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INFLUENCE OF TRADE LIBERALIZATION ON THE GROWTH OF NIGERIAN ECONOMY: AUTOREGRESSIVE DISTRIBUTED LAG APPROACH

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ABSTRACT: *This study examined the relationship between trade liberalization and economic growth proxied by gross domestic growth rate in Nigeria. The study specifically assessed whether there is a long run and short run causal relationship running from trade liberalization to economic growth in Nigeria. Trade liberalization was measured using trade openness, exchange rate, total import trade, total export trade and balance of trade. The data for the study were source from the CBN statistical bulletin for the period 1986 to 2014. The study used the Autoregressive Distributive Lag (ARDL) technique for data analysis. Findings from the analyses showed that trade liberalization has no long run causal relationship with gross domestic product growth rate in Nigeria. Also, trade openness and exchange rate have no short run causal relationship with gross domestic product growth rate in Nigeria. Lastly, total import trade, total export trade and balance of trade has short run causal relationship with gross domestic product growth rate in Nigeria. The study on the basis of these findings recommends the efficient use of total import trade, total export trade and balance of trade policy measures of trade liberalization in other to maximally benefit from trade liberalization.*

KEYWORDS: Trade Liberalization, Exchange Rate, Trade Openness, Gross Domestic Product

INTRODUCTION

It is believed that trade is the engine of growth in every economy; global trade in addition brings together different parts of the world and helps to disseminate knowledge and ideas and shape the course of regions and nations. It appears that all nations with sustained growth in Gross Domestic Product and Gross National Product have opened up their markets to trade and foreign investment. According to Oluwaleye (2014), trade has long been identified as a veritable way through which the quest of nations for improved wellbeing of the citizens could be achieved.

Consumers benefit because liberalized trade can help to lower prices and broaden the range of quality goods and services available (Adigwe, Echekoba & Okonkwo 2015). Companies can benefit because liberalized trade diversifies risks and channels resources to where returns are highest. When accompanied by appropriate domestic policies, trade openness also facilitates competition, investment and increase in productivity and it is a major condition for international monetary fund for granting of external loan.

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However, economic critics have become more vocal by asking if there is still a role for the protection of infant industries? Does trade liberalization always lead to economic growth? There is need to consider whether reduction or elimination of tariff to guarantee openness could result in dumping and excessive dependence on importation .Nigeria, with the aim of liberalization of the economy as well as achievement of greater openness has put various policies in place to ensure a higher degree of openness of the Nigerian economy. Such policies include tariff, embargo or ban on importation and export incentives, establishment of market determined exchange rates and removal of fiscal trade disincentives, trade preference agreements etc (Oluwaleye, 2014).

Echekoba Okonkwo and Adigwe (2015) asserted that the purpose of trade liberalization is to allow countries to export those goods and services that they can produce efficiently and import those goods and services that they produce inefficiently that is (Comparative advantage) The key however is not to trade but the terms on which trades take place. The issue whether trade liberalization would lead to economic growth has become a major debate; hence it is against this background that this study derives its relevance.

The extent to which trade liberalization affects the economy remains a burning issue. The removal or reduction of restriction or barriers to the free exchange of goods and services among nations and non-tariffs obstacles such as licensing rules, quotas will in no doubt open the market and increase real value of goods and services produced by a country.

However, Nigeria is romancing with the idea that openness is good for growth, but fiery issues arise where local productivity drops as a result of excess importation of goods which could have been locally produced. In a debate in the House of Representatives sponsored by Hon. Abubakar Amuda-kannike 2015 on the motion calling for the enforcement of the ban of importation of frozen poultry 'the economic impact to the local poultry industry is enormous given that Nigerians lose about 1 Million jobs and about N399.4 Billion annually to importation and smuggling of frozen birds. Another problem is whether Nigeria has proper institutions to manage dumping? The removal of embargo without proper management has been known to lead to dumping which can push local manufacturers out of business and negatively impact on Gross Domestic Product.

Management of the upsurge of local multiple taxations becomes a serious task where the market is opened for seamless exchange of goods and services given the drive for internally generated revenue by states and local government areas. This can lead to price increment for imported goods be it raw material or finished goods thereby leading to a downward push on the demand for them and eventually economic growth.

Some of the pertinent problems are how does trade openness relate with gross domestic product growth rate in Nigeria? To what extent does exchange rate relate with gross domestic product growth rate in Nigeria? What is the relationship between total import trade investment and gross domestic product growth rate in Nigeria? How does total export trade relate with gross domestic product growth rate in Nigeria? How does trade balances relate with gross domestic product growth rate in Nigeria?

Answering these questions is absolutely not an easy task. Therefore this study will seek to empirically analyze and evaluate using conventional and non-conventional approach to investigate a number of factors related to these problems and attempts to establish the relationship between economic growth and trade liberalization in Nigeria.

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Objectives of the Study

The primary objective of this study is to examine the impact of trade liberalization on the growth of the Nigerian economy. The specific objectives are:

i) To examine the impact of trade openness on gross domestic product growth rate in Nigeria.

ii) To examine the impact of exchange rate on gross domestic product growth rate in Nigeria.

iii) To examine the impact of total import trade on gross domestic product growth rate in Nigeria.

iv) To examine the impact of total export trade on gross domestic product growth rate in Nigeria.

v) To examine the impact of trade balances on gross domestic product growth rate in Nigeria.

REVIEW OF RELATED LITERATURE

Over the years the importance of trade on economic growth and development has been advanced by main school of economic thought of trade theories. These theories include

i. Early trade theory: The mercantilist view

ii. The Classical trade theory: Smithian and Ricardian view

iii. Hesksher-Ohlin model or Factor endowment trade theory: The Neoclassical model

iv. Export-Led growth hypothesis

These theories which are several with varied views, even contradict each other and considerable doubt exist as to which one best explain the relationship between trade liberalization and economic growth in countries globally but with special focus on Nigeria.

