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# International Trade and Performance of the Nigerian Economy (1990-2017): A Causality Investigation

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**Abstract**
The study investigated the relationship between international trade and performance of the Nigerian economy; for the period (1990-2017). Secondary data were used and collected from the Central Bank of Nigeria Statistical Bulletin. The study used Gross Domestic Product (GDP) and was employed as the dependent variable to measure the performance of the Nigerian economy; whereas, Import Trade, Export Trade and Trade Openness were also employed as the independent variables to measure international trade.Time series econometrics techniques were used to test the formulatedhypotheses. The result revealed that the variables do not have unit roots. There is also a long-run equilibrium relationship between international trade and performance of the Nigerian economy. The result confirmed that about 68% short-run adjustment speed from long-run disequilibrium. The study revealed that there is a causal relationship between international trade and performance of the Nigerian economy. The coefficient of determination indicated that about 62% of the variations of performance of Nigerian economy can be explained by changes in international trade variables.The study concluded that international trade had a causal relationship withperformance of the Nigerian economy.The study recommended that Government policies should be directed towards lifting trade barriers from local output.Government should embrace economic diversification in order to addressed the issue of monoculture export syndrome. Government should ensure political and economic stability so as to encourage investment, both local and foreign and guarantee business survival. Non-oil sector exports should be encouraged that will add value to the growth and development of the Nigerian economy.
**Keywords:** International trade, performance, Nigerian, economy. causality, approach

## Introduction

The importance of international finance and growth relationship had occupied central position in the financial economics literature in recent decades (Andabai, 2016). International trade and performance of the economy nexushad been identified as one of the areas in the financial economics literature that can quicken the pace of growth and development in an economy such as Nigeria. Hence, the role of international trade in promoting industrialization and economic development cannot be overemphasized. This is because foreign trade provides a veritable platform for industrial development by making inputs available for domestic production, particularly in developing economies including Nigeria where production activities heavily depend on imported inputs. The work of Omoju and Adesanya (2012) revealed that foreign trade increases market frontiers for domestic industrial output (exports); thus, leading to increased investment, employment, output and income. Foreign trade increases production possibility frontiers and expands the scope of consumption of the people in the economy (Adewuyi&Adeoye, 2008).International trade allows for the exchange of goods and services relationship among countries irrespective of their level of economic development. Thus, a country involved in international trade need not have fear of loss of its sovereignty; because, it is a mutual agreement to engage in trade across international frontiers. Consequently, a nation not engaging in international trade is at risk of a slow pace of growth and development.

## Theoretical Framework

The theoretical framework of this study is predicated on the mercantilist theoryThe theory provided the earlier idea on foreign trade. The doctrine was made up of many features. It was highly nationalistic and considered the welfare of the nation as prime importance. The theory stated that the most important way for a nation to be become rich and powerful is to export more than its import. Some of the mercantilism are Jean Baptiste Colbert and Thomas Hobbes. It was understood then that the most important way a country could be rich was by acquiring precious metals such as gold. This was achieved by ensuring that the volume of export was better than the volume of import.Trade has to be controlled, regulated and restricted. A country expected to achieve

 

favourable balance of payment. Tariffs, quotas and other commercial policies were proposed by the mercantilism to minimize imports in order to protect a nation's trade position. Mercantilism did not favour free trade. Mercantilism belief in a word of conflict in which the state of nature was a state of war. The need for regulation to maintain order in human affairs and economic affairs were taking for granted. To the mercantilist, the world wealth was fixed. A nation's gain from trade was at the expense of its trading partners that are, not all nationa could simultaneously benefit from trade.Towards the end of 18th century, the economic policies of mercantilism came under strong attack. David Hume criticized the favourable trade balance as being short run phenomenon which could be eliminated automatically overtime. The other nation is likely to retaliate. Mercantilism was also attack for their static view of the world economy.

**Empirical Review**

Oviemuno (2007) looked at international trade as an engine for growth in developing countries taking Nigeria (1960-2003) a case study.The study uses four important variables, which are export, import, inflation and exchange rate. The findings show that Nigeria's export value does not act as an engine for growth in Nigeria, Nigeria's import value does not act as an engine for growth in Nigeria and that Nigeria's inflation rate does not act as an engine for growth in Nigeria.

