & \varphi_{35,1} \\ \varphi_{41,1} & \varphi_{42,1} & \varphi_{43,1} & \varphi_{44,1} & \varphi_{45,1} \\ \varphi_{51,1} & \varphi_{52,1} & \varphi_{53,1} & \varphi_{54,1} & \varphi_{55,1} \end{bmatrix} \times \begin{bmatrix} \Delta GDP_{t-1} \\ \Delta CPL_{t-1} \\ \Delta TO_{t-1} \\ \Delta MS_{t-1} \\ \Delta Fin_{t-1} \end{bmatrix} + \cdots\cdots$$

$$\begin{bmatrix} \varphi_{11,i} & \varphi_{12,i} & \varphi_{13,i} & \varphi_{14,i} & \varphi_{15,i} \\ \varphi_{21,i} & \varphi_{22,i} & \varphi_{23,i} & \varphi_{24,i} & \varphi_{25,i} \\ \varphi_{31,i} & \varphi_{32,i} & \varphi_{33,i} & \varphi_{34,i} & \varphi_{35,i} \\ \varphi_{41,i} & \varphi_{42,i} & \varphi_{43,i} & \varphi_{44,i} & \varphi_{45,i} \\ \varphi_{51,i} & \varphi_{52,i} & \varphi_{53,i} & \varphi_{54,i} & \varphi_{55,i} \end{bmatrix} \times \begin{bmatrix} \Delta GDP_{t-i} \\ \Delta CPL_{t-i} \\ \Delta TO_{t-i} \\ \Delta MS_{t-i} \\ \Delta Fin_{t-i} \end{bmatrix} + \begin{bmatrix} \vartheta_1 \\ \vartheta_2 \\ \vartheta_3 \\ \varphi_4 \\ \vartheta_5 \end{bmatrix} \times [ect_{t-1}] + \begin{bmatrix} \varepsilon_{t1} \\ \varepsilon_{t2} \\ \varepsilon_{t3} \\ \varepsilon_{t4} \\ \varepsilon_{t5} \end{bmatrix} \tag{7}$$

where, Δ denotes a difference operator. While,φ'sare the parameters to be estimated and the ect_{t-1}represent the lagged error term which indicating the long-run cointegration condition. The statistical test can be applied to determine the long-run association indicated by the significance of the lagged error correction term based on the optimal lag length based on the SIC. The *F*-test statistic will be applied to examine the significance of the coefficients of the lag variables based on the joint null hypothesis of no long-run nexus as $H_O: \varphi_2 = \varphi_3 = \varphi_4 = \varphi_5 = 0$, against the alternative hypothesis of long-run cointegration, that is$H_1: \varphi_2 \neq \varphi_3 \neq \varphi_4 \neq \varphi_5 = 0$. However, in order to give further merit to the cointegration results, this study will employ the non-Granger causality test or well-known as the modified Wald test.

This approach is equally important when the economic series are either integrated of different orders, not cointegrated or both. For the non-granger causality framework, the error correction term cannot be applied for Granger causality tests and the standard (pairwise) Granger causality method may not give robust results. Hence, Toda and Yamamoto (1995) provide a method to test for the presence of causality, irrespective of whether the variables are *I*(0), *I*(1) or *I*(2), not cointegrated or cointegrated of an arbitrary order. The following non-Granger causalitymodel is presented based on the VAR system:

$$RGDP_t = \beta_0\left(\sum_{i=1}^{k}\beta_1 RGDP_{t-i} + \sum_{i=k+1}^{d_{max}}\beta_2 RGDP_{t-i}\right) + \left(\sum_{i=1}^{k}\alpha_1 CPL_{t-i} + \sum_{i=k+1}^{d_{max}}\alpha_2 CPL_{t-i}\right) + \left(\sum_{i=1}^{k}\varphi_1 TO_{t-i} + \sum_{i=k+1}^{d_{max}}\varphi_2 TO_{t-i}\right) + \left(\sum_{i=1}^{k}\vartheta_1 MS_{t-i} + \sum_{i=k+1}^{d_{max}}\vartheta_2 MS_{t-i}\right) + \left(\sum_{i=1}^{k}\omega_1 Fin_{t-i} + \sum_{i=k+1}^{d_{max}}\omega_2 Fin_{t-i}\right) + \varepsilon_t \quad (8)$$

where, k is the optimal time lag captured from the SIC value on the initial VAR model and d_{max} value is represented the maximum integration order from the VAR estimation system. Hence, in equation (8), the Granger causality running is from *CPL*, *TO, MS* and *Fin* to *the RGDP, which* implies $\eta_{1i} \neq 0 \forall i$, $\delta_{1i} \neq 0 \forall i$, $\ell_{1i} \neq 0 \forall i$, and $o_{1i} \neq 0 \forall i$, respectively.

