Economic Openness, Institutional Quality and Economic Growth in Nigeria.

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Abstract

Economic openness has been argued to be an enabler of growth when supported with appropriate policies. This study investigates the effects of economic openness on economic growth in Nigeria. It also assesses the role of institutions in enabling the relationship between economic openness and economic growth. Using annual series, vector error correction model and causality test, the study shows that economic openness have positive but insignificant effect on economic growth. With the inclusion of institutional quality, the relationship between economic (trade and financial) openness and economic growth shows weak significance, however with negative effect. The implication of these findings is that activities put in place to ensure free flow of goods and services and capital inflows have not contributed significantly to economic growth. Furthermore, efforts to ensure government effectiveness have not fully translated into ensuring improved economic growth and current quality of institution might not necessarily ensure a stronger economic openness-economic growth nexus. The study recommends improved flows of goods and services with special focus on import reduction and export promotion and also recommends the promotion of stronger and quality institutions that is able to make relevant trade and financial liberalization policies that will not distort but improve economic growth significantly.

1.0 Introduction

Many economies are considered more developed when they have higher levels of financial openness, trade openness and institutional quality. Financial openness, draws from economic theory built on models of competitive and efficient market that opined that financial openness fosters economic growth and development (Fratzscher & Bussiere, 2004). Financing is needed to fulfil the potential for growth. On the other hand, there is need to stress the presence of market distortions that may lead to welfare- reducing effects of financial openness. These market distortions can take various forms, such as asymmetric information and hidden action (Stiglitz, 2000) or be related to political economy factors.

The world is increasingly transforming into a single market. The trans-boarder movement of capital, goods, services, technology and information is been promoted and participated by more countries following its positive returns, albeit with its adverse returns. The world has become so intertwined that it has become apparently difficult, if not impossible, for any economy to function in isolation (Kalu, Chuke & Nwonye, 2016).

Following the global wind of liberalization, Nigeria implemented Structural Adjustment Programme (SAP) in 1986. Before this period, interest rates in Nigeria were generally fixed by the Central bank of Nigeria with periodic adjustments depending on the government's sectorial priorities. With the implementation of the SAP, which focused on trade liberalization, the need for financial liberalization was also realized. The steps that were taken in this regard were interest rate deregulation, introduction of an auction market for treasury bills, identification of insolvent banks for restructuring, introduction of more stringent prudential guidelines for banks, increase in banks' minimum capital requirement and upgrading and standardization of accounting procedures (Agu et al., 2014; Orji et al. 2014).

The proposal that trade openness leads to economic growth and improves the welfare of citizens of a country has attracted the awareness of policy makers and governments of the developing countries over the years. Trade openness is believed to stimulate economic growth because of its influence in integrating world economies. Kalu et al. (2016) claimed that there is a continuing collapse of trade borders and a blend of the world into one large market. Import effects on growth process of a developing, import dependent country like Nigeria should not be ignored or assumed away without any empirical basis. Also, Nigeria has experimented with different exchange rate regimes, which exhibits varying implications.

Economies with high institutional quality have been shown to be more successful in adopting frontier technology and productivity. Economic growth is a key for defining short term trajectory of a nation but institutional development determines whether short term gains are sustainable over the longer term. High quality institutions raise the odds that a society can cope with and recover from such crisis and continue on its long term trajectory of progress (Bruinshoofd, 2016).

Acemoglu and Robinson (2013) contends that differences in institutions can explain the difference in economic performance across time and space as economic growth is realized when a country acquires an increasing returns economic structure. Though, institutions are a network of democratic political institutions, resilient rule of law and the protection of properties for a broad cross section of society, the leading discussions on institutions contend that institutions are the deep determinants of long-run economic growth. Countries like Nigeria which does not exhibit competitive production technologies are prone to having difficulties in achieving sustained economic growth.

Developed economy offers prospects for increased efficiency, improved balance of payments and increased standard of living. However in Nigeria, improved economic performance has over the years been marred by social vices such as institutionalized corruption which deters the capacity of institutions to proficiently deliver services needed to grow the economy. Nigeria's economic potential is constrained by many structural issues, including inadequate infrastructure, tariff and non-tariff barriers to trade, obstacles to investment, lack of confidence in currency valuation and limited foreign exchange capacity. The lack of job opportunities is at core of the high poverty levels, regional inequality, social and political unrest. Good health, worthy housing, access to education, social connections and human rights are denied mostly in Nigeria, making economic growth almost impossible.

