IMPACT OF INTERNATIONAL TRADE ON ECONOMIC GROWTH IN NIGERIA: A CAUSALITY APPROACH (1986-2016)

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Abstract
The roles of international trade, in the development of any economy in the 21st century need not to be over emphasized. This study empirically examined the impact of international trade on economic growth in Nigeria from 1986 – 2016. The secondary data used for this study were the foreign reserve (FRESV) was from World bank data, the oil export (OEXP) and non-oil export (NOEXP) from Nigerian bureau of Statistics (NBS) , the gross domestic growth (GDP) and foreign direct investment (FDI) was from Central Bank of Nigeria (CBN) Statistical Bulletin respectively. The Error correction model (ECM) technique was employed to estimate the impact of international trade on economic growth. The result of the analysis shows that international trade had a significant impact on economic growth in Nigeria from 1986-2016 at 5% level of significance and there is a unidirectional causality among variables. Therefore, the study recommends that government should provide conducive economic atmosphere that will encourage foreign investors and the government should take urgent steps to sufficiently boost the non-oil of Nigeria so that it will impact more tremendously on economic growth in the country, especially the agricultural sub-sector among other recommendation were made in this study.

Keywords: International trade, economic growth, causality, export, import.
JEL Classifications:

Introduction

With the world having evolved into a global village, it is a precept for a nation to be in alliance with other nation(s). One of the coherent ways to create such an alliance between or among nations is via international trade. International trade allows for the exchange of goods and services cum foster healthy relations among countries irrespective of their level of economic development. A country involved in international trade need not have fear of hegemony or loss of its sovereignty because it is a mutual agreement to engage in trade across their border. A nation not participating in international trade is at risk of a slow pace of economic development due to the cogent fact that a country cannot be fully endowed with all the resources essential to be utilized for sustainable economic development (Azeez, Dada & Aluko,2014).

International Economics is a specialized branch of Economics focusing on the external trading relations of nations. Generally external trade involves the exchange of goods and services among nations crossing the national territories. Trade not only strengthens the economic interdependence among nations but promotes consumer welfare also by providing a variety of commodities (Gwaison, 2017).

Theory of comparative advantage make us to understand that countries trade with each other in goods and services because of the concept of differentials in the natural resources, human capital, financial capital and technical capabilities endowment of nations. Some countries are more endowed in these resources than others, even, many countries that are adequately blessed with good resources may not have the ability to manage and channel them to their advantage, hence, denying

them the opportunity of achieving the necessary growth, development and good standard of living for their citizenry (Adeleye, Adeteye & Adewuyi, 2015).

The role of international trade in the development of any economy need not to be over emphasizes. The importance of international trade stems from the fact that no country can produce all goods and services which people require for their consumption largely owing to resources differences and constraints. As a result, this trade relationship suggests that economies need to export goods and services in order to generate revenue to finance imported goods and services which cannot be produced domestically (Lawal &Ezeuchenne,2017).

However, Nigerian economy has grossly underperformed relative to its economic endowment and her peer nations. With about 37 solid minerals types and a population estimates of over 180 million people, one of the largest gas and oil reserves in the world, the economic performance of the country is rather weak when compared to the emerging Asian countries such as Thailand, Malaysia, China, India and Indonesia and even Brazil. These countries had by far lagged behind Nigeria or at par with Nigeria in terms of GDP per capital in 1970s, but later they were better able to transform their economies to emerge as major players on the global economic arena. In 1970, for instance, Nigeria had a GDP per capital of US$233.35 and was ranked 88th in the world, when China was ranked 114th with a GDP per capital of US$111.82 (Sanusi 2010). Today, China occupied an enviable position even as the second largest economy after the United State of America, largely owing to her self-esteemed trade position (Adeleye, Adeteye & Adewuyi, 2015).