2. Results and discussion

The descriptive statistics and the correlation matrix are presented in Table 1 below. The p-values from the Jarque-Bera (J-B) statistical test shows that all the series are normally distributed. It can be observed that, CPL series have a positive correlation relationship at 1% level, while other series have a negative relationship as shown in the second part of Table 1.

Table 1. Descriptive statistics and correlation matrix

	$RGDP_t$	CPL_t	MS_t	TO_t	Fin_t
Mean	1.143	2.455	3.166	3.911	0.747
Median	1.445	2.447	3.118	3.997	0.000
Maximum	3.519	3.527	3.767	4.404	2.835
Minimum	-0.835	1.699	2.583	3.162	-0.901
J-B	0.800	3.225	0.209	4.093	3.506
	(0.670)	(0.199)	(0.901)	(0.129)	(0.173)
Correlation matrix					
$RGDP_t$	**1.000**				
CPL_t	-0.250 (0.154)	**1.000**			
MS_t	-0.191 (0.257)	0.464* (0.006)	**1.000**		
TO_t	0.211 (0.234)	-0.439* (0.009)	-0.406** (0.017)	**1.000**	
Fin_t	-0.251 (0.152)	0.271 (0.121)	0.656 (0.214)	-0.218* (0.000)	**1.000**

Note: * and ** indicates levels of significance at 1% and 5% respectively. The p-values are in parenthesis.

Table 2 shows the results of the unit root test. This study utilized shift dummy based on Saikkonen and Lütkepohl (2002) analysis. It is superior over the widely used Augmented Dickey-Fuller (ADF), Phillip-Perron (PP), DF-GLS and other traditional approaches since they may lead to inefficient and bias results when there is a level shift in the series. The result

shows that, the order of integration of the variables are at *I*(1) condition. All the variables are non-stationary at level in the presence of structural break at the 1% level of significance.

Table 2**.** SLunit root test results

Variables	At level	At first difference
$RGDP_t$	-2.115 (3)	-4.134 (3)*
CPL_t	-1.669 (3)	-3.884 (3)*
MS_t	-2.502 (4)	-5.224 (4)*
TO_t	-1.751 (1)	-3.966 (1)*
Fin_t	-2.436 (3)	-3.922 (3)*

Note: The critical values are -3.48, -2.88 and -2.58 at 1%, 5% and 10% level of significance respectively based on Lanne et al. (2002).
* denotes the significance level at 1%. Values in ( ) indicate the optimal lag length.

However, this unique order of integration allows this study to employ the ARDL Bound test for long-run cointegration. Although ARDL method can be applied in the case of mixed order of integration, i.e., *I*(0) and *I*(1) but in the case of *I*(2), calculated F-statistics would not provide meaningful results (Ouattara, 2004). After the unit root test, the selection of lag length is vital for the ARDL model to calculate F-statistics for cointegration. The following Table 3 indicates lag 1 as an optimal lag to be used. The lagged length was determined by AIC, HQ and SIC information criterion.

Table 3. Lag order selection criteria

Lag order	FPE	AIC	SIC	HQ
0	0.000	6.363	6.592	6.439
1	9.490*	4.905*	6.279*	5.360*
2	0.000	4.921	7.431	5.756

Note: * indicates lag order selected by the criterion 5% significance level. LR=sequential modified LR test statistic, FPE= Final prediction error, AIC=Akaike Information Criterion, SIC=Schwarz Information Criterion, and HQ=Hannan-Quinn Information Criterion.

The long-run nexus between the variables has been investigated with the aid of the ARDL bounds test. The empirical results from Table 4 indicates that, the computed F-statistics for the first model using GDP as a dependent variable exceeded the upper bound of Pesaran et al. (2001) F-bounds table. Therefore, the null hypothesis suggesting the absence of long-run relationship is rejected at the 10% significance level. However, trade openness as a dependent variable also has a long-run nexus with the rest of the regressors at the 5% level of significance. Model one result reveals that gross capital formation; trade openness, money supply and the financial instability index have a relationship in the long-run.

Table 4. Multidimensional ARDL bounds testing results

Estimated Models	Optima lag structure	*F*-statistics
$RGDP_t = f(CPL_t, TO_t, MS_t, Fin_t)$	(1,1,0,0,1)	3.239***
$CPL_t = f(RGDP_t, TO_t, MS_t, Fin_t)$	(1,0,0,0,1)	1.391
$MS_t = f(CPL_t, TO_t, RGDP_t, Fin_t)$	(1,0,1,0,0)	2.411
$TO_t = f(CPL_t, RGDP_t, MS_t, Fin_t)$	(1,0,1,0,1)	3.427**
$Fin_t = f(CPL_t, TO_t, MS_t, RGDP_t)$	(1,0,1,0,0)	2.793
Level of significance	Lower Bounds	Upper Bounds
1%	2.88	3.99
5%	2.27	3.28
10%	1.99	2.94

Note: *, ** and *** denotes 1%, 5% and 10% significant level, respectively. The optimal lag criteria are determined based on the SIC.

