DOES TRADE OPENNESS INFLUENCE ECONOMIC GROWTH IN NIGERIA?

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Abstract

There is an increasing argument on whether indeed an increase in trade liberalization (openness) leads to economic expansion or otherwise. This study intend to make contributions to the argument on the effect of trade openness on economic development of Nigeria. The study also identified other factors that affect economic growth in relation to trade openness. The study captured the impact analysis of trade openness and economic development with existing time-series data from 1986 to 2017. Estimation technique employed followed the Vector Error Correction Model (VECM) to ascertain the short and long run equilibrium existence. The results of the discovery showed that trade openness had no remarkable effect on growth in Nigeria within the periods of study but other factors such as: Foreign Direct Investment and Exchange Rate had significant impact on growth. Therefore, it is paramount for the government and all the stakeholders to stir their policies towards improving the exchange rate management in order to further influence the foreign direct investment of the country.

Keywords: Trade Openness, Economic Development, Foreign Direct Investment, Exchange Rate.

Introduction

Trade openness has been acknowledged as a critical factor influencing economic growth both in developed and developing economies. Sequel to the belief that trade openness is conducive to economic growth, foreign trade has been increasingly acknowledged as what Nurkse (2001) called an important "engine of growth", and Kravis (1989) referred to as the "hand maiden of growth". Based on this assertions, numbers of subsequent empirical researches have emerged. As such, the correlation between trade openness and economic development has been well reported in economic literature.

According to Omoju and Adesanya (2012), the basis for international trade lies on the fact that countries of the world do differ in their service delivery, priorities, technology, measure of production and capacity for growth and development. Nations do engage in trade with one another because of these major differences and foreign trade has opened up avenues for nations to exchange and consume goods and services which they do not produce. Differences in natural endowment present a case where nations can only devour what they have the strength to produce, but trade permit them to consume what other countries make. Therefore, countries take part in trade in order to enjoy diversity of goods and services and ameliorate their people's standard of living.

Diverse opinion persists on the argument of whether indeed an increase in trade openness leads to economic expansion across the globe among various authors. This issue has however generated some contention among analysts and the debate across ideologies on the relationship has not been properly settled yet. According to the World Bank (2007), trade openness enhances a country's access to a wider array of goods, services, knowledge and, technologies. Moreover, it also restores entrepreneurship in the capitalist system, and foreign capital, creates utilization, reduces falsification in price relatives, elevate activities with comparative advantage, and, increases foreign earnings. These components eventually boost up economic growth. As such, trade openness is now argued as a key element - within other blueprintand reforms - of any maturing strategy, and, is considered to be a key source of concentration to growth.

However, contrary to the wealth of literature that brace the correlation that trade openness enhances economic growth, it has also been claimed that a growth in openness might have high level of activity in the economy (Rodriguez & Rodrik, 1999; Clemens & Williamson, 2002; Vamvakidis, 2002). These studies have been more sceptical and found that the statistical significance of this correlation rely on the requirements of the observed model and the substitute variable used for openness. Moreover, there has been lots of criticism that there is no convincing or persuasive evidence that shows that trade openness is always linked with economic growth. Despite the change in policies towards greater openness in developing nations, new evidence suggest that the gain of trade reforms have not been as high as expected (Taylor, 1991; Winters, 2004). The influence of trade openness on economic growth varies across countries. Some countries especially the developed economies benefit most and others being negatively affected from the trade reform. A series of explanations have been put forward for these anomaly, among which are the schedule of the reforms (some undertaken during a time of crisis), and the credibility of and the political commitment to the reforms. While it is understandable that properly lowering trade blockade sends an economic upsurge, uncertainty still strives as to whether or not trade has dominance to a higher rate of growth in the long run.

A critical look at the different opinions and empirical findings on the influence of trade openness on economic development shows that this issue is of serious concern and this has raised a lot of questions, especially in developing nations which necessitates further research.

However, the main goal of this study is to empirically analyse the implications of trade openness on economic growth in Nigeria and also identify other factors affecting economic development in relation to trade openness in the country. The study contributes to the debate on the implications of trade openness on economic growth using Nigeria as a case study with the scope of the study from 1986-2017.