In addition to the above, the motivation for this study hinges on the notion of how finance and trade openness enable interaction real and financial sectors. On one hand, deepen financial sectors might encourage real sector dependence on domestic financing and on the other hand, improved trade openness and its attendant external shocks and adjustments might amplifies needs of new financial products and services, therefore leading to innovations. These innovations could however be constrained by inadequate functioning of systems and structures.

This study investigates the links among economic openness, institutional quality and economic growth in Nigeria. It examines the effects of trade and financial openness on economic growth while also examining the role of institutions in enabling economic openness-economic growth nexus. Previous

studies (Sabina & Eldin, 2018; Oyovwi & Eshenake, 2013; Odeniran & Udeaja, 2010; Osuji & Chigbu, 2012) used had examined relationship between economic (trade and financial) openness and economic growth without considering the role institutions play in enabling the relationship between economic openness and economic growth. Studies that examined institutions (Udah & Ayara, 2014; Yusuf & Malarvizhi, 2014; Iheonu, Ihedimma & Onwuanaku, 2017; Sule, 2020) had only examined its effects on the performance of economic growth without institution's interaction with economic openness. Though, Nguyen, Su and Nguyen (2018) examined detrimental impact of institutional quality on foreign direct investment, trade openness and economic growth, this study examined a one on one relationships of these variables, therefore economic growth effects of the interactions of institutional quality with economic openness were not examined.

The study employed the vector error correction (VEC) model. It is a restricted VAR that has cointegration restrictions built into the specification, so that it is designed for use with nonstationary series that are known to be cointegrated. Johansen co-integration test was also conducted to examine the co-integrating features of the variables. After the VEC model estimation, granger causality test was also conducted to examine the direction of causation of the variables. Foreshadowing from this study, the study observed that economic openness have insignificant positive effect on economic growth. With the inclusion of institutional quality, economic openness have weak significant negative effect on economic growth.

The remainder of the study is as follows. Section two contains brief literature review, section three, four and five contains the methodology, results interpretations and conclusions respectively.

2.0 Brief Review Of Literature

There are three strands of literature considered in this study. The first strand involves studies on the relationship trade openness and economic growth. The second strand entails literature on financial openness and economic growth. The third strands considers studies on institutions and economic growth.

Trade openness has no significance influence on growth in the Nigeria economy in the short-run (Saibu, 2004), though there is co-integration between the variables (Ogujiuba et al, 2004) and there is also unidirectional relationship openness and growth (Saibu, 2004). Manwa and Wijeweera (2016) show that countries can benefit from trade openness, indicating that Southern Africa has reaped both short- and long-term benefits from its trade liberalization policies. In a cross section of economies, Kim, Lin, and Suen (2016) observed that in the long run, increasing international trade improves economic growth while amplifying growth volatility. There is a trade threshold below which more trade openness benefits economic growth and above which the trade effect on growth decrease (Zahonogo, 2017) and that in the face of different estimators, exports, exchange rate and investment were significant determinants of per capita real income growth (Iyoha & Okim, 2017).

On the second strand of literature, financial sector liberalization have differing impacts on macroeconomic performance of economies that are in the same region (Raza & Moshin, 2011). Nigeria's financial market structure has a negative and considerable impact on the country's economic growth (Maduka & Onwuka, 2013) while its capital base and liquidity ratio have increased the degree of economic growth, the development of Nigeria's financial sector has not significantly improve private sector development (Oriavwote & Eshenake, 2012). Changes in Nigeria's financial system have no substantial impact on the country's real growth rate (Saibu et al., 2009). However, Adelakun (2010) observed that expansion of Nigeria's financial sector had a significant favourable impact on the country's economic growth. Lack of financial depth and immaturity of some economies stock and credit markets restrict contributions of stock and credit markets to economic growth (Gugelielmo et al., 2009). Financial development has a negative influence on growth and there is unidirectional causality from economic growth to financial development (Kuipou, 2012).

