THE NEXUS BETWEEN INTERNATIONAL TRADE AND ECONOMIC GROWTH: THE NIGERIAN EXPERIENCE

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ABSTRACT

The main thrust of this study is to examine the impact of international trade on Nigeria economic growth. The study employs empirical analysis in examining the effect of international trade variables (openness of the economy, volume of import, export, foreign direct investment and exchange rate) on Nigeria economic growth using time series data from 1985 to 2013. The Augmented Dickey-Fuller (ADF) test was used for the unit root test and Johansen's co-integration test was also conducted to establish short and long run relationships between economic growth and foreign trade variables. The result shows two co-integrating equations which establish the existence of long run relationship among the variables. The ordinary Least Square statistical technique was used to assess the degree of influence the variables have on each other. The results show that export, foreign direct investment and openness of the economy has direct and significant impact on Nigeria economic growth also exchange rate has direct but insignificant impact on the nation economy while volume of import has inverse and insignificant impact on the Nigerian economy. From our findings, we therefore conclude that foreign trade variables of export, foreign direct investment and openness of the economy have the tendency to improve and sustained the nation economic performance and stabilised the country trade with other nations of the world. The study recommended among others that government should ensure that adequate macroeconomic policies that will open up the economy are put in place to encourage foreign direct investment inflow and expand Nigeria exportation of goods and services for the established international market in view of the fact that exports are driver of economic growth.

Key Word: International Trade, Export, Import Openness of the Economy, Economic Growth, Foreign Exchange, Nigeria

INTRODUCTION

Over the years, development economists have long acknowledged the role of trade in the growth process of national economies as trade provides both foreign exchange earnings and market stimulus, for accelerated economic growth. Economic growth is a fundamental requisite to economic development. This informs why in Nigeria, growth continuously dominates the main policy thrust of government's developmental objectives. Essentially, economic growth is associated with policies aimed at transforming and restructuring the real economic sectors. Nevertheless, the lack of sufficient domestic resources, Savings and investment to support and sustained the sectors is a major impediment to economic development in the country because of the gap between savings and investment (Imimole and Imoughele 2012).

Afaaha and Ajelabola (2012) asserted that Foreign trade allows a country or nation to expand her markets for investment for goods and services that otherwise may not have been available to her citizens. Foreign trade means per capita income has been based on the domestic production, consumption activities and in conjunction with foreign transaction of goods and services. It has also been established in the literature that export trade is an engine of growth. It increases foreign exchange earnings, improves balance of payment position, creates employment and development of export oriented industries in the manufacturing sector and improves government revenue through taxes, levies and tariffs. These benefits will eventually transform into better living condition for the nationals of the exporting economy since foreign exchange derived would contribute to meeting their needs for some essential goods and services. Kraya (2002) has argued that openness is important for growth because it generates channels for technology diffusions, which makes the less developed countries to import such goods from the developed countries.

In Nigeria, foreign trade helps in much measure to accelerate economic growth. Akeem, (2011) noted that trade has helped in the importation of machineries such as tractors, ploughs, industrial plants and equipments. With these
equipment, Nigeria economy is able to increase her productivity and thus quicken economic growth. Foreign trade has been a major determinant of foreigner’s investment in Nigeria. Foreign trade has helped in upgrading socio economic value of citizens, because through foreigner’s investment, employment opportunities were created. Okoh (2004) established that there are many problems in foreign trade. One of the problems is language, when goods are exported to a foreign country, the labels, informative literature, packing technical handout, should be prepared in the language of the country in which the goods are marketed.

Acknowledging these, the Nigerian government and policy makers have embarked on various macroeconomic policies to address these issues. Some of the policies involved the use of monetary and fiscal policy, export promotion strategy, imports substitution strategy, NEEDS, Vision 20 20 20, the austerity measure, etc. The fundamental objectives of the policies include price stability, maintenance of balance of payments equilibrium, and promotion of employment, output growth and sustainable development. These objectives are necessary for the attainment of internal and external balance of value of money and promotion of long run economic growth.