The economic growth of Nigeria to large extent depends on her trade with other nations. Nigeria as a developing country has been grappling with realities of developmental process not only politically and socially but also economically. In 1960s, agriculture was the main stay of the economy and the greatest foreign exchange earner, and Nigerian government was able to execute investment projects through domestic savings, earnings from exports of agricultural products and foreign aids (Lawal &Ezeuchenne, 2017). But since the advent of oil as a major source of foreign exchange earning in Nigeria since 1974, the picture has been almost that of general stagnation in agricultural exports. This led to loss of Nigeria's position as an important producer and exporter of palm oil produce, groundnut, cocoa and rubber (CBN annual report, 2006). Between the year 1960 and 1980, agricultural and agro-allied exports constituted an average of sixty percent of total export in Nigeria, which is now accounted for, by petroleum oil export, (CBN annual report 2004). However the importance of international trade in the Nigerian economy has grown rapidly in recent time, especially since 2002. Economic openness measured as the ratio of export and imports to GDP has risen from just above 3 percent in 1991 to over 11 percent in 2008 due to the unrest in Nigeria's oil producing Niger Delta region which resulted in significant disruption in oil production and shortfalls in oil export from Nigeria. Today with recent peace in the Niger Delta region economic openness has increased significantly. International trade (% of GDP) in Nigeria was reported at 21.12 % in 2015, and 15.09% in 2017(NBS, 2018).

Promotion of economic growth is one of the major objectives of international trade, but in recent times, this has not been the case, because the Nigerian economy is still experiencing some elements of economic instability such as price instability, high level of unemployment and adverse balance of payments, the benefits of international trade had not been noticed in the economic growth of Nigeria because some of the goods imported into the country, were those that cause damages to local industries by rendering their products inferior and being neglected, thereby reducing the growth rate of output of such industries which later spread to the aggregate economy. Also the poor performance of international trade has been ostensibly blamed on factors such as different languages, difficulty in transportation, risk in transit, lack of information about foreign businessmen etc. Despite the above mentioned problems the study seeks to find answers to the following questions: To what extent international trade stimulates economic growth in Nigeria? ii. Do international trade has a bi-directional relationship with economic growth in Nigeria?

Therefore, this paper seeks to examine the impact of international trade on economic growth in Nigeria. In other words, how activities in international trade transmit to economic growth in Nigeria. The result of this study would be of use to policy makers both in the public and private sectors of the Nigerian economy. It would also be of use to other developing countries especially those at the same level of development as Nigeria and in particular, those economies that rely on international trade. Also, it would help policy makers to identify the relationship between international trade and economic growth and hence find ways of realizing the full benefits of international trade to the Nigerian economy.

The general objective of the study is to find out the impact international trade on economic growth in Nigeria. Specifically, this study seeks to; to determine the contribution of international trade to economic performance in Nigeria. to determine whether there is bi-directional relationship between oil- exports and economic growth in Nigeria. to determine whether there is bi-directional relationship between non- oil exports and economic growth in Nigeria.

The following three null hypothesis will be tested at 0.05 significance level.

1. The is no significant relationship between international trade and the economic performance of the Nigerian economy

2. There is no is bi-directional relationship between oil- exports and economic growth in Nigeria.
3. There is no bi-directional relationship between non- oil exports and economic growth in Nigeria.

This paper was divided into five sections, section one was introduction, section two was theoretical framework and literature review, section three was methodology, section four was Result and discussion and section five was the conclusion and recommendation.

Theoretical Framework
The framework for foreign trade is based on the law of comparative costs, otherwise known as the theory of comparative cost advantage. It is the classical theory of international trade formulated by David Ricardo, and later improved by John Stuart Mill, Cairnes and Bastable. Its best exposition is found in the works of Taussig and Haberler (1988).

Theory of Comparative Cost Advantage
Comparative cost advantage assumes that trade will be beneficial to a country if it concentrates on the production of those goods in which it has the greatest relative advantages over its trading partners. The law is however, an extension of the absolute advantages paradigm in industry. That is gain will be available to a given country so long as it transfers resources towards the industry in which its absolute or comparative advantages is greater. The country then sells the surplus to other country that in their turn channel resources towards those industries in which their deficiency is least (Dereck, 1974) The theory discussed above depends on the existence of certain conditions for international trade, and complications arise if these conditions are not met.

Theory of Reciprocal Demand
Ricardo expounded the theory of comparative advantage without explaining the ratio at which commodities would exchange for one another. It was J.S Mill (1848) who discussed the latter problem in details in terms of his theory of reciprocal demand. The term 'reciprocal demand' introduced by Mill explains the determination of equilibrium term of trade. It is reciprocal demand that determines the terms of trade which, in turn, determine the relative share of each country. Equilibrium would be established at that ratio of exchange between the two commodities at which quantities demanded by each country of the commodities which is imports from the other, should be exactly sufficient to pay for one another.