Table 5 reported the results of the long and short-run ARDL-ECM analysis. We found that, money supply has a positive effect on growth in both periods of analysis. The result shows that in the long-run, a 1% increase in money supply will be accompanied by a 7.9% rise in the GDP level, assuming all things remain the same, while in the short-run, a 1% raise in money supply will lead to 5.7% increase in GDP. This supports the findings of Simionescu et al. (2018), which was obtained for chosen Central European countries, and Waheed and Younus (2010), though they found significant impact of the ratio of M2 to GDP on economic growth. The reason for the insignificant result of this study is that, the ratio of M2 to GDP measures the extent of monetization rather than financial depth in developing countries (Demetriades & Luintel, 1996; Luintel & Khan, 1999). They argued that in developing countries, the monetization can be increase without financial development occurring. It has been observed that large amount of money stock in developing countries is held outside the banking system and this indicates a lesser degree of financial intermediation by the banking institutions. This is supported by the findings of by Ehigiamusoe (2013) that reported a negative relationship between economic growth and money supply

The result for the structural adjustment policy or financial liberalization also reveals a positive effect on GDP, though insignificant, it indicates that, the liberalization policy will contribute to output growth in the long-run as expected. The results are in line with McKinnon (1973) and Shaw (1973) hypothesis, that any form of government involvement in regulating the financial system will retard growth. The result also corroborates with the findings of Gaytan and Ranciere (2005), that after financial liberalization, emerging countries will face financial crises, volatility of credit and low output growth, but they will be free from such crises and have stable growth in the long-run. The short-run difficulties are justified by lack of proper supervision during the credit expansion by banks after the financial liberalization (Rajan, 1994). Financial reforms in Nigeria mostly affect the economy through the banking sector, as it account for more than 90% of all transactions in the financial system.

The elasticity of gross capital formation indicated a negative impact on economic growth and also significant at the 5% level. The result corroborates with the findings of Ohwofasa and Aiyedogbon (2013). The negative effect of capital on growth in the long-run is attributed to the low level of per capita income, low level of savings and investment in the less developing countries. In Nigeria about 90% of national income comes from crude oil. Agriculture, technological advancement and industrialization is minimal in terms of performance (Osundina & Osundina, 2014). Trade openness and financial instability index indicated an inverse relationship with economic growth in both the short and long-run. This is in line with the results obtained by Nwosa et al. (2011) and Loayza and Ranciere (2006) respectively. The reason is that, the strategies for development on either financial sector or trade liberalization is not seem to be effective for Sub-Saharan African countries (Gries et

al., 2009). Economic mismanagement and fiscal indiscipline are part of the reason for financial instability in Nigeria. (Ogujiuba & Obiechina, 2011).

Table 5. ARDL-ECM estimates

Dependent variable: $RGDP_t$	Coefficient	*t*-statistic	*p*-value
CPL_t	-1.736** (0.838)	-2.071	0.049
MS_t	0.079 (1.231)	0.064	0.949
TO_t	-2.521** (1.166)	-2.162	0.041
Fin_t	-0.093 (0.303)	-0.307	0.761
T_B=*SAP*	0.179 (0.948)	0.189	0.852
ΔCPL_t	1.874** (0.778)	2.409	0.023
ΔMS_t	0.057 (0.881)	0.064	0.949
ΔTO_t	-1.820** (0.723)	-2.519	0.018
ΔFin_t	-0.067 (0.219)	-0.306	0.762
T_B=*SAP*	-3.362* (1.215)	-2.767	0.010
ect_{t-1}	-0.722* (0.155)	-4.672	0.000
Diagnostic tests			
R^2	0.640	χ^2_{SERIAL}	1.399 [0.237]
Adj-R^2	0.521	χ^2_{RESET}	1.148 [0.284]
F-statistics	7.124* [0.000]	χ^2_{NORMAL}	3.277 [0.194]
DW statistics	2.256	χ^2_{ARCH}	0.279 [0.597]
CUSUM	Stable	CUSUMQ	Stable

Note: *, ** and *** denote levels of significance at 1%, 5% and 10% respectively. Values in ( ) and [ ] represent standard errors and p-value, respectively.