The theoretical underpinnings for this study is basically the export led growth hypothesis which postulate a relationship between growth of export and the economy such that export expansion becomes one of the main determinants of economic growth. This hypothesis holds that the overall growth of different economies could be generated not by Okonkwo and Adigwe(2015) which found out among others that import and export significantly and positively affect economic growth in Nigeria.

Empirical literatures

Echekoba et al(2015) in their work titled trade liberalization and economic growth: the Nigeria experience(1971-2012) tried to ascertain the effect of trade liberalization on economic growth using ordinary least square regression on time series data found that trade liberalization is good for Nigerian economy.

Mwaba (2000) in a paper on Trade liberalization and growth: Policy options for African

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countries in a global economy, tried to explore the relationship between trade liberalization and growth in developing countries. The study concludes that while opening an economy to trade may not provide the desired quick fix, the removal or relaxation of quantitative import and export restrictions and lowering of tariffs would result in increased exports and growth.

Winters (2004) examined Trade Liberalization and Economic Performance using the method of Ordinary Least Squares and found that liberalization generally induces a temporary (but possibly long-lived) increase in growth. A major component of this was an increase in productivity.

Shafaeddin (2005) analyses the economic performance of a sample of developing countries that have undertaken trade liberalization and structural reforms since the early 1980s with the objective of expansion of exports and diversification in favour of manufacturing sector. The results obtained are varied. The author concludes that, no doubt, trade liberalization is essential when an industry reaches a certain level of maturity, provided it is undertaken selectively and gradually.

Shafaeddin (2006) in a work titled 'Does Trade Openness Favour or Hinder industrialization and development?' sought to explore the relationship between openness and industrialization. Using what he called a Trade Liberalization Hypothesis (TLH) which is a theoretical abstraction based on the doctrine of comparative cost advantage in its H-O version, he tried to ascertain whether a liberal trade regime would help or hinder the process of industrialization of developing countries. Finally, he concluded that, in short, trade liberalization is essential when an industry reaches a certain level of maturity, provided it is undertaken selectively and gradually.

Musibau (2006) in paper titled, 'Trade Policy Reform, Regional Integration and Export Performance in the ECOWAS Sub-Region' based on results of a gravity model analysis, the result revealed that participation in preferential trade agreements within the ECOWAS sub-region is beneficial and trade-facilitating. In addition, the existence of artificial barriers to trade among ECOWAS countries negatively affects export performance. The study therefore concluded that unilateral trade barrier reductions and participation in preferential trade agreements can enhance export performance within the ECOWAS sub-region.

Bushra, Zainab and Mohammed (2006) in a work titled 'Trade Liberalization and Economic Development: Evidence from Pakistan' sought to explain the relationship between trade liberalization and economic development in Pakistan. Using simultaneous equation model and the 2SLS technique of regression analysis, they analyzed how trade liberalization has affected economic development in the country. Its effects were examined with respect to four measures of economic development: per capita GDP, income inequality, poverty and employment over the period from 1960-2003. The analysis showed that, over the study period, trade liberalization did not affect all the chosen indicators of development uniformly. It affected employment positively but per capita GDP and income distribution negatively. However, it did not affect poverty in any way. Hence the study concluded that, indeed there is a need for a cautious move towards liberalization.

George (2007) in 'Trade Liberalization and Economic Expansion: A sensitivity analysis,' tried to explore the nature of the relationship between trade liberalization and economic expansion. Granger multivariate tests were used in ascertaining why exports represent a fundamental determinant of economic performance in Ireland, whereas in the case of Greece, Portugal and

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Spain exports do not affect economic growth and it was concluded that it was very difficult to analyze the role of trade liberalization in economic performance and to determine the factors which affect the causal links between exports and real GDP, stating that more empirical evidence from developed and developing countries is needed in order to examine the quantitative and qualitative factors which affect the direction of causality between exports and economic growth.

Arhan (2007) in his work 'Differential Effects of Trade Liberalization on Economic Growth: Role of Human Capital Accumulation' tried to analyze the impact of trade liberalization on economic growth using the Schumpeterian growth model. It was discovered that in an economy in which more unskilled labor resources are abundantly available compared to its trading partners, in the short-run, trade liberalization may have beneficial effects on the per capita income growth rate whereas in the long-run, it may decrease the equilibrium growth rate. He also adds that it is not plausible to think that trade openness across the countries would have the same effect, stating rather that it depends on the specific circumstances.

Mododou (2007) in a work titled, 'The impact of Trade Liberalization on Economic Growth in Gambia,' tried to specifically explore the effect of trade liberalization on the economy of Gambia. Using the ECM (error correction model) which is intended to capture both the short-run and long run impact of the variables in the model), he applied the neoclassical growth model and a time series data from 1970-2004. His finding was that the terms of trade in Gambia was not favourable during the period of study as imports outweigh exports and concluded that if Gambia is to benefit more from trade liberalization, it will have to look into its macroeconomic policies and create an enabling environment for investment in terms of property rights, adequate access to credit, stable power supply, good roads, telecommunications and security. The government should control its fiscal policy as it is the major obstacle to private investment.

Chaudry et al (2010) in a research paper titled 'Exploring the causality relationship between trade liberalization, human capital and economic growth: with empirical evidence from Pakistan,' sought to explore the relationship between trade liberalization, human capital and economic growth in Pakistan. Co-integration and granger causality techniques of time series econometrics were employed, for the period of 1972-2007.The empirical results reveal that there exists short run and long run co-integration and causality relationships among variables in the growth model. It implies that education and trade openness policies may be feasible with sustained economic growth. The study concluded that causality runs from trade liberalization and human capital to economic growth. The results are also consistent with the growth theories and economic literature.