Review of Related Literature

Over time, the definition of openness has involved diverse opinions of different scholars who described openness in different ways in a given economy. However, trade openness is the level of dependence of an economy on foreign trade and financial flows. Trade openness is elucidate to include import, export taxes, exchange-rate policies and internal taxes,

subsides, competition and other regulatory strategies, education policies, the nature of the legal system, the form of government, and the general nature of institution and culture (Baldwin, 2002). Harrison (1996) for instance asserts that the concept of openness as applied to trade policy could be synonymous with the idea of neutrality. Neutrality means that inducement are neutral between economizing a unit of foreign trade through import substitution and earning a unit of foreign trade through exports. Clearly, a highly export steering economy may not be impartial in this sense, particularly if it transfers incentives in favour of export manufactured through measure such as export subsidies. It is also feasible for a regime to be neutral on norm, and yet intercede in specific sectors. Thus, a good estimate of trade policy would arrest differences between neutral, inward-oriented, and export-promoting regimes (Yanikkaya, 2002).

Economic development is the increase in the amount of the goods and services produced by the economy overtime; it means the growth of potential output, that is, production. It can also be defined as the stable process by which the productive capacity of an economy increases overtime. It is an estimate as the percentage rate of increase in real Gross Domestic Product (GDP).

International trade and economic development have been explained through old and new trade and growth supposition that explicate why countries trade among each other. Neoclassical trade theories include comparative advantage and Heckscher-Ohlin Samuelson theories in order to explain the basis for trade. In the Ricardian model, as trade becomes more open, any country specializes in producing goods in which it has a comparative productivity advantage, which arises due to differences in technologies or natural resources and not in factor endowments, increasing its welfare gains and benefits from trade. On the other hand, the Heckscher-Ohlin Samuel model examine the welfare benefits in a two countries, two-factor model that each country exports the good which uses its abundant factor (Capital or Labour) more diligently. As a result, both nations, with different relative costs and different terms of trade, are better off under international trade rather than in an autarky circumstances.

New trade speculation is now entering to deal with some of the real life trade in a more compound manner by incorporating a fuller range of factors. New models that attempt to make growth endogenous have been approved. Theories relating to trade openness to long run development are mainly based on models of endogenous technological change. According to these models, developing nations can achieve a long term economic growth which is now endogenous and not exogenous, as neoclassical growth theory predicts, determined. This is possible under the premise of increasing returns to scale. Others are: theory of customs unions and free trade areas, models of export-led growth, the neoclassical supply-side model, trade balance constrained growth model, ethical circle models of export led growth among others.

The theoretical framework of economic development and trade openness is based on the Solow's model of growth. In Solow's new-classical model, economic growth is not only determined by the stock of capital and labour but also by the capital-labour ratio. If capital increases faster than the increase in labour, the capital-labour ratio will increase the result in a growth of labour productivity. Since output is produced with capital and labour, technological possibilities are represented by the production function Y = F(K, L).

Solow deduced his model thus: when production takes place under the usual neo-classical conditions of variable proportions and constant returns to scale, no simple opposition between natural and warranted rates of growth is possible. The system can adjust to any given rate of growth of the labour force and eventually approach a state of steady proportional expansion (Jhingan, 2009).

That it:
$$\frac{\Delta Y}{Y} = \frac{\Delta L}{L} = \frac{\Delta K}{K}$$

The modem theories of economic growth extend the analysis of factors contributing to economic growth, with technology and exports also being included in economic growth models. Technological progress, capital deepening, export expansion, and rational management and development strategies are believed to be critical factors influencing economic growth.

Many development economists argue in the context of developing countries that economic development is restrained by the shortage of capital (both financial and physical), technology, skilled labour, management prowess and foreign exchange. The shortage of these productive factors causes the bottlenecks in economic development of the economies in transition and the developing countries as well. Removing these shortages or bottlenecks, it is argued, is the key for these countries to achieve economic growth and modernization.

Based on the economic recovery the development theories, economists, including Steve Chan and Michael P. Todaro proposed that trade openness including Foreign Direct Investment (FDI) might positively affect the economic growth of developing countries through the following channels. First, free inflow may positively contribute to the capital formation of the host country. FDI, as a type of foreign capital inflow, represents an addition to the domestic savings of the host country.

All other things being equal, this will augment the financial resources available for the domestic investment of the host country. Moreover, trade openness may bring advanced equipment and machinery to the developing host country of finance the importation of capital goods that cannot be produced in the receiving country, thereby contributing to its capital formation.

Besides, foreign investors may foreclose investment opportunities for local investors based on their technology advantage and market power. Therefore, the net impact of FDI on capital formation in the host country depends upon its effect on the domestically financed investment.