On the third strand of literature for this study, institutional quality is a factor of production, it displays diminishing returns (Goes, 2015). Higher institutional quality in their view unlocks potentially unlimited economic growth (Acemoglu, 2005; Acemoglu & Robinsons, 2013). Although, Corruption in Nigeria's institutions has a beneficial impact on economic growth although, accountable administration, the rule of law, and competitive politics has no impact on economic growth (Dandume, 2013). The study further established causal links between institutions and economic growth.

Carraro and Karfakis (2018) observed that quality of institutions and economic freedom metrics have a favourable and significant effect on structural transition between sectors. Institutional quality has a detrimental impact on FDI, trade openness as well as economic growth (Nguyen, Su & Nguyen, 2018) however Udah and Ayara (2014), Yusuf and Malarvizhi (2014), Iheonu, Ihedimma and Onwuanaku (2017) observed that quality institutions have favourable and significant impact on economic performance. Democratic institutions have a negative impact on economic growth but FDI has a beneficial benefit (Izilein & Mohammed, 2017).

3.0 Theoretical Framework And Methodology

The model for this study is a modified version of Ram (1986) which is based on endogenous growth model. Economic growth is primarily driven by internal rather than external forces. Increased productivity is linked to faster innovation and higher government and private sector investments in human capital. Fully-endogenous growth models predicts more effects of economic openness on growth and captures most of the government expenditure variables that work through different sectors. When capital and labour are supplemented by more government input in the production function, economic growth can occur. This establishes a connection between government expenditure and growth.

$$\frac{dY}{Y} = \alpha\frac{I}{Y} + \beta\frac{dL_D}{L} + \mu\frac{dG}{Y}$$

3.1

Equation (3.10) corresponds to Ram (1986) equation. It predicts that economic growth $\left(\frac{dY}{Y}\right)$ responds to the ratio of gross investment (I) to GDP, growth of labour force $\frac{dL_D}{Y}$ and the ratio of change in government consumption to GDP $\left(\frac{dG}{Y}\right)$. Government expenditure may affect economic growth through the following mechanism. First, government investment in infrastructure is assumed to have a direct effect on economic growth by increasing the economy's capital stock. The second mechanism is the externality effect of government expenditure that alters economic growth indirectly by increasing the quality of institution. The third mechanism is government expenditure on goods and services that increases the aggregate demand in the economy. The fourth mechanism is intersectoral productivity differentials which makes some sectors to be more productive than others (Agenor et al, 2007; Adetokunbo & Ochuwa, 2020).

3.1 Model specification

Following the theoretical framework, the econometric model for this research is:

$$Y = \propto_0 + \propto_1 I + \propto_2 L + \propto_3 GE + \propto_4 TO + \propto_5 FO + \epsilon_t$$

3.2

…….

For easy interpretation and deduction (3.2) can be rewritten in logarithm form:

$$LogY = \propto_0 + \propto_1 LogI + \propto_2 LogL + \propto_3 LogGE + \propto_4 LogTO + \propto_5 LogFO + \epsilon_t$$

3.3

…

A prior expectation is that $\propto_{1,} \propto_2, \propto_3, \propto_4 and \propto_5 > 0$.

In econometric form,

The vector error correction model is specified below:

$$\Delta Y_t = \rho_1 + \sum_{i=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{n} \phi_i \Delta I_{t-i} + \sum_{i=1}^{n} \delta_i \Delta L_{t-i} + \sum_{i=1}^{n} \theta_i \Delta GE_{t-i} + \sum_{i=1}^{n} \gamma_i \Delta TO_{t-i} + \sum_{i=1}^{n} \omega_i \Delta FO_{t-i} + ECT_{t-i} + \epsilon_{1t}$$