Omoju and Adesanya (2012) examined the impact of trade on economic growth in Nigeria using data from 1980 to 2010. Adopting Ordinary Least Square (OLS) technique, the study showed that trade, foreign direct investment, government expenditure and exchange rate have a significant positive impact on economic growth.

Emeka, Frederick and Peter (2012) evaluated the role of trade on Nigeria's economy for the period 1970 to 2008. By applying a combination of bi-variate and multivariate models, the relationships between the selected macroeconomic variables was estimated. The findings indicated that exports and foreign direct investment inflows have positive and significant impact on economic growth. The study suggested that there should be an effective exports and fiscal policies, towards a greater diversification of non-oil exports by the Nigerian government in order to attain the desired growth prospects of external trade.

Adenugba and Dipo (2013) evaluated the performance of non-oil exports in the economic growth of Nigeria from 1981 to 2010. Findings revealed that non-oil exports have performed below expectations; hence. They pointed out that the economy is still far from diversifying from crude oil exports and as such the crude oil sub-sector continues to be the single most important sector of the economy.

Chimobi (2010) investigated the causal relationship among financial development, trade openness and economic growth in Nigeria and discovered that trade openness and financial developments have causal impact on economic growth in Nigeria. Conversely, growth has causal impact on trade and financial development, implying support for growth-led trade but no support for trade-led growth. Georgios (2003) investigated the effect of trade openness and growth using two panel data set: one of 56 countries covering the period 1951–1998, and another of 105 countries over 1960 – 1997. The results show that the effect of trade openness on economic growth is positive, permanent, statistically significant, and economically sizable. Thus, he added that developing countries benefit more from increased openness than developed ones because technology is transferred from developed to developing economies.

Gilbert (2004) investigated trade openness policy, quality of institutions and economic growth in 102 countries employing panel data in endogenous growth model. His results show that trade policy is associated to the natural openness constitute significant parameter to gain high economic growth rate. In other words, the global openness depending on the natural endowments and economic policies are good to reach high growth rate. He found that in sub-Saharan Africa, in any country where openness has no significant impact on economic growth is as a result of low institutional quality (that is corruption). Thus, openness and good governance are required for improved economic growth. Peter and Olivier (2006) investigated the impact of trade and diversification on growth in Nigeria. Their results show that in 2004, the share in GDP of imports plus exports of goods and services amounted to 86 percent in Nigeria. They found that Nigeria has enjoyed a sizable current account surplus in recent years, which according to Central Bank statistics amounted to more than 20 percent of GDP in 2004. They concluded that the impact of trade policy on productivity and investment is critical, and greater openness is generally associated with higher productivity, larger investment, and stronger growth.

**Methodology**

The study applied *ex-post-facto* research design which seeks to establish the cause-effect relationship; and, the variables of interest are not under the control of the researcher and therefore cannot be manipulated.Secondary

 

data were used and sourced from the Central Bank of Nigeria Statistical Bulletin,1990-2017.The rationale of selecting this period is because of the problem of availability of data. The study used Gross Domestic Product (GDP) and was employed as the dependent variable to measure performance of the Nigerian economy; whereas, Import Trade, Export Trade and Trade Openness were also employed as the explanatory variables to measure international trade as indicated in **appendix 1.**

**Model Specification**

This study employs the multiple regression analysis technique to show the nexus that exists on the variables:(i) There is no positive significant long-run equilibrium relationship between international trade and Gross Domestic Product in Nigeria; (ii) There is no causality between international trade and Gross Domestic Product in Nigeria. Based on the hypotheses formulated, a model is adopted from the study conducted by Adenugba&Dipo (2013). The functional model is stated as: GDP = *f*(IMT, EXT), GDP= Gross Domestic Product as proxy for economic growth, IMT = Import Trade, EXT= Export Trade

The above model is modified in this study by introducing trade openness and employed as independent variable. Hence, the modified model was stated as:

GDP = *f*(IMT, EXT, TOS )……..(i)

Thus, the equation form is as follows:

$Ln(GDP)= \delta_0 + Ln\delta_1 IMT + Ln\delta_2 EXT + Ln\delta_3 TOS + \mu$ ……(ii)

Where, GDP = Gross Domestic Product as proxy for performance of the Nigerian economy, IMT = Import Trade, EXT= Export Trade, TOS= Trade Openness, $\delta_0$,$\delta_1$, $\delta_2$ and $\delta_3$are parameters or coefficient of the model, $\mu$ = the stochastic variable, $\delta_0$ = intercept and $\delta_1$, $\delta_2$ and $\delta_3$ are the coefficients of the regression equation. $\mu$ is the stochastic or error term; while, Ln is the natural log of the variables. Log transformation is necessary to reduce the problem of heteroskedasticity; because, it compresses the scale in which the variables are measured, thereby reducing a tenfold difference between two values to a twofold difference (Gujarati, 2004)

**Discussion of Results**

The tests for stationary of the variables were done using the Augmented Dicker Fuller (ADF) Unit Root Test. The result in **table 1** shows that all the variables are integrated at levels i.e. 1(1) at the 5% or 1% level of significance.

**Table 1**: Unit Root Tests Analysis

| Variables | ADF test Statistics | Mackinnon critical vale @ 5% | No of the time difference | Remark |
|---|---|---|---|---|
| GDP | 5.6973875 | -3.046581 | 1(1) | Stationary |
| IMT | -6.2153784 | -6.089365 | 1(1) | Stationary |
| EXT | -2.3784942 | 3.004658 | 1(1) | Stationary |
| TOS | 6.7465372 | -2.967585 | 1(1) | Stationary |

**Notes:** (1)1% level of significance, 5% level of significance, 10% level of significance.

(2) The tests accepted at 5% level of significance.

(3) Decision rule -The critical value should be larger than the test statistical value for unit root to exist.

**Source:** Researcher's Estimation using- E-views 8.0

**Test for Co-Integration**

Having found that all the variables are stationary at first difference, the next step is to perform Johansen co-integration procedure to ascertain whether Gross Domestic Product (GDP), international trade variables, import trade (IMT), export trade (EXT) and Trade openness (TOS) are co-integrated in the same order. The results of the test are presented in table **2.**

**Table 2:** Multivariate Johansen's Co-integrationTest Result.

| Null hypothesis | Alternative hypothesis | Eigen value | Likelihood ratio | Critical vales 5% | Critical value 1% | Hypothesized No. of CE(s) |
|---|---|---|---|---|---|---|
| r=0 | r=1 | 0.64789 | 86.07538 | 48.31 | 47.43 | None ** |
| rd≤1 | r=2 | 0.52563 | 73.43763 | 45.42 | 32.62 | At most 1 |
| rd≤2 | r=3 | 0.43786 | 68.56387 | 24.36 | 27.31 | At most 2 |
| rd≤3 | r=4 | 0.38764 | 19.08797 | 16.87 | 14.43 | At most 3 |

**Source:**Researcher's Estimation using- E-views 8.0.Note:*(**) denotes rejection of hypothesis at 5% (1%) significance level.

 

**Vector Error Correction Model**

The existence of long-run co-integrating equilibrium provides for short-run fluctuations, in order to straighten out or absolve these fluctuations, an attempt was made to apply the Error Correction model (ECM) (Ibenta, 2012).

**Table 3:** Vector Error Correction Estimates

| Variables | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| (ECM(-1) | -0.6813476 | -0.423205 | 0.000771 | -0.010008 |
| $D(GDP_{-1})$ | 1.7345701 | 6.960191 | 0.000092 | 0.000123 |
| $D(GDP_{-2})$ | 1.3436699 | -0.641147 | -1.00007 | 0.000245 |
| IMT | 7.63455934 | 0.986368 | -4.00076 | 0.013011 |
| EXT | 9.4234039 | 0.243352 | 0.000000 | 0.242409 |
| TOS | 7.2503985 | 0.468375 | 0.000653 | 0.000086 |
| C | 6.2566378 | -2.201398 | 0.000061 | 0.000780 |
| R-squared | 0.601087 | Mean dependent var | | 0.000780 |
| Adjusted R-squared | 0.582538 | S.D. dependent var | | 54.86846 |
| S.E. of regression | 3.635216 | Akaike info criterion | | 5.023003 |
| R-correlation | 0.781546 | Schwarz criterion | | 5.646215 |
| Log likelihood | -122.1856 | F – statistic | | 5.546330 |
| Durbin-Watson stat | 1.897639 | Prob (F-statistic) | | 0.000000 |