However, trade openness may promote productivity of the domestic sector of the host country through technology transfer and the training of local labour, technicians and management personnel. In addition, through the forward linkage effect, Foreign-Invested Enterprises (FIEs) supply equipment, machinery and other intermediate products to domestic firms. As the availability of these inputs increases, the production of domestic firms can bestimulated. In addition, the products made by FIEs may also substitute for imported products, thus helping the host country to alleviate reliance on imports and thereby to reduce any trade deficit.

The correlation between trade openness and economic development has been an issue of dispute and verification by academics and researchers in recent years. Some researchers are doubtful about openness having positive relationship with economic development, few do not agree at all that openness impact on growth confidently, and yet a few concur that openness give on to increase in economic development. Dudley and Karski (2001) investigated whether the level of openness affect economic development using time series during a period of 20 years from 1969 – 1989 for ten developing nations. Their results revealed that in 3 of the 10 countries, the degree of openness has a positive influence, on another 3 it has a negative effect and has no effect on the remaining 4. In contrary, Hassan and Islam (2005) examined whether financial development and openness to foreign trade can play any positive role in curbing poverty in Bangladesh through their growth enhancing effect for the period 1974-2003 Standard Granger-causality test is employed to discover whether financial growth and trade openness cause development.

Also in Nigeria, Kingsley *et al*(2004) look over the influence of openness on Nigeria's longrun growth using the co-integration approach. The trial for the number of co-integrating relationship between Log Real Gross Domestic Product and Log of Openness. They deduced that there is no remarkable relationship between openness and economic development, and that unrestrained openness could have harmful implications for growth of local industries, the real sector (goods and services sector) and government revenue. Similarly, Olaleye, et al (2013) *examined the influence of trade openness on economic development in Nigeria. The research employed ordinary least square regression to find out the relationship between trade openness and economic development. Their outcome show that* Nigeria has not benefited from its engagement in trade through the inflow of foreign capital into the economy and attribute the poor performance of the development of Nigerian economy in relation to openness to trade and FDI to the nature, direction and policy guideline of foreign investment coming into the country.

Peter and Olivier (2006), investigated the influence of trade and diversification on development in Nigeria. Their outcome reveals that in 2004, the share in GDP of imports plus exports of goods and services amounted to 86 percent in Nigeria. They found that Nigeria has love a sizable current account excessin recent years, which in line with the Central Bank statistics amounted to more than 20 percent of GDP in 2004. They deduced that the influence of trade strategy on productivity and investment is crucial, and greater openness is generally associated with higher productivity, larger investment, and stronger development.

Methodology

This study relied basically on secondary data sourced from Central Bank of Nigeria (CBN) publications, World Bank Data Indicators, journals, reports, related textbooks. Data were also obtained from the National Bureau of Statistics (NBS) of Nigeria.

This study follows Solow's model of growth because the theoretical framework of economic development and trade openness is based on the model. In Solow's new-classical model, economic growth is not only determined by the stock of capital and labour but also by the capital-labour ratio. If capital increases faster than the increase in labour, the capital-labour

ratio will increase the result in a growth of labour productivity. Since output is produced with capital and labour, technological possibilities are represented by the production function Y = F(K, L) ----- eqn i. With some modifications so to suit the purpose of this study, the model becomes:

$RGDP_t = f(TOP_t, REXCH_t, FDI_t)$ ------ eqn ii

The equation ii above shows the functional relationship between the Real Gross Domestic Product Growth (RGDP), Trade Openness (TOP), Real Exchange Rate (REXCH), and the value of foreign direct investment, net inflow per capital (FDI) which stands as Capital-Labour ratio of the solow's growth model. Therefore, the linear form of the model is:

$\mathbf{RGDPt} = \beta_0 + \beta_1 \mathbf{TOPt} + \beta_2 \mathbf{REXCHt} + \beta_3 \mathbf{FDI} + \mathbf{\epsilon}t$ -----eqn iii

 β_0 = constant of the model and $\beta_1 - \beta_3$ are the coefficients of the illustrative variables, while ϵ t is the stochastic error term that captures the effect of other variables not included in the model.

Therefore, based on economic theory, the following should be expected as: $\beta_1 > 0$, β_2 and $\beta_4 > 0$

Method of Estimation

In order to develop a strong, robust and reliable model that captures the effects of trade openness on economic development, the study adopted the econometric techniques of Vector Error Correction Model (VECM) as the estimation technique so as to establish the speed of adjustment of the variables.