Nigeria as a country has experimented with a mix of the two trade policy regimes. At independence, Nigeria embarked upon import substitution industrialization (ISI) strategy as a means of promoting industrial transformation. The implementation of the ISI necessitated imposition of high rate of tariff and non-tariff barriers to trade (Adewuyi and Adeoye, 2008) while Trade policy in the post-independence period was largely import licensing and haphazard application of tariff via annual budget. This engendered a serious anti-export bias which seemed to hinder growth and development of the Nigerian economy (Oyejide, 2001).

Since 1986 however, trade policies have aimed at liberalization of the economy as well as achievement of greater openness and greater integration with the world economy. The policies thus ranged from abolition of marketing boards, to introduction of the second tier foreign exchange market (SFEM), various export expansion incentive schemes, establishment of the Nigeria Export Import Bank etc.

In a bid to expand her market access, Nigeria has signed bilateral, regional and trade preferential agreements with different countries. For instance, Nigeria is one of the founding members of Economic Community of West African States and of the World Trade Organization and a signatory of the Lome Convention all this are done to enhance trade with other country and given her natural resource base and large market size, is one of the top three leading African countries that has consistently received FDI in the past decade (Asiedu, 2003). Despite all these efforts, trade in Nigeria has dwindled in the period of great liberalization.

Furthermore, Adewuyi and Adeoye (2008) asserted that despite all reforms, trade was severely constrained by a set of factors that have led to high transaction costs and general cost of doing business leading to erosion of competitiveness. Yaqub (2011) asserts that in Nigeria, some people are in favour of protectionist (un-liberalised) and highly regulated economy and have even criticised the previous Nigerian government, for signing the treaty of the World Trade Organisation (WTO), claiming that, Nigeria was not adequately represented in the negotiations and should push for a fairer deal. As regards to this statement, some people, particularly economists pushed for the implementation of the Structural Adjustment Programme (SAP) in 1986 which brought about deregulation of formerly regulated areas of the economy, so that the country could reap the benefits of economic trade. The main thrust of this research is to take an objective view regarding the controversy of the role of international trade, in the progress of a country in terms of economic growth of Nigeria. It has been eluded by the dissenting voices in the 21st century that trade could be negative in terms of acting as a catalyst of economic growth and development, being a regressive force, in the journey to economic independence. But ironically, past experience has proven the potency of trade as a catalyst of economic progress, with regards to growth and development.

However, according to Ehinomen and Damiola (2013), promotion of economic growth is one of the objectives of foreign trade but in recent times, this has not been the case because the Nigerian economy still experience some element of economic instability such as high level of unemployment, price stability and adverse balance of payment to mention a few. One of the major obstacles why benefits of foreign trade cannot be translated into economic growth is the macroeconomic policy distortions resulting from the trade which turned the country into an import dependent economy. More so, foreign trade has not accrued into economic growth because some of the goods imported into the country were those that cause damage to the local industries by rendering their product inferior and being neglected, this thereby reduces the growth rate of output of such industries and this later spread to the aggregate economy. Therefore, due to the reasons stated above the main objective of this study is to examine the impact of international trade on Nigeria economic growth. Specifically, the objectives of this study are- to examine the effect of trade openness on Nigeria economic performance, to determine the impact of export on the growth process of Nigeria’s economy, to identify the influence of import on economic growth, to evaluate the effect of exchange rate on Nigeria economic growth and to evaluate the relationship between foreign direct investment and economic growth.

The study is therefore organized as follows. Following the introductory section, Section 2 reviews the literature. The methodology of the study is discussed in Section 3. An econometric analysis of the impact of trade variables on economic growth is considered in Section 4. Finally, Section 5 presents the summary and conclusion of the study.