Sulaiman (2010) in a work titled 'The Effectiveness of Financial Development and Openness on Economic Growth: Case Study of Pakistan,' in order to ascertain the long-run association among financial liberalization, international trade openness, real interest rate and economic growth with Pakistan as case study, utilized data for the period of 1975-2009 and used the Error correction model. He concluded empirically that both trade liberalization and financial development play significant and productive roles in Pakistan's economy.

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RESEARCH METHODOLOGY

Sources of Data

This study adopts both the exploratory and ex-post design. The data in this study consist mainly of secondary time series data for the period 1986 to 2014; sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin (various issues) using desk survey method.

Model Specification.

The following models were built in line with the hypotheses of the study:

$GDPGR = (\beta_0 + \beta_1 TOP + \beta_2 EXCHR + \beta_3 lnIMPO + \beta_4 lnEXPO + \beta_5 lnBOT + e_t$

Variables

GDPGR = Gross Domestic Product Growth Rate

EXCHR = Exchange Rate

TOP = Trade Openness (export plus import upon GDP)

IMPO = Total Import Trade

EXPO = Total export Trade

BOT = Balance of trade

et = Stochastic Error Term.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are regression parameters

β_0 = Regression Constant

The a priori expectation about the signs of the parameters of the independent variables is stated thus: $\beta_1, \beta_2, \beta_4, \beta_5 > 0$; $\beta_3 < 0$.

Variables explanation

Gross Domestic Product Growth Rate: This is a performance measure in an economy. It is the level at which economic activities are increasing or decrease. It is the real growth rate of productive activities in an economy and is the best measure of economic growth.

Trade Openness: This is the sum of export and import divided by Gross Domestic Product. It represents trade liberalization. The more opened an economy is, the high the growth.

Import: This involves buying of goods and services from abroad. Imports reduce nation's foreign reserves and may cause the value of its currency to fall, the higher the level of import, the lower the growth of an economy, ceteris paribus.

Export: This involves selling of goods and services to other countries. Exports increase nation's foreign reserves and leads to surplus balance of trade, the higher the export, the higher the growth of any economy.

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Balance of Trade: This represents the difference between export trade and import trade. When export is in excess of import, we have surplus balance of trade; otherwise it is a deficit balance of trade. A surplus balance of trade promotes economic growth, whereas a deficit balance of trade deters growth.

Estimation Technique

This study employs the Autoregressive Distributed Lag (ARDL) bounds test approach to cointegration proposed by Pesaran, Shin and Smith (2001) to estimate the above relationship. The ARDL approach offers some desirable statistical advantages over other co-integration techniques. While other co-integration techniques require all the variables to be integrated of the same order, ARDL test procedure provides valid results whether the variables are I(0) or I(1) or mutually co-integrated and provides very efficient and consistent estimates in small and large sample sizes (Pesaran, Shin & Smith (2001). This approach therefore becomes relevant to this study as all the series are either I (0) or I (1). The ARDL model can be specified as:

$$\Delta GDPGR = \beta_0 + \sum_{t=i}^{k} \beta_{1i}\, \Delta GDPGR_{t-i} + \sum_{t=i}^{k} \beta_{2i}\, \Delta TOP_{t-i} + \sum_{t=i}^{k} \beta_{3i}\, \Delta EXCHR_{t-i} + \sum_{t=i}^{k} \beta_{1i}\, \Delta InIMPO_{t-i} + \sum_{t=i}^{k} \beta_{1i}\, \Delta InEXPO_{t-i} + \sum_{t=i}^{k} \beta_{1i}\, \Delta InBOT_{t-i} + \varepsilon_{1t}$$

Where

Δ = the difference operator.

The test involves conducting F-test for joint significance of the coefficients of lagged variables for the purpose of examining the existence of a long-run relationship among the variables. The error correction model for the estimation of the short run relationships is specified as:

$$\Delta GDPGR = \beta_0 + \sum_{t=i}^{k} \beta_{1i}\, \Delta GDPGR_{t-i} + \sum_{t=i}^{k} \beta_{2i}\, \Delta TOP_{t-i} + \sum_{t=i}^{k} \beta_{3i}\, \Delta EXCHR_{t-i} + \sum_{t=i}^{k} \beta_{1i}\, \Delta InIMPO_{t-i} + \sum_{t=i}^{k} \beta_{1i}\, \Delta InEXPO_{t-i} + \sum_{t=i}^{k} \beta_{1i}\, \Delta InBOT_{t-i} + \lambda_1 ECM_{t-1} + u_{1t}$$

A negative and significant ECM_{t-1} coefficient implies that any short term disequilibrium between the dependent and explanatory variables will converge back to the long-run equilibrium relationship.

To validate the stability of the estimates, the CUSUM test and the histogram normality test were applied. Furthermore, the study applied the Breusch-Godfrey serial correlation LM test to test whether or not the estimates of the model are interdependent. We also check for existence of heteroskedasticity in our model and lastly, the study applied the Wald test to assess whether or not the independent variables move together both in the long run and short run to influence the dependent variables.

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EMPIRICAL RESULTS

Unit root test

Table 1: Unit root test using the Augmented Dickey-Fuller (ADF) statistics

Variables	ADF Test Statistics		Order of integration
	Level	1st Difference	
GDPGR	-4.325737		I(0)
TOP	--2.958053		I(0)
EXCHR	-0.578182	-5.003949	I(1)
LIMPO	1.164397	-4.507621	I(1)
LEXPO	-2.788259		I(0)
LBOT	-2.730849		I(0)

Test critical values at level: 1% = -3.689194, 5% = -2.971853, 10% = -2.625121

Test critical values at 1st Diff: 1% = -3.699871, 5% = -2.976263, 10% = -2.627420

Source: Researcher's Computation from E-views 9, 2017.