3.3i

$$\Delta I_t = \rho_2 + \sum_{i=1}^{n} \phi_i \Delta I_{t-i} + \sum_{i=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{n} \delta_i \Delta L_{t-i} + \sum_{i=1}^{n} \theta_i \Delta GE_{t-i} + \sum_{i=1}^{n} \gamma_i \Delta TO_{t-i} + \sum_{i=1}^{n} \omega_i \Delta FO_{t-i} + ECT_{t-i} + \epsilon_{1t}$$ (3.3ii)

$$\Delta L_t = \rho_3 + \sum_{i=1}^{n} \delta_i \Delta L_{t-i} + \sum_{i=1}^{n} \phi_i \Delta I_{t-i} + \sum_{i=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{n} \theta_i \Delta GE_{t-i} + \sum_{i=1}^{n} \gamma_i \Delta TO_{t-i} + \sum_{i=1}^{n} \omega_i \Delta FO_{t-i} + ECT_{t-i} + \epsilon_{1t}$$ (3.3iii)

$$\Delta GE_t = \rho_4 + \sum_{i=1}^{n} \theta_i \Delta GE_{t-i} + \sum_{i=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{n} \delta_i \Delta L_{t-i} + \sum_{i=1}^{n} \phi_i \Delta I_{t-i} + \sum_{i=1}^{n} \gamma_i \Delta TO_{t-i} + \sum_{i=1}^{n} \omega_i \Delta FO_{t-i} + ECT_{t-i} + \epsilon_{1t}$$
(3.3iv)

$$\Delta TO_t = \rho_5 + \sum_{i=1}^{n} \gamma_i \Delta TO_{t-i} + \sum_{i=1}^{n} \theta_i \Delta GE_{t-i} + \sum_{i=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{n} \delta_i \Delta L_{t-i} + \sum_{i=1}^{n} \phi_i \Delta I_{t-i} + \sum_{i=1}^{n} \omega_i \Delta FO_{t-i} + ECT_{t-i} + \epsilon_{1t}$$

3.3v

$$\Delta FO_t = \rho_6 + \sum_{i=1}^{n} \omega_i \Delta FO_{t-i} + \sum_{i=1}^{n} \gamma_i \Delta TO_{t-i} + \sum_{i=1}^{n} \theta_i \Delta GE_{t-i} + \sum_{i=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{n} \delta_i \Delta L_{t-i} + \sum_{i=1}^{n} \phi_i \Delta I_{t-i} + ECT_{t-i} + \epsilon_{1t}$$
(3.3vi)

In order to examine the objective of the study, (3.3) is modified to incorporate a measure of institutional quality. Therefore, financial and trade openness were made to interact with effectiveness of government which is a measure of institutional quality. Hence, (3.3) becomes:

$$LogY = \propto_0 + \propto_1 LogI + \propto_2 LogL + \propto_3 LogGE + \propto_4 LogTO_{IQ} + \propto_5 LogFO_{IQ} + \epsilon_t$$

3.4

Where:

TO_IQ = Trade openness interacting with Institutional Quality

FO_IQ = Financial openness interacting with Institutional Quality

Therefore, the vector error correction model that showed the interaction of Institutional quality with Trade openness and financial openness is stated below:

$$\Delta Y_t = \rho_1 + \sum_{i=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{n} \phi_i \Delta I_{t-i} + \sum_{i=1}^{n} \delta_i \Delta L_{t-i} + \sum_{i=1}^{n} \theta_i \Delta GE_{t-i} + \sum_{i=1}^{n} \gamma_i \Delta TO\_IQ_{t-i} + \sum_{i=1}^{n} \omega_i \Delta FO\_IQ_{t-i} + ECT_{t-i}$$

3.4i

$$\Delta I_t = \rho_2 + \sum_{i=1}^{n}\phi_i \Delta I_{t-i} + \sum_{i=1}^{n}\beta_i \Delta Y_{t-i} + \sum_{i=1}^{n}\delta_i \Delta L_{t-i} + \sum_{i=1}^{n}\theta_i \Delta GE_{t-i} + \sum_{i=1}^{n}\gamma_i \Delta TO\_IQ_{t-i} + \sum_{i=1}^{n}\omega_i \Delta FO\_IQ_{t-i} + ECT_{t-i} + \epsilon_{1t}$$
(3.4ii)

$$\Delta L_t = \rho_3 + \sum_{i=1}^{n}\delta_i \Delta L_{t-i} + \sum_{i=1}^{n}\phi_i \Delta I_{t-i} + \sum_{i=1}^{n}\beta_i \Delta Y_{t-i} + \sum_{i=1}^{n}\theta_i \Delta GE_{t-i} + \sum_{i=1}^{n}\gamma_i \Delta TO\_IQ_{t-i} + \sum_{i=1}^{n}\omega_i \Delta FO\_IQ_{t-i} + ECT_{t-i} + \epsilon_1$$
(3.4iii)