LITERATURE REVIEWS
The economic integration among different nations involving the exchange of goods and services, that is, exports and imports. The guiding principle of international trade is comparative advantage, which indicates that every country, no matter their level of development, can find something that it can produce cheaper than another country. Ayanwu (1993) defined foreign, overseas or international trade as the buying and selling of goods and services between countries e.g
between Nigeria and the united state of America, Britain, and Cameroon, Ghana etc. foreign trade is made up of Exports and imports. The Exports are goods and services which countries send to other countries in return for some payment made in foreign exchange. We have visible and invisible export. Visible exports are goods exported to other country while invisible are services exported to other country. Imports are goods and services which are brought into a country from foreign nations for which the receiving country pay for foreign exchange. There are also visible and invisible imports. Imports of goods are visible imports while imports of services are invisible import.

Nwosa, Sabu, and Fakunl (2012) defined International trade as the activity of exchange of goods, capital and services across international borders. Trade is often considered the engine of development strategies in any nation because it can create job, expend market, raise income, facilitate competition and disseminate knowledge. Globally, trade is recognized as a vital catalyst for economic development. For developing countries, the contribution of trade to overall economic development is immense, owing largely to the obvious fact that most of the essential elements for development such as capital goods, raw materials and technical know-how, are almost entirely imported because of inadequate domestic supply.

Ar odbye and iyoha (2014) postulated that foreign or international trade concerns the study of the causes and consequences of the international exchange of goods and services, and of the international movement of factors of production. Although Alfred Marshall had no doubts about the beneficent effects of foreign trade, the foreign trade economic growth nexus has remained controversial. Economists have found that foreign trade is often favourable to growth and may well be a necessary condition for rapid growth for small countries like Nigeria.

The correlation involving international trade and economic growth is a highly debated topic in the growth and development literature, yet this issue is far from being determined. Some studies indicate that positive relations exist between trade and economic growth while others have contrary views. For example, Daumal and Ozurt (2011) examined the impact of international trade flows on economic growth in Brazilian states using dynamic regression with system GMM estimator. The scholars give evidence that openness is more beneficial to states with a high level of initial per capita income and contributes to increased regional disparities in Brazil. Kareem (2007) explained a different situation under Nigeria economy studying trade flows and employment outcomes in Nigeria. He discovered that no significant trend between trade flows and employment in Nigeria both in the short-term and long-term period. Hassan (2007) employed Vector Auto-Regression (VAR), Impulse Response Function (IFR) and Granger-causality test to establish the long-term relationship between exports and domestic economic growth in Saudi Arabia from 1970 to 2005 and found that the export sector had a significant effect on economic growth and a positive relationship on other economic activities in the long run.

Alimi and Atanda (2011) examined the effect of globalization on economic growth in Nigeria between 1970 and 2010 amidst cyclical fluctuations in foreign investments. They employed autoregressive model that repress trade openness, cyclical foreign investment to gross domestic products, external reserves, debt stock and exchange rate on real gross domestic product revealed that globalization has positive and significant effect on economic growth in Nigeria, while the positive of business cycle on real output growth was insignificant. Also, external reserves tends to significantly shield the economy from external shocks and the international relative prices stabilize the growth rate of real output in Nigeria. Therefore, the paper concludes that globalization and cyclical movement in foreign investment have significantly enhanced economic growth in Nigeria.

Similarly, Ajayi and Atanda (2012) investigated the trade and capital flow channels of globalization on macroeconomic stability as proxy by real output growth rate in Nigeria between 1970 and 2009. The employed autoregressive model indicated that the first lag of real output growth rate has significant positive effect on real current growth rate, while the second autoregressive term is found to exert insignificantly negative effect on current real output growth rate. Also, trade and capital flow dimensions were found to deteriorate the macroeconomic stability level in Nigeria. However, the existence of cointegration was later established among the series, while the short run analysis using the error correction mechanism model 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.