Heckscher-Ohlin Theory
In the early 20th century, Swedish economists Eli Heckscher and Bertil Ohlin identified the role of labor and capital, so-called factor endowments, as a determinant of advantage. The Heckscher-Ohlin proposition maintains that countries tend to export goods whose production uses intensively the factor of production that is relatively abundant in the country. Countries well-endowed with capital—such as factories and machinery—should export capital intensive products, while those well-endowed with labor should export labor-intensive products. According to Bertil Ohlin, trade arises due to the differences in the relative prices of different goods in different countries. The difference in commodity price is due to the difference in factor prices (i.e. costs). Factor prices differ because endowments (i.e. capital and labour) differ in countries. Hence, trade occurs because different countries have different factor endowments.
The Heckscher Ohlin theorem states that countries which are rich in labour will export labour intensive goods and countries which are rich in capital will export capital intensive goods Heckscher-Ohlin's theory explains the modern approach to international trade. Heckscher Ohlin's Theory has been criticised on basis of following grounds of unrealistic assumptions, restrictive, one sided theory and the theory static nature(Gwaison,2017).

Empirical Literature Review
Evidence from empirical studies from other countries like China and Pakistan also reviewed. Li, Chen and San (2010) conducted a research on the relationship between foreign trade and the GDP growth of East China for a period 1981-2008. Adopting the unit root test, co-integration analysis and error correction model, they found out that foreign trade is the long-term and short-term relationship with GDP growth, but no evidence proved that there exists long-term causality between import trade and GDP.

Sun and Heshmati (2010) evaluated the effects of international trade on China's economic growth through examining improvement in productivity. Both econometric and non-parametric approaches were applied based on a 6-year balanced panel data of 31 provinces of China from 2002-2007. The study demonstrated that increasing participation in the global trade helped China reap the static and dynamic benefits, stimulating rapid national economic growth. Also, it revealed that both international trade volume and trade structure towards high-tech exports resulted in positive effects on China's regional productivity.

Javed, Qaiser, Mushtaq, Saif-ullaha and Iqbal (2012) examined the impact of total exports to GDP ratio, import to GDP, terms of trade, trade openness, investment to GDP ratio and inflation on the Paskitani economy using time-series data from1973-2010. Employing Chow test and Ordinary Least Square method, the estimated results revealed that all the explanatory variables have positive and significant impact in Pakistan. The study further discovered that an increase in the import of raw-materials boosted production, employment and output of Pakistan.

Omoju and Adesanya (2012) examined the impact of trade on economic growth in Nigeria using data from1980 to 2010. Making use of the Ordinary Least Square (OLS) technique, the study showed that trade, exchange rate, government expenditure and foreign direct investment have a positive and significant impact on economic growth in Nigeria. Saibu (2012) studied the direct and interactive effects of capital inflow, trade openness and economic growth using data from Nigeria over the period 1960 to 2011. The study engaged composite indicators gotten from principal component analysis (PCA) in the Autoregressive Distributed Lag (ARDL) bound testing model. It found that the effect of capital inflow and trade on economic growth was statistically significant. The study also provided new facts in support of the modernization hypothesis that capital inflow and trade policy are dependent on each other and increasing growth in developing economies like Nigeria and that trade liberalization policies tend to enhance effectiveness of capital inflow and together they foster higher economic growth in Nigeria.

Nwosa (2012) studied the relative contribution of trade liberalization on trade tax revenue in Nigeria between 1970 and 2009 using a simplified regression estimate. Their estimates revealed that trade liberalization, labour force, gross domestic product and public debt impacted positively on trade tax revenue while exchange rate had a negative effect at 5% level of significance.