Table 2: Unit root test using the Philips-Peron (PP) statistics

Variables	PP Test Statistics		Order of integration
	Level	1st Difference	
GDPGR	-4.300673		I(0)
TOP	-2.955845		I(0)
EXCHR	-0.578182	-5.003949	I(1)
LIMPO	-1.164397	-4.515270	I(1)
LEXPO	-6.726611		I(0)
LBOT	-2.784202		I(0)

Test critical values at level: 1% = -3.689194, 5% = -2.971853, 10% = -2.625121

Test critical values at 1st Diff: 1% = -3.699871, 5% = -2.976263, 10% = -2.627420

Source: Researcher's Computation from E-views 9, 2017.

In order to ascertain the order of integration among the variables in the model, the unit root tests were carried out. The tests employed were the Augmented Dickey-Fuller and the Philip-Peron tests; the result is as presented in tables 1 and Table 2 above.

From the results of both the ADF and PP unit root tests, it was revealed that GDPGR, TOP, LEXPO and LBOT were found to be stationary at levels. This is so because the test statistics values at level for GDPGR, TOP, LEXPO and LBOT using both ADF and PP tests were above the critical values at five per cent level of significance. Also, other variables were not stationary at levels. However, when they were differenced once, they were stationary. This is because the tests statistics values for both tests were found to be greater than the critical values at five per cent levels of significance, meaning that the remaining variables were integrated at one I(1).

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Table 3: VAR Lag Order Selection Criteria

Endogenous variables: GDPGR TOP EXCHR LIMPO LEXPO LBOT
Exogenous variables: C
Date: 07/24/17 Time: 11:33
Sample: 1986 2014
Included observations: 26

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-194.6177	NA	0.202929	15.43213	15.72246	15.51574
1	-100.0866	138.1609*	0.002440	10.92974	12.96205*	11.51497
2	-52.72125	47.36535	0.00169 5*	10.05548*	13.82977	11.14234*

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Researchers' E-view 9 computation, 2017

Having found that the series are of order I (1) and I (0), the study proceeded to determine the optimal lag using the Akaike information criterion. From the above table, the AIC showed that the optimum lag is two.

Table 4: Long run ARDL Cointegration Analysis

Dependent Variable: D(GDPGR)
Method: Least Squares
Date: 07/24/17 Time: 12:00
Sample (adjusted): 1989 2013
Included observations: 25 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-46.23165	37.56977	-1.230554	0.2645
D(GDPGR(-1))	-0.025903	0.704103	-0.036788	0.9718
D(GDPGR(-2))	0.153084	0.355410	0.430725	0.6817
D(TOP(-1))	44.75559	70.48287	0.634985	0.5489
D(TOP(-2))	7.999335	35.12955	0.227710	0.8274
D(EXCHR(-1))	-0.110470	0.123338	-0.895666	0.4049
D(EXCHR(-2))	0.023862	0.138407	0.172401	0.8688
D(LIMPO(-1))	68.71380	38.07646	1.804627	0.1212
D(LIMPO(-2))	-0.770746	38.07120	-0.020245	0.9845
D(LEXPO(-1))	-110.2094	65.80156	-1.674875	0.1450
D(LEXPO(-2))	10.60705	62.24474	0.170409	0.8703

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D(LBOT(-1))	40.07304	24.02551	1.667937	0.1464
D(LBOT(-2))	-6.493865	23.67130	-0.274335	0.7930
GDPGR(-1)	-0.752666	0.772172	-0.974738	0.3673
TOP(-1)	-67.31658	100.6486	-0.668828	0.5285
EXCHR(-1)	0.075714	0.089524	0.845741	0.4301
LIMPO(-1)	-50.93045	37.18571	-1.369624	0.2198
LEXPO(-1)	84.20113	57.90845	1.454039	0.1962
LBOT(-1)	-30.81740	21.90231	-1.407039	0.2090

R-squared	0.903955	Mean dependent var	-0.086000
Adjusted R-squared	0.615818	S.D. dependent var	8.742310
S.E. of regression	5.418693	Akaike info criterion	6.310470
Sum squared resid	176.1734	Schwarz criterion	7.236816
Log likelihood	-59.88088	Hannan-Quinn criter.	6.567399
F-statistic	3.137247	Durbin-Watson stat	2.520770
Prob(F-statistic)	0.081322		

Source: Researcher's Computation from E-views 9, 2017.

The above table represents the ARDL long run estimates of the relationship between TOP, EXCHR, LIMPO, LEXPO, LBOT and GDPGR. From the result, the R^2 value of 0.9039 show that about 90.39 percent of the chances in the GDPGR have been explained by the independent variables (Trade Openness, Exchange Rate, Total Import Trade, Total Export Trade, Balance of Trades) in the long run. Furthermore, the F-Statistics showed that the model is significant at 5 percent. With this the study proceeds to examine whether the model is free from serial correlation in the long run using the Breusch-Godfrey Serial Correlation LM test. Extract of the result of the Breusch-Godfrey Serial Correlation LM test is presented in the table below:

Table 5: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	5.342336	Prob. F(2,4)	0.0742
Obs*R-squared	18.19018	Prob. Chi-Square(2)	0.0001

Source: Researcher's Computation from E-views 9, 2017.