**Source**: Researcher's Estimation using- E-views 8.0

The result from table 3 shows that error-correction coefficient is statistically significant and has a negative sign, which confirms a necessary condition for the variables to be co-integrated. There is also a long-run equilibrium relationship between international trade and performance of the Nigerian economy. The result confirms that about 68% short-run adjustment speed from long-run disequilibrium. The study reveals that there is a causal relationship between international tradeand performance of the Nigerian economy. The coefficient of correlation is R = 0.781546 (78%), this means that the international trade and economic performance in Nigeria are related and the relationship is strong and positive. Hence, the positive relationship means that an increase in international trade will lead to an increase in the performance of Nigerian economy and vice versa. The coefficient of determination indicates that about 62% of the variations in performance of the Nigerian economy can be explained by changes in the international trade variables (IMT, EXT and TOS) in the economy. This implies that a good portion of economic performance trends in the Nigerian economy is explained by the international trade variables.The F-statistics of 5.54633 which is statistically significant (F-probability = 0.00000) at 5% confirm the relationship between international trade and performance of the Nigerian economy. The influence of the explanatory variables on the dependent variable is statistically significant and this is also confirmed by the F-probability. Finally, the value of Durbin–Watson (DW) signifies the absence of autocorrelation.

**Granger Causality Analysis**

Granger causality test is used to examine the causal direction; that is, which of the variables (dependent and independent variable) influences the relationship between them (Ibenta, 2012).

**Table 4:** Result of Pairwise Granger-Causality Test (1990-2017) with 2-period Lag length

| Null Hypothesis: | Obs | F-Statistic | Probability | Decision |
|---|---|---|---|---|
| IMT does not Granger Cause GDP | 26 | 5.75348 | 0.00019 | Causality |
| GDP does not Granger Cause IMT | | 4.04675 | 0.00000 | Causality |
| EXT does not Granger Cause GDP | 26 | 3.24167 | 0.00010 | Causality |
| GDP does not Granger Cause EXT | | 4.85362 | 0.00114 | Causality |
| TOS does not Granger Cause GDP | 26 | 6.43988 | 0.00003 | Causality |
| GDP does not Granger Cause TOS | | 3.72839 | 0.00362 | Causality |
| EXT does not Granger Cause IMT | 26 | 6.27802 | 0.01006 | Causality |
| IMT does not Granger Cause EXT | | 4.68740 | 0.00212 | Causality |
| TOS does not Granger Cause EXT | 26 | 8.05372 | 0.00074 | Causality |
| EXT does not Granger Cause TOS | | 6.17693 | 0.00943 | Causality |
| TOS does not Granger Cause IMT | 26 | 7.58739 | 0.00024 | Causality |
| IMT does not Granger Cause TOS | | 4.10748 | 0.00011 | Causality |

**Source**: Researcher's Estimation using- E-views 8.0.**Note**:The decision rule of

 

a causality test states that if the probability value of the estimate is higher than 5% (0.05) level of significance, we accept the null hypothesis, and vice versa.

To determine the direction of causality between the variables, the Engle and Granger (1987) causality test was performed on the variables as indicated in **table 4.** The results of the Granger causality test indicate that performance of the Nigerian economy (GDP) has causality with IMT (import trade), EXT (export trade) and TOS (trade openness). This implies that there is causal relationship between international trade variables and performance of the Nigerian economy.