$$\Delta GE_t = \rho_4 + \sum_{i=1}^{n}\theta_i \Delta GE_{t-i} + \sum_{i=1}^{n}\beta_i \Delta Y_{t-i} + \sum_{i=1}^{n}\delta_i \Delta L_{t-i} + \sum_{i=1}^{n}\phi_i \Delta I_{t-i} + \sum_{i=1}^{n}\gamma_i \Delta TO\_IQ_{t-i} + \sum_{i=1}^{n}\omega_i \Delta FO\_IQ_{t-i} + ECT_{t-i} +$$
(3.4iv)

$$\Delta TO\_IQ_t = \rho_5 + \sum_{i=1}^{n}\gamma_i \Delta TO\_IQ_{t-i} + \sum_{i=1}^{n}\theta_i \Delta GE_{t-i} + \sum_{i=1}^{n}\beta_i \Delta Y_{t-i} + \sum_{i=1}^{n}\delta_i \Delta L_{t-i} + \sum_{i=1}^{n}\phi_i \Delta I_{t-i} + \sum_{i=1}^{n}\omega_i \Delta FO\_IQ_{t-i} + E$$

3.4v

$$\Delta FO\_IQ_t = \rho_6 + \sum_{i=1}^{n}\omega_i \Delta FO\_IQ_{t-i} + \sum_{i=1}^{n}\gamma_i \Delta TO\_IQ_{t-i} + \sum_{i=1}^{n}\theta_i \Delta GE_{t-i} + \sum_{i=1}^{n}\beta_i \Delta Y_{t-i} + \sum_{i=1}^{n}\delta_i \Delta L_{t-i} + \sum_{i=1}^{n}\phi_i \Delta I_{t-i} + ECT_{t-}$$
(3.4vi)

3.2 Data description

The variables used in the study consists of real gross domestic product proxy for economic growth (Y), gross fixed capital formation proxy for investment (I), labor force participation rate (L), government expenditure (GE), trade as a share of GDP proxy for trade openness (TO), Foreign direct investment proxy for financial openness (FO). Trade openness interacting with Institutional Quality (TO_IQ) and financial openness interacting with Institutional Quality (FO_IQ).

4.0 Results And Discussion

As indicated in Table 4.1, the table shows statistical characteristics of the variables used in the study. The results reveal an average value of 4.5%, 2.14%, and 12% for LY, LTO and LFO respectively. Similarly it is evident from the results that LL, LI, LGE had an average value of 7.66%, 3.93%, 3.12% over the period of the study. From the standard deviation of the variables, the degree of variability of each of the variables is relatively weak. From the skewness result, economic growth rate, trade openness, labour force participation rate, financial openness and government expenditure is negatively skewed except investment that is positively skewed. LY which represents Real Gross Domestic Product is playkurtic as it is less than 3. LGE which represents government expenditure, LI which represents investment and LL which represents labour force participation rate is also playkurtic with its values being less than 3. LTO and LFO which stands for trade openness and financial openness respectively are lepokurtic. From the above highlight on Jarque-Bera, all variables are normally distributed except trade openness.

Table 4.1
Descriptive statistics of variables

Statistic\Variables	LY	LTO	LL	LI	LFO	LGE
Mean	4.597	2.143	7.661	3.931	0.121	3.127
Median	4.610	2.410	7.670	3.920	0.190	3.280
Maximum	4.860	2.750	7.790	4.060	0.760	4.010
Minimum	4.330	0.860	7.500	3.840	-0.710	1.780
Std. Dev.	0.204	0.537	0.088	0.060	0.306	0.660
Skewness	-0.067	-1.049	-0.255	0.357	-0.330	-0.584
Kurtosis	1.374	3.008	1.830	2.028	3.451	2.215
Jarque-Bera	3.436	5.689	2.103	1.879	0.826	2.562
Probability	0.179	0.058	0.349	0.390	0.661	0.277
Obs	31	31	31	31	31	31
Source: Author's computation (2022)						