From this result, the prob chi square (2) is below 5 percent, it is 0.01 percent, meaning that the null hypothesis, no serial correlation cannot be accepted. It therefore means that the model is not free from serial correlation. We therefore, need to treat the model by dropping the variable D(LIMPO(-2)) which is the most insignificant in the estimate result in table 4. The outcome is the table 6 below which we now use to check for serial correlation test.

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Table 6: Estimated Result
Dependent Variable: D(GDPGR)

Method: Least Squares
Date: 07/25/17 Time: 00:01
Sample (adjusted): 1989 2013
Included observations: 25 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.36937	42.14320	0.649438	0.5343
D(GDPGR(-1))	-0.415886	0.898947	-0.462637	0.6559
D(GDPGR(-2))	-0.102550	0.460255	-0.222812	0.8293
D(TOP(-1))	24.96999	75.73290	0.329711	0.7501
D(TOP(-2))	-2.825885	43.12702	-0.065525	0.9494
D(EXCHR(-1))	-0.118602	0.178823	-0.663238	0.5258
D(EXCHR(-2))	-0.099166	0.178750	-0.554778	0.5942
D(LIMPO(-1))	3.593491	11.40648	0.315040	0.7608
D(LEXPO(-2))	8.933538	21.25141	0.420374	0.6853
D(LBOT(-1))	3.827939	5.657979	0.676556	0.5178
D(LBOT(-2))	-3.955234	8.565694	-0.461753	0.6566
GDPGR(-1)	-0.510333	1.135899	-0.449277	0.6652
TOP(-1)	-79.99819	125.0493	-0.639733	0.5402
EXCHR(-1)	0.080146	0.124867	0.641849	0.5389
LIMPO(-1)	18.70276	36.61585	0.510783	0.6233
LEXPO(-1)	-23.58792	52.45405	-0.449687	0.6649
LBOT(-1)	8.100119	20.56081	0.393959	0.7039

R-squared	0.719950	Mean dependent var	-0.086000
Adjusted R-squared	0.159849	S.D. dependent var	8.742310
S.E. of regression	8.013181	Akaike info criterion	7.220618
Sum squared resid	513.6886	Schwarz criterion	8.049454
Log likelihood	-73.25773	Hannan-Quinn criter.	7.450502
F-statistic	1.285393	Durbin-Watson stat	1.800952
Prob(F-statistic)	0.372072		

Table 7: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.229050	Prob. F(2,6)	0.8019
Obs*R-squared	1.773358	Prob. Chi-Square(2)	0.4120

Source: Researcher's Computation from E-views 9, 2017.

From this result, the prob chi square (2) is above 5 percent, it is 41.21 percent, meaning that the null hypothesis no serial correlation cannot be rejected. It therefore means that the model

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is free from serial correlation.

We also tested for the stability of the estimates by using the CUSUM test, the result is presented below:

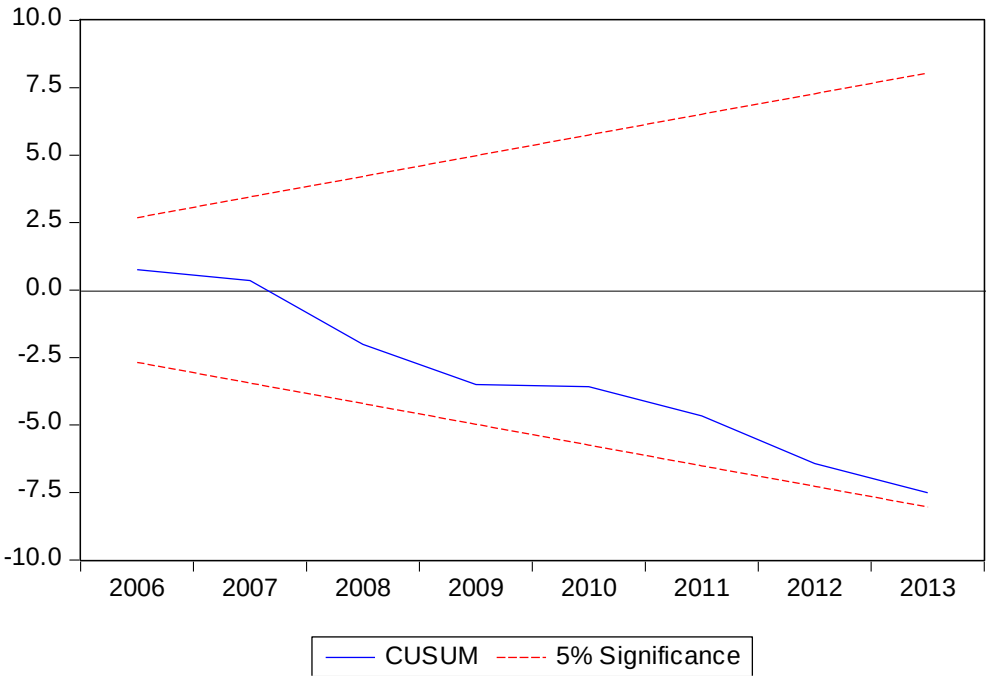

Fig. 1: CUSUM Test for Stability Analysis of Long Run Model

Source: Researchers' E-view 9 computation, 2017

From the above result, it could be seen that the blue line lies in between the two red lines. This means that the estimates of our model are stable and reliable.

Bound test

The study further checked whether the variables have long run relationship or not using the Wald statistics thus:

Table 8: Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	0.721700	(6, 8)	0.6447
Chi-square	4.330198	6	0.6321

Null Hypothesis: C(12) = C(13) = C(14) = C(15) = C(16) =
C(17)=0
Null Hypothesis Summary:

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Normalized Restriction (= 0)	Value	Std. Err.
C(12)	-0.510333	1.135899
C(13)	-79.99819	125.0493
C(14)	0.080146	0.124867
C(15)	18.70276	36.61585
C(16)	-23.58792	52.45405
C(17)	8.100119	20.56081

Restrictions are linear in coefficients.
Source: Researchers' E-view 9 computation, 2017

The result of the table 12 above shows that we cannot reject the null hypothesis for the long run causality test. With this result, we accept the null hypothesis that the six variables GDPGR(-1), TOP(-1), EXCHR(-1), LIMPO(-1), LEXPO(-1) and LBOT(-1) have no long run association, meaning that the six variables do not move together in the long run.