Afaha and Aiyelabola (2012) revealed that foreign trade plays a vital role in estimating economic and social attributes of countries around the world. The workings of an economy in terms of growth rate and per-capita income have been based on the domestic production and consumption activities and in conjunction with foreign transactions of goods and services. The study focuses on the workings of trade openness on the Nigerian economy. In carrying out this objectives, linear multiple regressions analysis was used in assessing various components of trade openness. Ordinary Least Square (OLS) techniques was used as a statistical tool to achieve these objectives. Data used in this study were extracted from CBN statistical bulletin. From the study findings, export, import, and the degree of openness are all positively related to output (proxy by GDP) by 10% and adjusted R2 of 0.83% from the period of 1970-2010. From the unit root test, it is see that, all the variables are integrated of order zero. This suggests a long run relationship between the variables. We can also infer from the Engle-Granger Co-integration test that the variables are co-integrated considering the probability values which are all greater than the 5% significance level. The estimated model used in this research work implies that a unit increase in Import and Trade Openness will increase Real Gross Domestic Product by 0.023006 and 29166.11 units respectively. Thus, indicating a positive relationship between Import, Trade Openness and economic growth. Also, Export, Import and Trade Openness contribute about 83% to the total variation in Real Gross Domestic Product in the Nigerian economy. The research findings show that economies grow faster when they are open to international competition. With this, it could be said that, openness to trade is very vital to the Nigerian economy. And so policies that will make export trade more favourably to the Nigerian economy should be encouraged by government.

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Olafia, Subair and Biala (2013) study the influence of trade liberalization on economic growth in Nigeria between 1970 and 2012 with a view to examining whether a long term relationship exists between the two and also to check for structural change 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 liberalization supports economic growth in Nigeria with an evidence of a long run relationship. Strong evidence was also found to support a structural change taking place in 1986 with the adoption of free trade policy. However export was reported to be negatively related to growth. The study concluded by recommending that an enabling environment that will engender further growth such as better infrastructural base, adequate financing support adherence to international best practice in export and sound institutional structure be put in place for sustainability.

Edoumiekumo and Opukri (2013) examined the contributions of international trade (proxied with export and import values) to economic growth in Nigeria between 1981 to 2008. The study adopted a multiple regression analysis with Ordinary Least Square (OLS) econometric technique and the result shows two co-integrating equations which establish the existence of long run relationship among the variables. They also revealed that positive relationship exists between the variables, RGDP, export, and import. The export parameter is insignificant at 5 percent. The overall model is significant at 5 percent. While the Granger causality test showed that real GDP Granger cause export and import Granger cause RGDP and export and concluded that Nigeria needs to increase or diversify her export goods to enjoy more of the benefits of international trade.

Arodoye and Iyoha (2014) examined the nexus between foreign trade and economic growth in Nigeria using quarterly time-series data for the period 1981 to 2010. The results showed that there is a stable, long- run relationship between foreign trade and economic growth and concluded that trade policies in favour of export expansion should be encouraged because exports are a driver of economic growth. Furthermore, an exchange rate policy favourable to export expansion and consistent with Nigeria’s status as a small open economy should be encourage. Emeka, Ilpesu and Peter (2012) employed a combination of bi-variate and multivariate models to estimate the Macroeconomic impact of trade on Nigeria economic growth for the period 1970 to 2008. The empirical examination indicated that exports and Foreign Direct Investment inflows have positive and significant impact on growth in the Nigeria economy and that there should be a congruence of export and fiscal policies, towards a greater diversification of nonoil exports by the Nigerian government in order to attain the desired growth prospects of external trade.