Ajayi and Atanda (2012) empirically examined the trade and capital flow channels of globalization on macroeconomic stability as proxy by real output growth rate in Nigeria between 1970 and 2009. They utilized an autoregressive model which indicated that the first lag of real output growth rate has a significant positive effect on real current growth rate, while the second autoregressive term is found to exert insignificant negative effect on current real output growth rate. Also, trade and capital flow dimensions were found to decline the macroeconomic stability level in Nigeria. In addition, the existence of cointegration was established amongst the series, while the short run analysis made use of the the error correction mechanism model which indicated that for any disequilibrium in the stability level in the short-run, the error correction term adjust 97.5% of this divergence to its long-run equilibrium.

Emeka, Ikpesu and Peter (2012) investigated the Macroeconomic impact of trade on Nigeria economic growth over the periods of 1970 to 2008 using a combination of bi-variate and multivariate models. The empirical examination points out that exports and Foreign Direct Investment inflows have positive and significant impact on economic growth in the Nigerian economy.

Adelowokan and Maku (2013) empirically examined the effect of trade and financial investment openness on economic growth in Nigeria between 1960 and 2011. Findings from the reported dynamic regression model showed that trade openness and foreign investment exert both positive and negative effect on economic growth of the country respectively. In addition, the partial adjustment term, fiscal deficit, inflation and lending rate were found growth increasing. It was then proved that there is long-run relationship between trade openness, foreign investment, and economic growth in Nigeria.

Adenugba and Dipo (2013) examined the performance of non-oil exports in the economic growth of Nigeria from 1981 to 2010. Their estimates revealed that non-oil exports have performed below expectations; therefore, giving reason to doubt the efficacy of the export promotion strategies that have been used and since implemented. They rightly indicated that the Nigerian economy is still far from shifting from crude oil exports and as such the crude oil sub-sector continues to be the single most important sector of the economy.

Edoumiekumo and Opukri (2013) empirically investigated the contributions of international trade (proxy with export and import values) to economic

growth in Nigeria measured by real gross domestic product (RGDP). The Time-series data collected was for a period of 27years which was analyzed using Augmented Dickey-Fuller (ADF) test, Ordinary Least Square (OLS) statistical technique, Johansen co-integration test and Granger Causality test. The results showed that there is a positive relationship between the variables and also cointegration exists among the variables. In addition The Granger Causality test realized a uni-directional relationship showing that RGDP Granger cause export and also import Granger cause RGDP and export.

Olaifa, Subair and Biala (2013) empirically investigated the effect of trade liberalization on economic growth in Nigeria between 1970 and 2012 with a view to examining the possibility of long term relationship existing between the two and also to account for the structural changes that may have occurred with the implementation of a free trade regime in 1986. Adopting the ordinary least squares in estimating the relationship, they find that there is a long run relationship between trade liberalization and economic growth in Nigeria.

Methodology

The major method of analysis employed in this project is the regression analysis. The data used is secondary in nature; hence, the FRESV was from World bank data, OEXP and NOEXP from Nigerian bureau of Statistics (NBS) and GDP and FDI was from Central Bank of Nigeria (CBN) Statistical Bulletin respectively were relied on as the only source for data collection. The estimation technique is the error correction model method. However, since time series variables were applied, it is essential to examine their properties so as not to end up with a spurious regression, which is modeling the relationship among stationary series. Therefore, all variables are examined through pre evaluation test like their time plots, unit root tests, co integration analysis ,Error correction model was run after pre-test analysis. The post diagnostic evaluation test such as Heteroskedasticity Test,

Strong evidence was also found to support structural changes that took place in 1986 with the use of free trade policy. However export was reported to have a negative relation to growth.

Arodoye and Iyoha (2014) studied the nexus between international trade and economic growth in Nigeria making use of quarterly time-series data for the period 1981 to 2010. The results indicated that there is a stable, long- run relationship between international trade and economic growth and they concluded that trade policies which are in favour of export expansion should be encouraged because exports are a driver of economic growth. Furthermore, an exchange rate policy which is favourable to export expansion and consistent with Nigeria's status as a small open economy should be encouraged.