Table 9: Short run ARDL Cointegration Analysis

Dependent Variable: D(GDPGR)
Method: Least Squares
Date: 07/25/17 Time: 00:53
Sample (adjusted): 1989 2013
Included observations: 25 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.331616	3.080172	-1.081633	0.3007
D(GDPGR(-1))	-0.340246	0.190027	-1.790510	0.0986
D(GDPGR(-2))	0.121678	0.192607	0.631741	0.5394
D(TOP(-1))	5.366148	30.79333	0.174263	0.8646
D(TOP(-2))	-14.40480	26.80511	-0.537390	0.6008
D(EXCHR(-1))	-0.034419	0.110921	-0.310299	0.7617
D(EXCHR(-2))	0.193697	0.109240	1.773132	0.1016
D(LIMPO(-1))	47.10364	16.02308	2.939736	0.0124
D(LEXPO(-1))	-71.12683	26.82260	-2.651750	0.0211
D(LEXPO(-2))	21.79385	11.57142	1.883419	0.0841
D(LBOT(-1))	24.09845	9.372093	2.571299	0.0245
D(LBOT(-2))	-13.25825	4.447280	-2.981205	0.0115
ECM(-1)	0.461372	10.66076	0.043278	0.9662

R-squared	0.728076	Mean dependent var	-0.086000
Adjusted R-squared	0.456151	S.D. dependent var	8.742310
S.E. of regression	6.447114	Akaike info criterion	6.871173
Sum squared resid	498.7833	Schwarz criterion	7.504988
Log likelihood	-72.88966	Hannan-Quinn criter.	7.046966
F-statistic	2.677492	Durbin-Watson stat	1.680747
Prob(F-statistic)	0.050567		

Source: Researchers' E-view 9 computation, 2017

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The above table represents the ARDL short run estimates of the relationship between TOP, EXCHR, LIMPO, LEXPO, LBOT and GDPGR. From the result, the R^2 value of 0.7280 shows that about 72.80 percent of the chances in the GDPGR have been explained by the independent variables (Trade Openness, Exchange Rate, Total Import Trade, Total Export Trade, Balance of Trade) in the short run. Furthermore, the F-Statistics value of 2.6774 with it corresponding probability of 0.050 showed that the model is significant at 5 percent.

Unfortunately, the coefficient of the ECM is positive and insignificant and this is against theoretical expectation. With this the study proceeds to examine whether the short run model is free from serial correlation using the Breusch-Godfrey Serial Correlation LM test. Extract of the result of the Breusch-Godfrey Serial Correlation LM test is presented in the table below:

Table 10: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.572013	Prob. F(2,10)	0.5818
Obs*R-squared	2.566457	Prob. Chi-Square(2)	0.2771

Source: Researcher's Computation from E-views 9, 2017.

From this result, the prob chi square (2) is above 5 percent, it is 27.71 percent, meaning that the null hypothesis no serial correlation cannot be rejected. It therefore means that the model is free from serial correlation.

We also tested for the stability of the short run model by using the CUSUM test, the result is presented below:

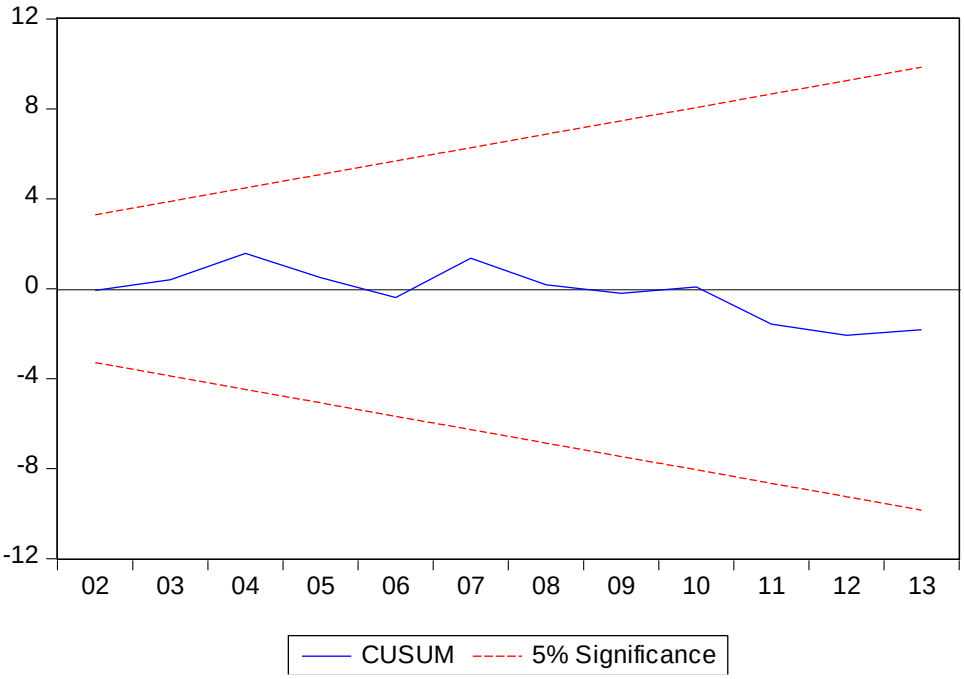

Fig. 2: CUSUM Test for Stability Analysis of Short Run Model

Source: Researchers' E-view 9 computation, 2017

From the above result, it could be seen that the blue line lies in between the two red lines. This

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means that the estimates of our model are stable and reliable. We now check for heteroskedasticity and normality for our model.