Table 4.2
Summary of Unit Root Tests

Variables	Augmented Dickey-Fuller (ADF)			Phillip-Perron (PP)		
	t-statistics	P-Value	Remark	t-statistics	P-Value	Remark
LY	-3.279	0.025	I(1)	-3.319	0.023	I(1)
LI	-10.684	0.000	I(1)	-10.075	0.000	I(1)
LL	-4.220	0.002	I(1)	-4.163	0.003	I(1)
LGE	-7.826	0.000	I(1)	-7.356	0.000	I(1)
LTO	-5.545	0.000	I(1)	-5.569	0.000	I(1)
LFO	-6.517	0.000	I(1)	-6.862	0.000	I(1)
Sources: Author's computation (2022)						

After testing for unit root using Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) unit root tests, the result showed that all the variables were integrated at first difference, I (1). Hence, the use of vector error correction (VEC),

Table 4.3
Normalized Co-integrating Equation

Without Institutional Quality					
LY	LI	LL	LGE	LTO	LFO
1.000	2.604	-1.293	-0.459	0.134	-0.050
	-0.295	-0.755	-0.148	-0.072	-0.028
With Institutional Quality					
LY	LI	LL	LGE	TO_IQ	FO_1Q
1.000	-4.204	-3.766	0.472	0.001	-0.019
	-0.383	-0.762	-0.111	-0.001	-0.003
Trace statistics indicates 4 cointegration equations at 5% significant level					

Source: Author's computation (2022)

The normalized co-integration result in Table 4.3 (are interpreted in reverse order) shows financial openness, government expenditure and labour force participation rate have positive effects on economic growth while investment and trade openness have negative effects on economic growth. With the interaction with institutional quality, financial openness and trade openness maintained their respective effects on economic growth as it was without institutional quality. The implication of this is that Nigeria's institutions are yet to cause significant behavioural changes on economic openness-economic growth nexus.

Table 4.4
Vector Error Correction (VEC) Results

Without Institutional Quality						
	D(LY)	**D(LTO)**	**D(LL)**	**D(LI)**	**D(LGE)**	**D(LFO)**
C	0.025	0.132	0.003	0.009	0.067	-0.217
ECT	-0.122	-0.222	0.037	-0.255	0.063	0.355
D(LY(-1))	0.009*	-2.265	0.177	-0.409	-1.137	0.176
D(LTO(-1))	0.033	0.077	-0.008	-0.028	0.051	-0.487
D(LL(-1))	-0.125	0.832	0.190	-0.557	5.772	11.075
D(LI(-1))	0.078	-0.263	-0.047	0.039	-0.285	-0.469
D(LGE(-1))	-0.117	-0.589	0.019	0.118	-0.425	1.559
D(LFO(-1))	0.016	0.052	-0.001	-0.035	-0.091	-0.431
	0.650	0.151	0.242	0.331	0.520	0.339
Adj.	0.533	-0.131	-0.010	0.108	0.361	0.119
F-statistic	5.573	0.535	0.962	1.487	3.262	1.544
With Institutional Quality						
	D(LY)	**D(LL)**	**D(LI)**	**D(FO_IQ)**	**D(LGE)**	**D(TO_IQ)**
C	0.013	0.007	0.012	-6.645	0.053	26.860
ECT	-0.049	-0.008	-0.007	-11.534	0.294242	-40.736
D(LY(-1))	0.177	-0.040	-0.209	35.506	-0.815	-468.824
D(LL(-1))	-0.099	0.220	-1.052	192.126	3.377	199.114
D(LI(-1))	-0.202	-0.018	-0.488	-16.534	0.100	-198.775
D(FO_IQ(-1))	-0.000*	0.000	-0.002	-1.390	0.003	2.210
D(LGE(-1))	-0.081	0.023	0.153	-0.312	-0.129	-16.039
D(TO_IQ(-1))	-0.000*	0.000	0.001	-0.080	-0.002	-0.062
	0.864	0.437	0.828	0.626	0.642	0.734
Adj.	0.739	-0.086	0.669	0.280	0.310	0.488
F-statistic	6.883	0.836	5.200	1.809	1.936	2.982
*:10% significance level. Optimal lag length criteria of order one was selected based on Schwarz						

information criterion

Source: Author's Computation (2022)