In the short-run period, financial liberalization retards growth. This is indicated by a negative sign and it is in conformity with the findings of Owusu and Odhiambo (2012) that after the financial reform, there was an inefficient credit allocation in the economy. Poorly managed liberalization reform and laxity in supervision by the regulators are also part of the reason for bank's weaknesses in Nigeria. Before the banking reform of 2004, banks often finance short-term arbitrage projects rather than productive private investment. This confirms the findings of Gaytan and Ranciere (2005), that developing economies will face financial crises, volatility of credit and low output growth in the short-run. Capital formation has a positive relationship with output growth in the short-run. The result is inconsistent with the findings of Kagochi et al. (2013). This support the neoclassical growth theory developed by Solow (1956) and Swan (1956) that in the short-run, initial capital accumulation tends to rise before the effect of diminishing returns set in which decrease growth in the long-run. The lagged error term, ect_{t-1} indicates -0.722 at the 1% level of significant meaning that, the short-run shocks or deviations are corrected by the speed of 72% towards the long-run equilibrium condition. In addition, changes from the equilibrium level of financial development are corrected by more than 72%, confirming our results that indicate a long-run nexus between the variables.

The stability of the parameters in the periods of analysis is investigated using the Cumulative sum of recursive residuals (CUSUM) and the cumulative sum squared of the recursive residuals (CUSUMsq). These tests are crucial because if there is misspecification of a model, estimated coefficients may vary in time series dates. Then it is likely to have biased estimates that can affect the explanatory power of the empirical results. In terms of sensitivity, residuals are not very sensitive when there are small parameter changes. It is possible to detect changes through recursive residual analysis. Recursive residual is expected to have a value of zero if the null hypothesis of the parameter consistency is correct and if the parameters are not consistent, recursive residual will have non-zero expected values due to parameter change.

There were high level of insolvency, increased number of non-performing loans and overall distress in the financial system**.** The county's macroeconomic conditions were destabilized due to volatility in fiscal spending. This discourages private investments. The rate of unemployment, inflation and domestic debt profile increased. The rate of inflation was recorded at 10% in 1999, but increased on average about 21.8% in 2003. The government introduced macroeconomic reforms and other measure aimed at improving the economy and this leads to the improvement in the standard of living for the average Nigerians while unemployment rates slightly declined. Table 6 shows the result of non-Granger causality test indicating the relationship directions between the variables. The gross capital formation Granger-causes on RGDP at the 5% level of significance. This can be justified that capital accumulation supports growth; the gross capital formation and trade openness also has a unidirectional relationship at 1% significance level. Moreover, the money supply has a causal effect on RGDP at the 10% level of significance, and the money supply do not have influence on economic growth. However, there is no feedback causality between the variables under investigation.

Table 6.Non-Granger causality test results

	Dependent variable: $RGDP(\chi^2)$				
	$RGDP_t$	CPL_t	TO_t	MS_t	Fin_t
$RGDP_t$	-	1.075 (0.584)	1.798 (0.407)	0.314 (0.855)	1.135 (0.567)
CPL_t	6.877** (0.032)	-	15.089* (0.001)	2.061 (0.355)	3.363 (0.186)
TO_t	3.725 (0.155)	1.239 (0.538)	-	0.707 (0.702)	1.598 (0.441)
MS_t	5.754*** (0.056)	3.160 (0.206)	2.797 (0.247)	-	1.921 (0.383)
Fin_t	1.747 (0.418)	1.117 (0.572)	3.421 (0.181)	0.912 (0.634)	-

Note: *, ** and *** refers to 1%, 5% and 10% level of significance respectively. The *p*-values are in parenthesis.

5. Conclusion Remarks

The results suggesting the positive impact of financial liberalization on growth potential had been presented. Findings revealed that trade openness did not have a meaningful contribution to output growth while financial instability retard growth significantly. Gross capital formation and money supply have less impact on growth Therefore, we recommend that Proactive measures need to be established to sustain economic growth in the country through enhancing productivity level, encouraging savings culture and economizing resources to promote capital accumulation. Credit facilities need to be efficiently allocated for investment to thrive. Proper supervision of the entire financial activities should enhance to

avoid possible distress in the financial system. This will avert an economic recession in the future. There should be more checks and monitoring of risk prone portfolios for banks by the regulatory authorities and ensuring their adequate competition. This would help in promoting stable financial activities. The concern authorities must ensure that viable transactions are conducted in the stock markets as well as other financial markets. Finally, there should be a proper design and implementation of policies that will overhaul the entire financial system. This will help boost economic growth and development in the long-run. Future studies should incorporate other measures and indicators of financial development, such as stock market indicators, labor input and financial globalization index into the study. Period of analysis also needs to be extended in order to capture the overall picture of the impact of financial development on economic growth in Nigeria.

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