**Conclusion and Recommendations**

The study concludes that international tradehas a direct causal relationship with the performance of the Nigerian economy.The study recommends that Promotion of exports within the context of sub-regional and regional economic integration should be vigorously pursued to expand Nigerian international market and the importation policy of the government should adhere to in order to control dumping and to encourage the local investors. Monetary authority of the country should maintain a double digit inflation and interest rate for now to motivate foreign investors and the commercial banks until development level of Nigeria economy reach a significant level where both inflation and interest rate can be reduced to single digit or zero free. Excise duties should be lowered so as to encourage local industries to export their goods and services. Only the importation of capital goods that are essential should be encourages, since not all importation is necessary for economic growth. The economy also has to fight seriously against the monoculture export syndrome.Government should ensure political and economic stability so as to encourage investment.

**Contribution to Knowledge**

The study was able to modified the model and expanded the existing contemporary literature, empirical review, geographical spreads and updated the data of the study that will enable researchers and scholars to use it for further studies. Thus, from the results this study has also contributed to knowledge by discovering that Nigerian economy has a direct causal relationship with international trade.The factor responsible for this can be traceable to stability in the prices of crude oil in the international market.

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**Appendix 1: International Trade and Performance of the Nigerian Economy (1990-2017)**

| Year | Import Trade (N' Billion) | Export Trade(N' Billion) | Trade Openness(N' Billion) | GDP at Current Market Price(N' Billion) |
|---|---|---|---|---|
| 1988 | 21.4 | 31.2 | 19.98 | 263.29 |
| 1989 | 30.9 | 58.0 | 23.23 | 382.26 |
| 1990 | 45.7 | 109.9 | 32.92 | 472.65 |
| 1991 | 89.5 | 121.5 | 38.67 | 545.67 |
| 1992 | 143.2 | 205.6 | 39.85 | 875.34 |
| 1993 | 165.6 | 218.8 | 35.28 | 1,089.68 |
| 1994 | 162.8 | 206.1 | 26.35 | 1,399.70 |
| 1995 | 755.1 | 950.7 | 58.67 | 2,907.36 |
| 1996 | 562.6 | 1,309.5 | 46.43 | 4,032.30 |
| 1997 | 845.7 | 1,241.7 | 49.83 | 4,189.25 |
| 1998 | 837.4 | 751.9 | 39.84 | 3,989.45 |
| 1999 | 862.5 | 1,189.0 | 43.84 | 4,679.21 |
| 2000 | 985.0 | 1,945.7 | 43.65 | 6,713.57 |
| 2001 | 1,358.2 | 1,868.0 | 46.79 | 6,895.20 |
| 2002 | 1,512.7 | 1,744.2 | 41.78 | 7,795.76 |
| 2003 | 2,080.2 | 3,087.9 | 52.13 | 9,913.52 |
| 2004 | 1,987.0 | 4,602.8 | 57.75 | 11,411.07 |
| 2005 | 2,800.9 | 7,246.5 | 68.77 | 14,610.88 |
| 2006 | 3,108.5 | 7,324.7 | 56.20 | 18,564.59 |
| 2007 | 3,912.0 | 8,309.8 | 59.16 | 20,657.32 |
| 2008 | 5,593.2 | 10,387.7 | 65.77 | 24,296.33 |
| 2009 | 5,480.7 | 8,606.3 | 56.82 | 24,794.24 |
| 2010 | 8,164.0 | 12,011.5 | 36.94 | 54,612.26 |
| 2011 | 10,995.9 | 15,236.7 | 41.65 | 62,980.40 |
| 2012 | 9,766.6 | 15,139.3 | 34.73 | 71,713.94 |
| 2013 | 9,439.4 | 15,262.0 | 30.84 | 80,092.56 |
| 2014 | 10,538.8 | 12,960.5 | 26.39 | 89,043.62 |
| 2015 | 11,076.1 | 8,845.2 | 21.16 | 94,144.96 |
| 2016 | 11,613.4 | 4,729.9 | 17.67 | 92,488.01 |
| 2017 | 1o,356.3 | 4,340.2 | 18.45 | 91,253.93 |

**Source:** Central Bank Nigeria Statistical Bulletin, 2017.