Vector error correction result in Table 4.4 established positive but insignificant effect of trade and financial openness on economic growth (without institutional quality). The coefficient of the error correction term of real gross domestic product variable carries negative sign but it is not statistically significant in both scenario. Thus in the short run, there is relationship though, insignificant among the variables but the relationship does not transcend into the long run. Therefore, the study does not provide evidence of long run relationship among the variables under observation. Trade openness and financial openness interacting with institutional quality is significant at 10%. It is important to note that the economic growth R^2in the interacting model improved to 86% as against 65% that was reported without the interaction. This shows that institutions has the potency that could enable economic openness to enhance economic growth. It is interesting to state that effects of economic growth on trade openness is negative in both scenarios while effects of economic growth on financial openness is positive.

Table 4.5
VEC Granger Causality Test Results

Without Institutional Quality				With Institutional Quality			
Dependent variable: D(LY)				**Dependent variable: D(LY)**			
Excluded	**Chi-sq**	**Df**	**Prob.**	**Excluded**	**Chi-sq**	**Df**	**Prob.**
D(LTO)	11.676	2	0.002***	D(LL)	0.580	1	0.446
D(LFO)	0.691	2	0.707	D(LI)	2.053	1	0.151
D(LI)	19.412	2	0.000***	D(LGE)	2.103	1	0.147
D(LGE)	12.694	2	0.001***	D(FO_IQ)	3.594	1	0.058*
D(LL)	0.122	2	0.940	D(TO_IQ)	2.461	1	0.116
All	43.982	10	0.000	All	11.311	5	0.045
Dependent variable: D(LFO)				**Dependent variable: D(LI)**			
Excluded	**Chi-sq**	**Df**	**Prob.**	**Excluded**	**Chi-sq**	**Df**	**Prob.**
D(LY)	9.398	2	0.009***	D(LY)	4.421	1	0.035*
D(LGE)	12.468	2	0.002***	D(LL)	3.316	1	0.068*
Dependent variable: D(LI)				D(FO_IQ)	34.500	1	0.000***
Excluded	**Chi-sq**	**Df**	**Prob.**	**Dependent variable: D(LGE)**			
D(LTO)	5.854	2	0.053*	**Excluded**	**Chi-sq**	**df**	**Prob.**
D(LGE)	6.647	2	0.036**	D(LL)	4.631	1	0.0314*
Dependent variable: D(LGE)				**Dependent variable: D(FO_IQ)**			
Excluded	**Chi-sq**	**Df**	**Prob.**	**Excluded**	**Chi-sq**	**df**	**Prob.**
D(LL)	5.334	2	0.069*	D(TO_IQ)	3.185	1	0.074*
Dependent variable: D(LL)				**Dependent variable: D(TO_IQ)**			
Excluded	**Chi-sq**	**Df**	**Prob.**	**Excluded**	**Chi-sq**	**df**	**Prob.**
D(LGE)	5.318	2	0.070*	D(LI)	7.369	1	0.006**
***:1%, **: 5% and *:10% significance levels							

Source: Author's computation (2022)

The granger causality test presented in Table 4.5 also established that trade openness causes economic growth. Trade openness and investment individually causes economic growth at 1% level of significance. Economic growth causes financial openness at 1% level of significance. Trade openness causes investment at 10% level of significance. With institution interaction, financial openness causes economic growth at 10% and investment at 1%. Economic growth at 10% causes investment. Trade openness causes financial openness at 10% while investment causes trade openness at 5% level of significance.

4.1 Discussion of Results

Following from the results presented above, the null hypothesis that states trade openness does not have effect on economic growth in Nigeria can be rejected. The normalized co- integration result shows that trade openness has negative effect on economic growth. Vector error correction result established positive but insignificant effect of trade openness on economic growth while effects of economic growth on trade openness is negative in both scenarios. It is therefore suffice to state that Nigeria's economic growth rate is not encouraging trade liberialization. The granger causality test also established that trade openness causes economic growth. However, these varying effects are in the short run. This finding is not in consonance with Saibu (2004) that observed trade openness not to have significant effects on economy growth but reinforces Balanika (2013) that shows evidence that relationship between openness and economic growth is not necessarily always positive. Trade openness can enable Nigeria to import intermediate inputs that are needed to improve economic growth at least in the short run as evident from the results.