METHODS OF THE STUDY

Theoretical Framework and Model Specification

The theoretical foundation of this work rest on the Heckscher-Ohlin theory, the Heckscher-Ohlin model is a general equilibrium mathematical model of international trade. It builds on David Ricardo’s theory of comparative advantage of predicting patterns of commerce and production base on factors endowment of a trading country. The model essentially says that countries will export products that use their abundant and cheap factors of production and import that use the countries scarce factors, the Heckscher-Ohlin model serves as a theoretical framework on which the empirical model is formulated as following:

The empirical model begins with a traditional Cobb-Douglas type that assumed to reflect the true production function of a given industry or countries (Cobb and Douglas, 1928).

\[
Y = A K_1^\beta_1 L_2^\beta_2 \text{------------------------ (1)}
\]

Where \( y \) is the flow of output, \( K_1 \) represent capital stocks, \( L_2 \) is the labour, \( H \) is the human capital and \( A \) is the total factor productivity, which explains the output growth that is not accounted for by the growth in factor of production specified. Endogenising trade impact into equation one above with the assumption that the country is an open economy, we have

\[
Y = A K_1^\beta_1 L_2^\beta_2 T_3^\beta_3 \text{------------------------ (2)}
\]

Therefore \( \beta_2 \) and \( \beta_3 \) represent the elasticity of output, capital stock, labours and trade respectively. In a world of perfect competition and constant return to scale, these elasticity coefficients can be interpreted as respective factor shares in total output. Equation three (2) is a fundamental growth accounting equation which decomposes the growth rate of output into growth rate of total factor productivity plus weighted sum of the growth rate of capital stocks, human capital stock and growth rate of trade (Sinha and Sinha (2002). Taking logs and differentiating equation two (2) with respect to time, we obtain the familiar growth equation:

\[
\log(Y) = \log(A) + \beta_1 \log(K) + \beta_2 \log(L) + \beta_3 \log(T) + u_t \text{------------------------ (3)}
\]

Therefore, in the world of perfect competition and constant return to scale: \( \beta_1 + \beta_2 + \beta_3 = 1 \), these elasticity coefficients can be interpreted as respective factor shares in total output. Equation three (3) is a fundamental growth accounting equation.

Where \( u_t \) is an error term.

However, since the study out to investigate the impact of foreign trade on economic growth, therefore, when other factors are held constant, the model can be specified as:

\[
Y = A_0 + \beta_3 T_3 + u_t \text{------------------------ (4)}
\]

If \( T_3 \) is foreign trade and is disaggregated into its component, i.e. export, import, exchange rate, foreign direct investment and openness of the economy:
βₐT = β₁EX + β₂IMP + β₃EXR + β₄FDI + β₅OPEN + U₁ ................................. (5)
Substitute equation 5 into equation 4.

\[ \Delta GDP_t = \beta_1 + \beta_2 \sum_{i=1}^{n} EP_{t-i} + \beta_3 \sum_{i=1}^{n} IMP_{t-i} + \beta_4 \sum_{i=1}^{n} EXR_{t-i} + \beta_5 \sum_{i=1}^{n} FDI_{t-i} + \beta_6 \sum_{i=1}^{n} OPEN_{t-i} + \varepsilon_t \]

where \( \varepsilon_t \) is Error term.

Sources of Data
This research work will rely on secondary sources of data. The annual time series data from 1985 to 2013 used in this study were obtained from Statistical Bulletin and Annual Report and Statement of Accounts of the Central Bank of Nigeria as well as the Annual Abstracts of statistics (various issues) published by the National Bureau of Statistics (NBS).

Method of Data Analysis:
The method of data analysis employed in this study is both descriptive and analytical. The descriptive tools include the use of graphs, tables and percentages. The analytical tool used the contemporary co-integration and Error Correction Mechanism (ECM) of data analysis. This is premised on the fact that if the variable are non-stationary, the desirable properties of efficiency, consistency and un-biasness will be lost if Ordinary Least Square (OLS) regression techniques used in the estimation of the equation.