Table 11: Heteroskedasticity Test: Brueusch- Pagan-Godfrey test for TOP, EXCHR, LIMPO, LEXPO, LBOT AND GDPGR

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.626271	Prob. F(12,12)	0.7853
Obs*R-squared	9.627413	Prob. Chi-Square(12)	0.6486
Scaled explained SS	2.097278	Prob. Chi-Square(12)	0.9992

Source: Researchers' E-view 9 computation, 2017

From the table, the observed R^2 value 9.62741 with its corresponding prob. Chi-Square value of 64.86 percent which is above 5percent implies that the model is free from heteroskedasticity since the null hypothesis of no heteroskedasticity cannot be rejected.

Histogram Normality test for TOP, EXCHR, LIMPO, LEXPO, LBOT AND GDPGR

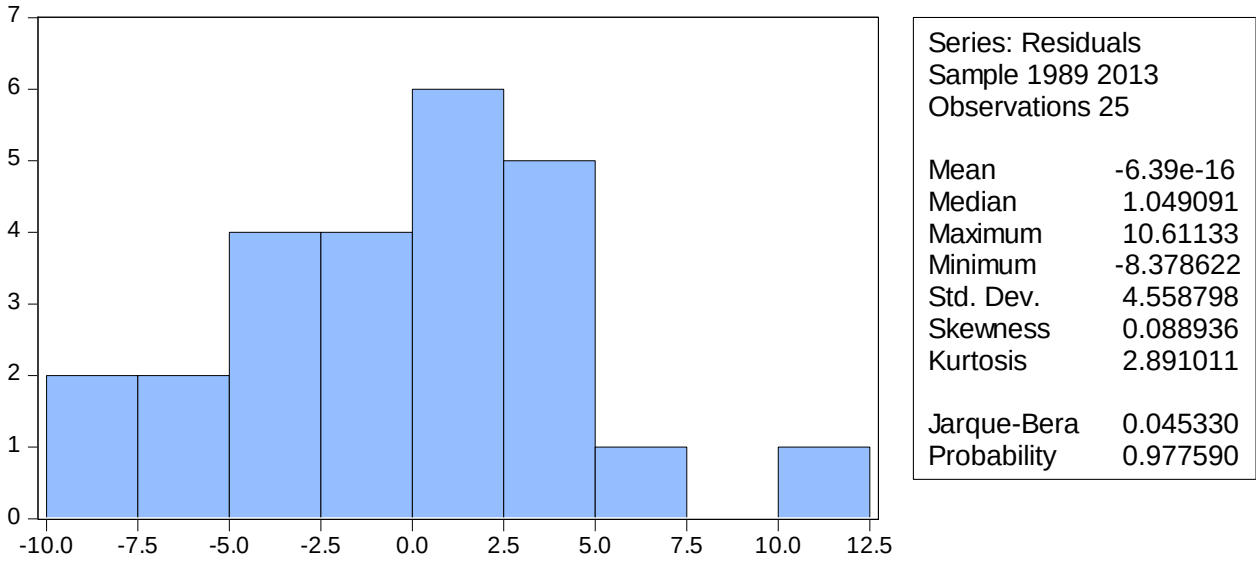

Fig.3: Histogram Normality test for TOP, EXCHR, LIMPO, LEXPO, LBOT AND GDPGR

Source: Researchers' E-view 9 computation, 2017

The Jarque Bera statistics of 0.045330 with its corresponding probabilities of 97.75 percent which is greater than 5 percent, implies that the residuals of the relationship between **TOP, EXCHR, LIMPO, LEXPO, LBOT AND GDPGR equation is normally distributed**

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Bound test for short run association

The study further checked whether the variables have short run relationship or not using the Wald statistics thus:

Table 12: Causality test of Trade Openness and Gross Domestic Product Growth Rate

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	0.248706	(2, 12)	0.7837
Chi-square	0.497412	2	0.7798

Null Hypothesis: C(4) = C(5) = 0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(4)	5.366148	30.79333
C(5)	-14.40480	26.80511

Restrictions are linear in coefficients.
Source: Researchers' E-view 9 computation, 2017

The value of the above F-statistics of 0.248706 and it corresponding probability of 78.37 percent shows that we cannot reject the null hypothesis that D(TOP (-1)) and D (TOP (-2)) have no causal relationship with D (GDPGR) in the short run. In other words there is no short run causality running from Trade Openness to Gross Domestic Product Growth Rate in Nigeria.

Table 13: Causality test of Exchange Rate and Gross Domestic Product Growth Rate

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	1.626553	(2, 12)	0.2371
Chi-square	3.253105	2	0.1966

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

Normalized Restriction (= 0)	Value	Std. Err.
C(6)	-0.034419	0.110921
C(7)	0.193697	0.109240

Restrictions are linear in coefficients.
Source: Researchers' E-view 9 computation, 2017

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The value of the above F-statistics of 1.626553 and it corresponding probability of 23.71 percent shows that we cannot reject the null hypothesis that D(EXCHR (-1)) and D (EXCHR (-2)) have no causal relationship with D (GDPGR) in the short run. In other words there is no short run causality running from Exchange Rate to Gross Domestic Product Growth Rate in Nigeria.