From the results above, the hypothesis that states financial openness does not have effect on economic growth in Nigeria can be rejected. The normalized co-integration result shows that financial openness has positive effect on economic growth. Vector error correction results established that effect of financial openness on economic growth is positive but statistical insignificant. The effects of economic growth on financial openness is positive. Albeit, inconsequential, increasing economic growth rate is suggestive to have contributory influence on increasing financial openness. The granger causality test also established that economic growth causes financial openness. However, these diverse effects only exist in the short run. This is in line with the studies of Oyovwi and Eshenake (2013) and Fasanya and Olayemi (2020) that shows relationship between financial openness and economic growth in Nigeria.

Also the hypothesis of the study that states that quality institutions have no roles on the relationship between economic openness and economic growth can be rejected. The results shows institutional quality influences the relationship between economic (trade and financial) openness and economic growth, though with a weak level of significance at 10%, a very small coefficients and a larger explanatory power of R^2 against the

reported when there was no interaction. Explicitly, the VECM result shows negative effect of institutional quality interactions with economic (trade and financial) openness on economic growth. The granger causality tests established that an institutional quality interaction with financial openness causes economic growth. Therefore, it is suggestive to states that when improved systems and structures meet financial liberty, it serves as catalyst to improving Nigeria's productivity. Also, an institutional quality interaction with trade openness causes financial openness. This finding therefore supports the notion that improved trade openness and its attendant external shocks and adjustments amplifies needs of new financial products and services, therefore leading to innovations. This finding is in consonance with Fisayo and John (2018); Thorbecke (2013) and Adetokunbo and Ochuwa (2020) where it was shown that institutional quality through control of corruption and government effectiveness has the potentials of contributing towards economic growth.

5.0 Conclusion

The objective of the study was to examine the links among economic openness, institutional quality and economic growth in Nigeria, using an annual data sourced from the Central Bank of Nigeria Statistical Bulletin, World Bank and World Governance Indicator Database over the year 1990 to 2020. The variables in the study includes real gross domestic product, trade openness, financial openness, government expenditure, labor force participation rate, investment, institutional quality and interactions of institutional quality between trade and financial openness. The study utilized the Augmented Dicker Fuller test, and the Philip Perron test to determine the stationarity of the variables. The test results showed that the variables are integrated in order of I(1) and as a result the Vector Error Correction (VEC) model was employed.

In the co-integration test, the study revealed that financial openness, labour force participation rate and government expenditure all have positive effects on economic growth while investment and trade openness has a negative effect on economic growth. However, the vector error correction model confirms that there was no long run relationship among the variables. Vector error correction result established positive but insignificant effect of trade and financial openness on economic growth. The granger causality test also established that trade openness causes economic growth.

With the interaction of institutional quality with the variables, it was revealed that there was no long run relationship but a short run relationship was established. The VECM result shows negative effect of institutional quality interactions with economic (trade and financial) openness on economic growth. The granger causality tests established that an institutional quality interaction with financial openness causes economic growth. Also, an institutional quality interaction with trade openness causes financial openness. It showed that investment, labour force participation rate and financial openness which is an interaction of institutional quality all have a positive impact on economic growth.

The implication of these findings is that activities put in place to ensure free flow of goods and services and capital inflows have not contributed significantly to economic growth. Furthermore, efforts to ensure government effectiveness have not fully translated into ensuring improved economic growth. Quality of institution might not necessarily ensure a stronger economic openness-economic growth nexus.

Therefore, in order to ensure economic openness contributing significantly to economic openness, the study recommend improved flows of goods and services with special focus on import reduction and export promotion. Also, since government effectiveness (a measure of quality institution) could bring about significant contribution of economic openness to economic growth and at the same time bring about a negative relationship between economic openness and economic growth, the study therefore recommend the promotion of stronger and quality institutions that is able to make relevant trade and financial liberalization policies that will not distort but improve economic growth significantly.

Declarations

Availability of data and materials

All data and materials used in this study are available

Competing interests

The authors have declared that no competing interests exist.

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Authors' contributions

Adetokunbo Abiodun Moses and Yusuf Iddey Josphine both contributed to the conceptualization, analysis and completion of this study

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