RESULTS AND DISCUSSION
Using the data from the period 1985-2013, we regressed and analyses the result of the model which was specified using E-View 7.1 computer software package. We ran a regression for the model to test the stationarity and determine the relationship between foreign trade and Nigeria’s economic growth. The results of the estimation are presented below in the sub sections.

Unit Root Test:
Granger and Newbold (1974), and Granger (1986) have demonstrated that if time series variables are non-stationary, all regression results will differ from the conventional theory of regression coefficient and will therefore be spurious and misleading. To get over this problem, we tested for stationarity of the time series data. The Augmented Dickey Fuller (ADF) test was used to investigate whether variables used in this study have a unit root or not.

The hypotheses tested with ADF were:
Null hypothesis: Variables contains unit root and hence is non-stationary.
Alternative hypothesis: Variables does not contain unit root and hence is stationary.

The unit root test in Table 1 shows that openness of the economy, volume of import, export, gross domestic product and foreign direct investment are stationary at first difference 1(1), since the ADF value of each of the variables at first difference is greater than the McKinnon 5% critical values, while exchange rate is stationary at level because the ADF value of the variable at level is greater than the McKinnon 5% critical values.

Table 1: Results of Augmented Dickey Fuller (ADF) Unit Root Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF calculated value in Level</th>
<th>ADF calculated at 1st Difference</th>
<th>McKinnon 5% Critical value</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOPEN</td>
<td>-2.7705</td>
<td>-8.4027*</td>
<td>-2.9798</td>
<td>1(1)</td>
</tr>
<tr>
<td>LIMP</td>
<td>-1.7720</td>
<td>-7.74900*</td>
<td>-2.9798</td>
<td>1(1)</td>
</tr>
<tr>
<td>LEX</td>
<td>-1.5933</td>
<td>-6.2278*</td>
<td>-2.9798</td>
<td>1(1)</td>
</tr>
<tr>
<td>LFDI</td>
<td>-1.3367</td>
<td>-4.1367*</td>
<td>-2.9798</td>
<td>1(1)</td>
</tr>
<tr>
<td>LGDP</td>
<td>-1.7555</td>
<td>-4.8132*</td>
<td>-2.9798</td>
<td>1(1)</td>
</tr>
<tr>
<td>LEXR</td>
<td>-3.2033</td>
<td>-</td>
<td>-2.9750</td>
<td>1(0)</td>
</tr>
</tbody>
</table>

Source: Author’s Regression Result.

* Significant at 5 per cent.
Co-integration Test

Since the unit root test shows that the variables are stationary at level 1(0) and first order difference 1(1), we therefore test for co-integration among these variables by employing the Johansen cointegration test. The result of the test is shown in table 2 below.

Table 2. Summary Of Johansen Co-Integration Test Model One

<table>
<thead>
<tr>
<th>Eigenvalue</th>
<th>Likelihood Ratio</th>
<th>5 Percent Critical Value</th>
<th>1 Percent Critical Value</th>
<th>Hypothesized No. of CE(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.967975</td>
<td>140.6347</td>
<td>68.52</td>
<td>76.07</td>
<td>None **</td>
</tr>
<tr>
<td>0.683421</td>
<td>51.16277</td>
<td>47.21</td>
<td>54.46</td>
<td>At most 1 *</td>
</tr>
<tr>
<td>0.337198</td>
<td>21.25803</td>
<td>29.68</td>
<td>35.65</td>
<td>At most 2</td>
</tr>
<tr>
<td>0.294620</td>
<td>10.56476</td>
<td>15.41</td>
<td>20.04</td>
<td>At most 3</td>
</tr>
<tr>
<td>0.055707</td>
<td>1.490291</td>
<td>3.76</td>
<td>6.65</td>
<td>At most 4</td>
</tr>
</tbody>
</table>

(*** denotes rejection of the hypothesis at 5%(1%) significance level)

L.R. test indicates 2 co-integrating equation(s) at 5% significance level.