Table 14: Causality test of Total Import Trade and Gross Domestic Product Growth Rate

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
t-statistic	2.939736	12	0.0124
F-statistic	8.642047	(1, 12)	0.0124
Chi-square	8.642047	1	0.0033

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

Normalized Restriction (= 0)	Value	Std. Err.
C(8)	47.10364	16.02308

Restrictions are linear in coefficients.
Source: Researchers' E-view 9 computation, 2017

The value of the above F-statistics of 8.642047 and it corresponding probability of 1.24 percent, which is below 5 percent shows that we cannot accept the null hypothesis that D(LIMPO(-1)) have no causal relationship with D(GDPGR) in the short run. In other words there is a short run causality running from Total Import Trade to Gross Domestic Product Growth Rate in Nigeria.

Table 15: Causality test of Total Export Trade and Gross Domestic Product Growth Rate

Wald Test:
Equation: Untitled

Test Statistic	Value	Df	Probability
F-statistic	4.971239	(2, 12)	0.0268
Chi-square	9.942479	2	0.0069

Null Hypothesis: C(9) = C(10) = 0
Null Hypothesis Summary:

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Normalized Restriction (= 0)	Value	Std. Err.
C(9)	-71.12683	26.82260
C(10)	21.79385	11.57142

Restrictions are linear in coefficients.
Source: Researchers' E-view 9 computation, 2017

The value of the above F-statistics of 4.971239 and it corresponding probability of 2.68 percent which is below 5 percent shows that we cannot accept the null hypothesis that D(LEXPO(-1)) and D (LEXPO(-2)) have no causal relationship with D (GDPGR) in the short run. In other words, there is a short run causality running from Total Export Trade to Gross Domestic Product Growth Rate in Nigeria.

Table 16: Causality test of Balance of Trade and Gross Domestic Product Growth Rate

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	8.088058	(2, 12)	0.0060
Chi-square	16.17612	2	0.0003

Null Hypothesis: C(11) = C(12) = 0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(11)	24.09845	9.372093
C(12)	-13.25825	4.447280

Restrictions are linear in coefficients.
Source: Researchers' E-view 9 computation, 2017

The value of the above F-statistics of 8.088058 and it corresponding probability of 0.60 percent, which is below 5 percent shows that we cannot accept the null hypothesis that D(LBOT(-1)) and D (LBOT(-2)) have no causal relationship with D (GDPGR) in the short run. In other words there is a short run causality running from Balance of Trade to Gross Domestic Product Growth Rate in Nigeria.

SUMMARY OF FINDINGS

The major aim of this study was to examine the relationship between trade liberalization t and economic growth in Nigeria. In view of this, the relationships between trade openness, exchange rate, total import trade, total export trade, balance of trade and gross domestic product

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growth rate were examined using Autoregressive Distributive Lag (ARDL) technique. Consequently, the following major findings were made:

(i) There is no significant long run association between trade liberalization and Economic growth in Nigeria;

(ii) There is no significant short run causal relationship between trade openness and gross domestic product growth rate in Nigeria;

(iii) There is no short run causal association between exchange rate and gross domestic product growth rate in Nigeria;

(iv) There is a short run causal relationship between total import trade and gross domestic product growth rate in Nigeria;

(v) There is a short run causal relationship between total export trade and gross domestic product growth rate in Nigeria;

(vi) There is a short run causal relationship between balance of trade and gross domestic product growth rate in Nigeria;

REFERENCES

Adigwe, P. K., Echekoba, F. N. & Okonkwo, V. I. (2015). Trade liberalization and economic growth: The Nigerian economic. *International Peer Review, 15*, 51-57.

Arhan, S. E. (2007). Differential effects of trade liberalization on economic growth: Role of human capital accumulation. *American Economic Review, 50 (6)*: 130-140.

Bushra, Y., Zainab, J. & Muhammad, A. C. (2006). Trade liberalization and economic development: Evidence from Pakistan. *Journal of Economics, 19-34*.

Chaudhry, I.S, Malik, A. & Muhammad, Z.F (2010). Exploring the causality relationship between trade liberalizations, human capital and economic growth, *Journal of Economics and International Finance*, Vol. 2(8). Pp. 175-182.

Echekoba, F.N, Okonkwo, V.I & Adigwe, P.K(2015). Trade liberalization and Economic growth: the Nigerian experience(1971-2012). *Journal of Poverty, Investment and Development*, Vol 14.

George, A. V. (2007). Trade liberalization and economic expansion: A sensitivity analysis. Athens: *University of Economics and Business, 71-88.*

Mododou, T. (2007).The impact of trade liberalization on economic growth in Gambia. *Journal of Economics and International Finance, 5 (10):* 125-130.

Musibau, A.B(2006). Trade policy reform, integration and export performance in ECOWAS sub-region. Paper presented at 9th annual conference on global economic analysis, Addis Ababa.

Mwaba, A. (2000). Trade liberalization and growth: policy options for African countries in a global economy. *African Development Bank, Economic Research papers No 60*.

Oluwaleye, J. (2014). Public policy and trade liberalization in Nigerian Economic development. *Research on Economic and Social Sciences, Vol 4*

Pesaran, M.H, Shin, Y. & Smith, R.J(2001). Bound testing approaches to the analysis of level relationship. *Journal of Applied Econometrics*.

Shafaeddin, M. (2005). Trade liberalization and economic reform in developing countries.

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)

The IMF, World Bank and Policy Reform, 155. Pp 2, 20.
Shafaeddin, M. (2006). *Does trade openness favour or hinder industrialization and development?* Third World Network, Malaysia.
Sulaiman, D.M.(2010). The effectiveness of financial development and openness on economic growth: Case study of Pakistan. *European Journal of Social Science*, 13(3): pp. 120-129
Winters, A. L. (2004). Trade liberalization and economic performance: An overview. *The Economic Journal*, 114.

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)