As this study involves time series data, the normal least square (OLS) method cannot be applied unless it is established that the variables concerned are stationary. For this study, we have applied unit root test to examine the stationarity of the variables under study. Specifically, the Augmented Dickey-Fuller (ADF) the ADF is used to circumvent fake regression thereby subjecting each of the variables used to unit root test so as to determine their orders of integration since unit root problem is a common feature of most time series data.

Results and Discussion

The Augumented Dickey-Fuller test was used to investigate the characteristics of the time series variables in the model. The results are designated below:

Variables	Level	Prob.	1 st Diff	Prob.	2 nd Diff	Prob.	Remarks
RGDP	-	0.7556	-	0.3647	-	0.0014	I(2)
	2.967767		2.967767		2.971853		
TROP	-	0.0235	-	-	-	-	I(0)
	2.963972						
REXCH	-	0.5325	-	0.0160	-	-	I(1)
	2.963927		2.967767				
FDI	-	0.5325	-	0.0000	-	-	I(1)
	2.963972		2.967767				

Table 1. AUGUMENTED DICKEY-FULLER UNIT ROOT TEST ADF Statistic (computed) @ 5% Critical Value

Source: Authors' computation, 2019.

The results above show that series like RGDP, REXCH, and FDI are not stationary at level. While series such as REXCH and FDI become stationary after 1st difference, RGDP becomes stationary after the 2nd difference. TROP is the only series that is stationary at level.

In order to confirm and determine the extent of a long-run relationship amid the variables in our model, a co-integration test is carried out. The Johansen co-integration test results are confer in table 2 and table 3 below:

Table 2.Unrestricted Co-integration Rank Test (Trace)SERIES: RGDP, TROP, REXCH, FDILags Interval: 1 to 1

Hypothesized	Eigenvalue	Trace Statistic	0.05 Critical	Prob**
No. of CE (s)			Value	
None*	0.649072	48.18766	47.85613	0.0465
At most 1	0.277812	17.81958	29.79707	0.5794
At most 2	0.203995	8.380964	15.49471	0.4256
At most 3	0.059035	1.764616	3.841466	0.1840

Table 3.	Unrestricted	co-integration	Rank Test	(Maximum	Eigenvalue)

Hypothesized	Eigenvalue	Trace Statistic	0.05 Critical	Prob**
No. of CE (s)			Value	
None*	0.649072	30.36808	27.58434	0.0214
At most 1	0.277812	9.438616	21.13162	0.7956
At most 2	0.203995	6.616348	14.26460	0.5355
At most 3	0.059035	1.764616	3.841466	0.1840

Source: Authors' Computation, 2019.

The Johansen co-integration test show 1 co-integrating equation at 5 percent level of significance. The conclusion that can be drawn here is that there exists a long-run relationship between the real gross domestic product (RGDP) and other explanatory variables captured in the model i.e. trade openness (TROP), real exchange rate (REXCH) and foreign direct investment (FDI).

Having discovered the existence of a long-run relationship between the real gross domestic product and other explanatory variables, we employ the Vector Error Correction Model (VECM) to look into both the short-run and long-run transit of the series. The results are given below:

Table 4.

Variable(S)	Coefficient	Std. Error	t-Statistic	Prob.
ECM	-0.214160	0.050137	-4.271527	0.0005
D(RGDP(-1))	0.298257	0.235260	1.267777	0.2210
D(RGDP(-2))	-0.200321	0.182669	-1.096637	0.2873
D(TROP(-1))	2.61	1.70	1.535609	0.1420
D(TROP(-2))	7.82	1.70	0.459032	0.6517
D(EXCHR(-1))	-3.15	1.41	-2.232186	0.0385
D(EXCHR(-2))	-3.29	1.37	-2.407224	0.0270
D(FDI(-1))	-592.15	257.32	-2.301462	0.0335
D(FDI(-2))	-339.65	194.32	-1.747937	0.0975
CONSTANT	2.14	5.28	4.052668	0.0007
R-squared	0.815649	F-Statistic	8.848844	D.W = 2.0168
Adjusted R2	0.723473	Prob(F-stat.)	0.000053	

Source: Authors' Computation, 2019.

From the above results, it is revealed that the coefficient of ECM which is the rate of adapting toward long-run equilibrium is negative and statistically significant at 5 percent. This shows about 21 percent of departure from long-run equilibrium is corrected each period.