The result in table 4.3 shows that there exist three (2) co-integrating equations at 5% level of significance. This is because the likelihood ratio is greater than critical values at 5%. This shows that there is long run relationship between Nigeria economic growth and foreign trade variables. The result indicates that, in the long run; the dependent variables can be efficiently predicted using the specified independent variables.

Analysis of the Model

Given the fact that the variables of the equations are co-integrated, the next step is the estimation of the short-run dynamics within the vector error correction model. In order to capture the speed of adjustment to equilibrium in case of any shock to independent variables. The result obtained from the parsimonious estimation of the equation is present as follows.

Table 3: Error Correction Model Regression Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std Error</th>
<th>T Statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.1089</td>
<td>0.3343</td>
<td>3.3173</td>
<td>0.0031</td>
</tr>
<tr>
<td>DLEX</td>
<td>0.6156</td>
<td>0.1502</td>
<td>4.0980</td>
<td>0.0005</td>
</tr>
<tr>
<td>DLEXR</td>
<td>0.0577</td>
<td>0.0842</td>
<td>0.6848</td>
<td>0.5006</td>
</tr>
<tr>
<td>DLDI</td>
<td>0.3286</td>
<td>0.1190</td>
<td>2.7623</td>
<td>0.0114</td>
</tr>
<tr>
<td>DLOPEN</td>
<td>0.2729</td>
<td>0.0699</td>
<td>3.9007</td>
<td>0.0010</td>
</tr>
<tr>
<td>DLIMP</td>
<td>-0.0755</td>
<td>0.1812</td>
<td>-0.41655</td>
<td>0.6810</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-0.5791</td>
<td>0.1104</td>
<td>-5.2467</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.7929 \]
\[ R^2 = 0.7112 \]
\[ F-Statistic = 61.6200 \]
\[ Prob (F-statistic) = 0.0000 \]

DW statistic  = 1.8659

**Sources:** Authors regression result.

From the parsimonious error correction model shown in table 3 above, the coefficient of determination \(R^2\) value of 0.7929 implies that 79 per cent of the total variation in economic growth is explained by changes in the endogenous variables. Subsequently, 21 per cent is unexplained due to error term. While the adjusted coefficient of determination \(R^2\)
Value of 0.7112 implies that 71 per cent of the total variation in economic growth is explained by changes in the endogenous variables when the coefficient of determination is adjusted for degree of freedom.

The F-Statistic is highly significant at 5% level of significance with the pro-value of 0.0000. This is further strengthened by a high F-ratio of 61.6200 which is greater than the critical value of 2.66, and thus we can say that the model has a high goodness of fit. The Durbin Watson Statistic of 1.8659 indicates absence of autocorrelation in the estimated model. This is in line with the assumption of non-autocorrelation of the error term in the ordinary least square method of regression. The coefficients of the different explanatory variables are explained as follows:

The coefficient of export (LDEX) is positively signed which indicates that a direct relationship exist between export and Nigeria economic growth. This is consistent with the apriori expectation. The coefficient of the variable is 0.6156 which implies that 1 percent increase in LDEX will lead to 0.6156 per cent increase in economic growth when other regressors are held constant. The coefficient of the variable is statistically significance at 5 percent level of significance with a probability value of 0.0005 and a T-Value 4.0980 which is greater than the critical value 2.093. Thus, the alternate hypothesis is accepted, that export has a significant impact on Nigeria economic growth. The significant of this variable attributed to the various policies put in place by monetary authority to induce the growth of the Nigeria export sector and the diversification of the economy.

The coefficient of exchange rate (DLIMP) is negatively signed, which shows that the coefficient of ECM is negative. The coefficient is -0.0755, which implies that 1 percent decrease in economic growth during the study period when other factors are held constant. The coefficient of the variable is statistically insignificant with a probability value of 0.0000 and T-Value 0.0755 which is less than the critical value of 2.093. Thus, we reject the null hypothesis that exchange rate has no significant impact on Nigeria economic growth. The insignificant of this variable, means that depredation of Nigeria currency has no robust effect on her economic performance.