From the empirical literature reviewed above in China, Pakistan and Nigeria. International trade has positive and significant impact on economic growth in short run and long run. However, non-oil export was found to be insignificant to economic growth in Nigeria.
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Auto correlation test, Normality test, parameter stability test and Cu sum test

Model Specification

In line with the above discussion, using co-integration and error correction modeling technique to find the long-run relationship between Economic Performance and International Trade in Nigeria. Following Feder (1982), where Economic Growth proceeded from the effects of exporter sector performance and Solow (1957) that used the function of aggregate production as a starting point to measure the sources of Economic Growth in the United States. The model specifies the endogenous variable as gross domestic product (GDP) as a function of oil export (OEXP), non-oil export (NOEXP), Foreign direct investment(FDI) and Foreign reserve (FRESV), representing the exogenous variables. The model is specified below as:

$$GDP = f(OEXP, NOEXP, FDI, FRESV) \ldots\ldots\ldots\ldots\ldots\ldots\ldots(1) \text{ it can be expanded as:}$$

$$GDP = \beta_0 + \beta_1 OEXP + \beta_2 NOEXP + \beta_3 FDI + \beta_4 FRESV + \mu_i \ldots\ldots..(2)$$

Equation 4 above is the model specified.

The apriori expectation was OEXP >0, NOEXP>0,FDI>0,FRESV>0.

Results and Discussion
Unit Root Test

This studies the impact of international trade on economic growth in Nigeria, uses time series data in the analysis. As a result of the time series data

used, the variables cannot be trusted. Therefore the need for stationary data arises. The stationary data has been conducted using Augmented Dickey Fuller test (ADF). The parameters that was used for

the analysis are, GDP, OEXP, NOEXP, FDI and FRESV. The unit root result is showed in table 1:

Table 1: Summary of Unit Root Test Results

Variables	ADF Test Statistics at level	Critical ADF Test Statistics at level	ADF Test Statistics at first Difference	Critical ADF Test Statistics at first Difference	Order of Integration
GDP	-2.00340	-3.568379	-4.718941	(-3.574244)*	I(1)
OEXP	-1.746950	-3.580623	-4.234456	(-3.574244)**	I(1)
NOEXP	-3.348592	-4.416345	-3.470017	(-2.580623)**	I(1)
	-1.846687	-3.574244			
FRESV			-11.85117	(-3.574244)**	1(1)
	-3.567865	-4.622033			
FDI			-5.367249	(-2.967767)**	(1)

Source: Authors Computation, 2018 (Eview10.0)

From Augmented Dickey Fuller result in table 1 all the variables are stationary at first difference at 5% significant level. This shows that the variables are integrated at the same other 1(1). Johansen Co-integration test Has been conducted to check for co-integration equation

Optimal Lag Length Selection

There are many lag length criteria in error correction model. There are Akaike Information Criterion, Schwarz Information Criteria, Hannan Quinn Information Criterion. A lag length with lowest value of any of the criteria will be considered as the optimum lag length and thus be selected. Below is lag length criteria table:

Table 2: Tabular Representation of the Lag Length Criteria

Lag	Logl	LR	FPE	AIC	SIC	HQ
0	-45.06	NA	2.17	3.45	3.69	3.52
1	78.44	195.91	2.51	-3.34	-.193*	-2.89
2	-109.52	38.58*	1.95*	-3.76*	-1.16	-2.95*

Source: Authors computation using E-views 9.0(2018)
* indicates lag order selected by the criterion LR: sequential modified LR

Lag length selection is based on any criterion with lowest value. From the table above, SIC criterion chose lag1 as its best lag length, while LR, FPE, AIC and HQ criteria choose lag2 as best lag length. AIC has the lowest value at lag 2. Therefore, based on lag length criteria which states that the lower the value of any of the criteria, the better the model. Lag2 is the best lag length for this analysis and Akaike Information Criterion is the best criterion for this study. After the selection of the lag length, Johansen Co-integration model follows:

Johansen Co-Integration Test

This analysis was used to ascertain long run relationship between the explanatory variables and the dependent variable. The test comprises Trace statistics and Eigenvalue statistics. Decision has been drawn based on the number co-integration equation indicated by these statistics.