The short-run coefficient associated with the dependent variable are D(RGDP(-1)) and D(RGDP(-2)). The D(RGDP(-1)) is a year lag of real GDP and it shows a positive relationship with the dependent variable. We can say a unit change in a year lag of RGDP could cause the Real GDP to increase by about 0.298 units but not statistically significant. The D(RGDP(-2)) is not statistically significant also but shows a negative relationship which could reduce the real GDP by about 0.20 units.

The main focus here should be on D(TROP(-1)) and D(TROP(-2)) because they reveal the influence of trade openness (TROP) on the real gross domestic product (RGDP). The result shows that both a year and two years lags of trade openness (TROP) not statistically significant at 5 percent, though they show positive relationship with the real GDP.

However, the D(EXCHR(-1)), D(EXCHR(-2)), and D(FDI(-1)) are statistically significant but with negative relationship with the real GDP. D(EXCHR(-1)) and D(EXCHR(-2)) which are a year lag and two years lag of real exchange rate decrease the real GDP by 3.15 and 3.29 units respectively. The D(FDI(-1)) is the lag of foreign direct investment (FDI). Its 1 year lag shows it could reduce the real GDP by about 592.2 units.

The R-square indicates that about 82 percent of the total variation in economic growth (measured by real gross domestic product) is explained by changes in the explanatory variables. Thus, the model has a good fit. The F-statistic (8.85) indicates that all the variables

are jointly statistically significant at 5 percent.

We also employ Wald test to see if all the explanatory variables granger cause the real GDP in the short-run. The results are given below:

Table 5. Wald Test Null Hypothesis: C(4)=C(5)=0

Test Statistic	Value	df	Probability
F-Statistic	1.185613	(2, 18)	0.3283
Chi-square	2.371227	2	0.3056

Source: Authors' Computation, 2019

The results here show that trade openness (TROP) does not granger cause real gross domestic product (RGDP)

Table 6

Null Hypothesis: C(6)=C(7)=0

Test Statistic	Value	df	Probability
F-Statistic	3.988984	(2, 18)	0.0368
Chi-square	7.977969	2	0.0185

Source: Authors' Computation, 2019.

This result shows that real exchange rate (REXCH) granger cause the real gross domestic product (RGDP).

Table 7

Null Hypothesis: C(8)=C(9)=0

Test Statistic	Value	df	Probability
F-Statistic	2.661996	(2, 18)	0.0971
Chi-square	5.323992	2	0.0698
	0.010	•	

Source: Authors' Computation, 2019.

The Wald test result here shows that foreign direct investment (FDI) does not granger cause the real gross domestic product (RGDP).

We also test for serial correlation to make sure that we have a perfect model. Sequel to that, we employ Breusch-Godfrey Serial correlation LM test. The result shows at 5 percent level that there is no evidence of serial correlation in our model.

Table 8. Breush-Godfrey serial Correlation LM Test

F-Statistic 1.184588	Prob. F (2, 16) 0.3313
Obs*R-squared 3.610760	Prob. Chi-square (2) 0.1644

Source: Authors' Computation, 2019.

A stability diagnostic test was carried out to make sure that the model is dynamically stable. The CUSUM test was therefore employ. The result is below:



The figure above shows that the model employ in this study is dynamically stable.

Conclusion

This study has endeavour to assess the implication of trade openness on economic development in Nigeria and also to identify other factors that affect economic growth in relation with trade openness.

Based on the economic growth the development theories, economists, including Steve Chan and Michael P. Todaro proposed that trade openness including FDI might positively affect the economic growth of developing countries through the following channels. First, free inflow may positively contribute to the capital formation of the host country. FDI, as a type of foreign capital inflow, represents an addition to the domestic savings of the host country. All other things being equal, this will augment the financial resources available for thedomestic investment of the host country. Moreover, trade openness may bring advanced equipment and machinery to the developing host country of finance the importation of capital goods that cannot be produced in the host country, thereby contributing to its capital formation.

The results from the empirical investigation revealed that trade openness does not have any significant effect on economic growth both in the short-run and long-run. This is in line with

the early studies by Kingsley et al (2004) and Olaleye et al (2013) which asserted that trade openness has no significant impact on growth in Nigeria. However, the result revealed that exchange rate and foreign direct investment have significant effect on economic growth. It could be said that the study confirmed the early assertion by Steve Chan and Michael P. Todaro that trade openness including FDI might positively affect the economic growth of developing countries. Therefore, policies should be stirred towards improving the exchange rate management which could pose as an indicator for trade liberalization. This could lead to improvement in foreign direct investment as well as the economic growth of Nigeria.

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