The coefficient of foreign direct investment (DLFDI) is positively signed. This shows that the variable has a direct relationship with economic growth. The coefficient of the variable is 0.3286 which imply that 1 per cent increase in DLFDI will lead to 0.3286 per cent increase in economic growth. The variable is statistically significant at 5 per cent level of significance. It has a probability value of 0.0114 and T-Value 2.7623, which is greater than the critical value of 2.093. Thus, we reject the null hypotheses that DLFDI has no significant impact on the Nigeria Economic growth in the short run.

The coefficient openness of the economy (DLOPEN) is positively signed. This shows that the variable has direct relationship with economic growth. The value of the coefficient is 0.6156 which imply that 1 per cent increase in DLOPEN will lead to 0.6156 per cent increase in economic growth. The coefficient of the variable is statistically significance at 5 percent level of significance. It has a probability value of 0.0006 and T-Value 4.0980 which is greater than the critical value 2.093. Thus, we reject the alternate hypotheses that openness of the economy has a significant impact on Nigeria Economic growth in the short run. This also indicates that a well managed open economy which allows free flow of international trade has the potential to grow the Nigerian economy.

The coefficient of import is negatively signed, indicating that there is an inverse relationship between DLIMP and economic growth. This is consistent with the apriori expectation. With a coefficient of value -0.0755, which implies that 1 per cent increase in DLIMP will lead to 0.0755 per cent decrease in economic growth during the study period when other factors are held constant. The coefficient of the variable is also statistically insignificant, with a probability value of 0.8100 and T-Value 0.4166 which is less than the critical value of 2.093. With this, we reject the alternative hypothesis that import has a significant impact on Nigeria economic growth.

The result from table 3 shows that the coefficient of ECM is negative -0.5791 and significant at 5 percent critical level. This shows that about 58 percent disequilibria in the economic growth in the previous year are corrected for in the current year. The significance of the ECM is an indication and a confirmation of the existence of a long run equilibrium relationship between economic growth and foreign trade variables used in this study. The robustness of the error correction method further buttresses that only 58 percent is corrected in the previous year. This means that international trade indicators had the tendency to induce Nigeria economic growth during the study period.

CONCLUSION AND RECOMMENDATION

The main thrust of this study is to examine the impact of international trade on Nigeria economic growth. This study employs empirical analysis in examining the effect of international trade variables (openness of the economy, volume of import, export, foreign direct investment and exchange rate) on Nigeria economic growth using data from 1985 to 2013. The ADF test was employed in testing the stationarity of the variables and the result reveal that that openness of the economy, volume of import, export, gross domestic product and foreign direct investment are stationary at first difference 1(1) while exchange rate is stationary at level 1 (0).

The Johansen co-integration result test reveals that Nigeria economic growth is co-integrated with openness of the economy, volume of import, export, foreign direct investment and exchange rate. This is an indication that, there is tendency for the variable to be equilibrium on the long run. The findings from regression result shows that export, foreign direct investment and openness of the economy has direct and significant impact on Nigeria economic growth also exchange rate has direct but insignificant impact on Nigeria economic growth while volume of import has inverse and insignificant impact on the Nigerian economy. From our findings, we therefore conclude that foreign trade variables of
export, foreign direct investment and openness of the economy have the tendency to improve and sustained the nation economic performance and stabilised the country trade with other nations of the world.

We therefore, recommended that efforts must be made to manage short run volatility in exchange rate through effective exchange rate management policy, Nigerians should restrain from excessive importation of goods and services since importation have adverse effect on Nigeria economic growth and Government should ensure that adequate macroeconomic policies that will open up the economy and are put in place to encourage foreign direct investment inflow and expand Nigeria exportation of goods and services for the established international market because exports are a driver of economic growth.

REFERENCES