Table 3: Summary of Co-integration Estimates

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.904630	157.5452	88.80380	0.0000
At most 1 *	0.774185	96.44543	63.87610	0.0000
At most 2 *	0.676475	57.75642	42.91525	0.0009
At most 3 *	0.581971	28.41600	25.87211	0.0236
At most 4	0.198058	5.738703	12.51798	0.4942

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.904630	61.09982	38.33101	0.0000
At most 1 *	0.774185	38.68900	32.11832	0.0068
At most 2 *	0.676475	29.34042	25.82321	0.0165
At most 3 *	0.581971	22.67730	19.38704	0.0160
At most 4	0.198058	5.738703	12.51798	0.4942

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Authors Computation, 2018 (Eview10.0)

Johansen co-integration test based on trace statistics and Eigenvalue statistics compares statistics critical value and 0.05 critical value. Decision rule states: if trace statistics critical value is greater than 0.05 critical value, reject null hypothesis and accept alternative hypothesis. From table 4.3.3, Johansen co-integration result indicates four co-integration equation. The four cointegrating equations means there exist long run equilibrium relationship amongst economic growth, oil export, non- oil export, foreign reserve and foreign direct investment in Nigeria from 1986-2016. This long run equilibrium relationship is high compared to the work of Lawal and Ezeuchenne(2017) their result denotes two co-integration equations only.

Error correction model (ECM)
The Error Correction Model is carried out to reveal the speed of convergence of the research variables to equilibrium. The residual of the cointegrating result were lagged and regressed along with the differenced variables on each of the exogenous variables. The symbol of the error-correction parameter in the equation is as expectedly and statistically significant. The table 4.3.4 shows the ECM result for the study. The speed of adjustment is the coefficient of the error correction variable. This indicates that 66 percent departure from the long-run equilibrium is corrected in the short-run. The ECM (-1) is highly significant. The coefficient of ECM -0. 662591 suggest fast adjustment. Nearly 66 percent of the disequilibrium of the previous year's shock adjusts back to the long-run equilibrium in the current year.

The results showed that the error correct term ECM (-1) is correctly specified. It satisfies a-priori expectations and statistically significant at the five percent level. The coefficient of the ECM (-1) is -0. 662591 and it implies high speed of adjustment from shock. It also means that 66 percent of the disequilibrium in the previous year adjusts back to equilibrium in the current year.

Table 4: Error correction model (ECM) result

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OEXP)	-0.011547	0.005162	-2.237070	0.0521
D(OEXP(-1))	-0.008646	0.007219	-1.197625	0.2617
D(OEXP(-2))	-0.020057	0.007472	-2.684168	0.0250
D(FDI)	-0.006699	0.002643	-2.534304	0.0320
D(FDI(-1))	0.118316	0.022307	5.303911	0.0005
D(FDI(-2))	0.101606	0.018905	5.374546	0.0004
D(FDI(-3))	0.107081	0.016606	6.448296	0.0001
D(FRESV)	0.023911	0.004761	5.022402	0.0007
D(FRESV(-1))	-0.007696	0.004830	-1.593397	0.1455
D(FRESV(-2))	-0.000657	0.004129	-0.159180	0.8770
D(FRESV(-3))	0.010800	0.005190	2.080868	0.0672
CointEq(-1)*	-0.662591	0.119874	-5.527403	0.0004

R-squared	0.913808	Mean dependent var	30653.05
Adjusted R-squared	0.840876	S.D. dependent var	25825.23
S.E. of regression	10301.76	Akaike info criterion	21.62409
Sum squared resid	1.38E+09	Schwarz criterion	22.20915
Log likelihood	-258.3011	Hannan-Quinn criter.	21.78636
Durbin-Watson stat	2.360281		

Source: Authors computation using E-views 10 (2018)
* p-value incompatible with t-Bounds distribution.

The Durbin Watson statistics of 2.360 falls within the 'No serial autocorrelation' region. The model passes the diagnostic test. The ECM variable is properly signed and statistically significant at the five percent level of significance. Therefore, we reject the null hypothesis that the error terms are not normally distributed. This suggests that the ordinary least square estimation is unbiased, has minimum variance, consistent and follows a normal distribution.

The R^2 used in measuring the goodness of fit of the model is satisfactory. About 92 percent of the variation in the dependent variable (GDP) is explained by joint effect of all the regressors OEXP, NOEXP, FRESV, and FDI in the model and is a good fit. The explanatory power of the model is satisfactory.

Table 5: Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
OEXP does not Granger Cause GDP	29	0.02227	0.9780
GDP does not Granger Cause OEXP		7.30453	0.0039
NOEXP does not Granger Cause GDP	29	1.93933	0.1657
GDP does not Granger Cause NOEXP		7.55932	0.0028
FRESV does not Granger Cause RGDP	29	1.93933	0.1657
GDP does not Granger Cause FRESV		7.55932	0.0028
FDI does not Granger Cause RGDP	29	0.52850	0.5962
GDP does not Granger Cause FDI		5.71779	0.0093
FDI does not Granger Cause FRESV	29	1.64435	0.2142
FRESV does not Granger Cause FDI		5.55011	0.0104

The result in table 4.3.5 denotes that at 5% significant level a unidirectional causality among the variables. The economic growth was proxy by gross domestic product GDP and international trade proxy by OEXP, NOEXP, FRESV and FDI. GDP cause OEXP but OEXP does not cause GDP, GDP cause NOEXP but NOEXP does not cause GDP, GDP cause FRESV but FRESV does not cause GDP, GDP cause FDI but FDI does not cause GDP, FRESV cause FDI, however FDI does not cause FRESV. This finding differs with the findings of Lawal and Ezeuchenne (2017) that shows no causality among the variables.

Serial correlation
Serial LM test: More so, the regression model is free of serial correlation going by the result of the serial LM test.

Table 6: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.669785	Prob. F(2,23)	0.2103
Obs*R-squared	3.803672	Prob. Chi-Square(2)	0.1493

Source:

From table 6 the Prob. Chi-square gave 0.2103, and it's greater than 0.05; thus we accept the null hypothesis that there is no serial correlation among the variables used in the model.

Heteroscedasticity Test
The regression model is homoscedastic as shown in table 7 below:

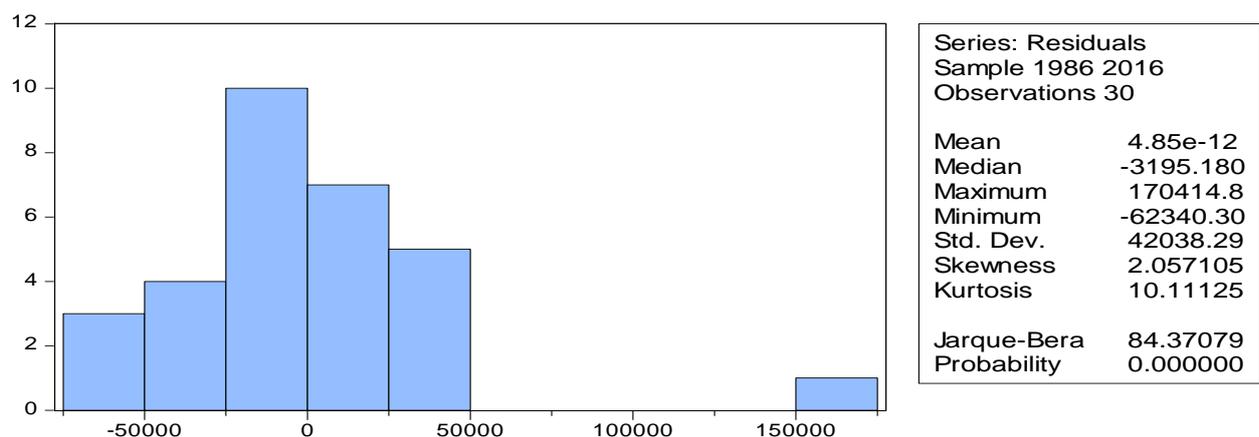**Table 7: Heteroskedasticity Test: Breusch-Pagan-Godfrey**

F-statistic	1.102485	Prob. F(4,25)	0.3772
Obs*R-squared	4.498419	Prob. Chi-Square(4)	0.3427
Scaled explained SS	14.23133	Prob. Chi-Square(4)	0.0066

Source:

From table 7 the Prob. F-value gave 0.3772, and it's greater than 0.05; thus we accept the null hypothesis that there is no heteroscedsticity among the variables used in the model

Normal Distribution Test
It is a test for normality distribution assumption of the error term. The result shows the properties of the residuals. Importantly, the Jarque-Bera statistics is a test which shows whether the residual from our equation violates the normality assumption of the OLS technique.

Series: Residuals	
Sample 1986 2016	
Observations 30	
Mean	4.85e-12
Median	-3195.180
Maximum	170414.8
Minimum	-62340.30
Std. Dev.	42038.29
Skewness	2.057105
Kurtosis	10.11125
Jarque-Bera	84.37079
Probability	0.000000

**Fig 1: Testing the normality assumption**

As shown in figure 1, the hypothesis of non-normality is rejected since the p-value of the Jarque-Berra statistics is less than 0.05 (assuming 5% level of significance). Therefore, the residuals are normally distributed.

Parameter Instability Test- CUSUM test
CUSUM test does not require specifying a particular date and it plots the cumulative sum of the recursive residuals together with the 5% critical

lines. The CUSUM test indicates parameter instability if the cumulative sum goes outside the area between the two critical lines.
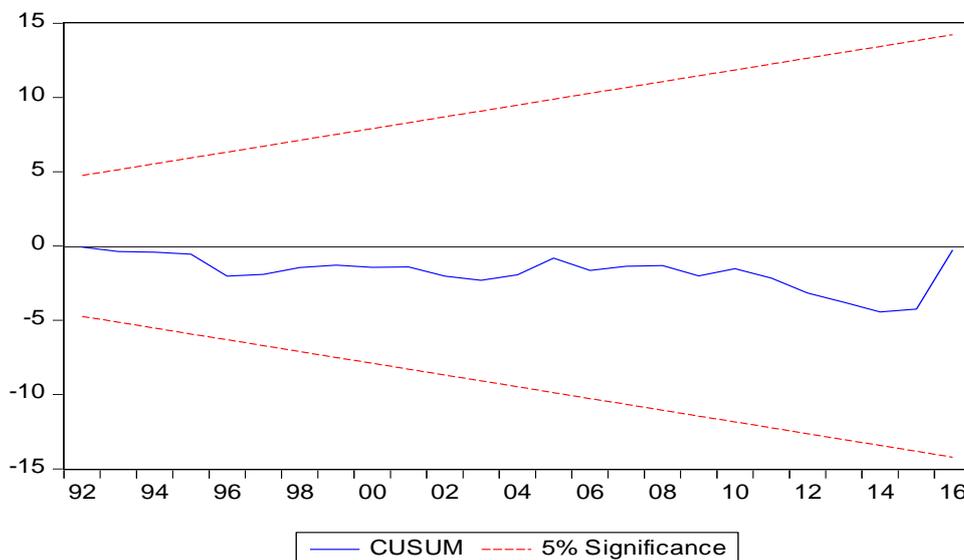
Fig 2: Testing the Parameter stability

As observed from figure 2, the CUSUM test result indicates parameter stability as the cumulative sum does not go outside the area between the two critical lines.

Conclusion
Empirical studies have shown that international trade is linked to economic growth. The study examines the effect of international trade on Nigeria's economic growth in the 21st century. Findings emanating from the study suggest that international trade has a significant positive impact on the Nigerian economy for the period under review; there is unidirectional causality among the variables, hence, the null hypothesis formulated is rejected. This is line with the postulation of Adam Smith that international trade has positive effect on economic growth.

Based on the major findings of this study, the following policy recommendation was made:

1. Government should provide conducive economic atmosphere that will encourage foreign investors.
2. The government should take urgent steps to sufficiently boost the non-oil of Nigeria so that it will impact more tremendously on economic growth in the country, especially the agricultural sub-sector.
3. The Nigerian Economy needs to concentrate on exportation of finished goods instead of the exportation of primary goods which in the long run

we import as finished goods so as to improve domestic manufacturing industries, enhance productivity and increase employment which in the long run will increase economic growth and development and also increase exportation of finished goods.

4. It is recommended therefore that government at all tiers should embark on holistic policies and approach that will boost the position of non -oil exports in Nigeria, especially those that have to do with manufacturing and industry.
5. Furthermore, it is suggested that there should be an allowance for policies that allow access to a wider base of technological knowledge, it makes technological diffusion easier, it motivates research and avoids redundancies in research.
6. It is as well recommended that the LDCs open to the foreign investment with more advanced technology so that they could register increases in the rate of innovation and in the economy's rate of growth and dependency on import goods both at domestic and industrial production level should be discouraged with the aim of embarking on import substitution approach to economic development in Nigeria.

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