

## THE IMPACT OF INTERNATIONAL TRADE ON ECONOMIC GROWTH IN NIGERIA: 1981 – 2012

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### ABSTRACT

There has been a long held belief that there is a positive relationship between economic growth and increased levels of international trade. Therefore, this paper has empirically examined the impact of international trade on economic growth in Nigeria for the period 1981 to 2012. Using degree of openness to proxy international trade, the ordinary least squares technique was employed to estimate the impact of international trade on Gross Domestic Product. The broad objective of this paper is to analyze the impact of international trade on economic growth in Nigeria based on time series data on variables considered relevant indicators of economic growth and international trade. The analysis was based on data extracted from World Bank data and Central Bank of Nigeria Statistical Bulletin. The result of the analysis shows that all the variables except interest rate were statistically significant. Therefore, the study recommends that policy makers should adopt policies on trade liberalization such as reduction of non-tariff barriers, reducing tariffs, reducing or eliminating quotas that will enable the economy to grow at spectacular rates. And thus this study supports the proposition that degree of openness has direct robust relationship with economic growth since the proxy variable is positive and statistically significant in the model.

**Keywords:** International Trade, Economic Growth, Ordinary Least Square, Degree of Openness.

### INTRODUCTION

International trade is the exchange of capital, goods and services across the international borders or territories. In most countries such trade represents a significant share of Gross Domestic Product (GDP). Therefore, international trade has been an area of interest to policy makers as well as economists. It enables nations to sell their domestically produced good to other countries of the world (Adewuyi, 2002). International trade has been regarded as an engine of growth, which leads to steady improvement in human status by expanding the range of people's standard and preferences (Adewuyi, 2002). Since no country has grown without trade, international trade plays a vital role in restructuring economic and social attributes of countries around the world, particularly, the less developed countries. Furthermore, over the years, development economists have long recognized 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.

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 (Ezike et al, 2011). 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.

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. Furthermore, 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: i. Does international trade stimulates economic growth in Nigeria? ii. Do trade policies have impact on international trade 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.

## **LITERATURE REVIEW**

The term international trade has been defined as trade across the frontiers; that is, with the rest of the world. It has been argued that it plays a prominent role in promoting economic growth and productivity in particular, and these debates have been ongoing since several decades ago. Furthermore, it has been revealed that internationally active countries tend to be more productive than countries which only produce for the domestic market. As a result of liberalization and globalization a country's economy has become much more closely associated with external factors such as openness. The benefit of international trade for economic growth and development are difficult to understate. Imports bring additional competition and variety to domestic markets, benefiting consumers; and exports enlarge markets for domestic production, benefiting business. Trade exposes domestic firms to the best practices of foreign firms and to the demand of discerning customers, encouraging greater efficiency. Trade gives firms access to improved capital inputs such as machine tools, boosting productivity and providing new opportunities for growth to developing countries. International trade deals with the economic and financial interdependences among nations; international trade is part of our daily life, and international trade plays a vital role in shaping

economic and social performance and prospects of countries around the world, especially those of developing countries. No country has grown without trade. However, the contribution of international trade to economic growth depends on a great deal on the context in which it works and the objective it serves.

The impact of international trade on economic growth in Nigeria has generated large volume of empirical studies with mixed findings using cross sectional, time series and panel data. International trade is generally believed to be positively related with growth (Adam Smith, 1776). This idea prevailed until World War II. More precisely, it is held that appropriate trade policies in particular circumstances can be used to stimulate economic growth and development. Therefore, this section of the study seeks to review relevant empirical studies that have examined the impact of international trade in the actualization of sustainable growth and development.

However, differing opinion have indeed continued to emerge on how international trade can affect economic activities. The genesis of these controversies has been traced to the theoretical exposition of Adam Smith and David Ricardo. Adam Smith first described the principle of absolute advantage in the context of international trade, using labor as the only input, since absolute advantage is determined by a simple comparison of labour productivities; it is possible for a party to have no absolute advantage in anything, in that case, according to the theory of absolute advantage, no trade will occur with the other party. The principle of absolute advantage is the ability of a party (an individual, or firm, or country) to produce more of a good product or service than competitors, using the same amount of resources. David Ricardo was opposed to tariffs and other restrictions on international trade. Ricardo devised an idea that is well known as the theory of comparative advantage Henderson 827 (1993), Fesfeid 325 (1990).

In addition to the controversies among the different schools of thought on the possible linkage between international trade and economic growth, efforts have been made by researchers to authenticate or refute the arguments of these prominent schools of thought. Khan and Zahler (1985) assert that trade can promote growth from supply side, but, if the balance of payments worsens due to fall in price in countries tradable growth rate may be adversely affected from the demand side because the payment deficit resulting from liberalization on sustainable growth rate cannot be easily corrected by relative price of non-tradable or real exchange rate adjustments.

Rodrick (1998) asserts that growth performance of those Asian countries that gained from open trade can be attributed to how they managed key macroeconomic shocks rather than trade policy alone. Rodriquez and Rodrick (2000) argued that trade policy does affect the volume of trade, but there is no strong reason to expect the effect of growth to be quantitatively similar to the consequences of change in trade volumes that arise as reductions in transport cause or increases in world demand. Trade restrictions should represent policy responses to real or perceived market imperfections or are used as mechanism for rent extraction. They believed that trade policy works differently from natural or geographical barriers to trade and other exogenous determinants. In other stimulating study, Weisbrot and Baker (2002) argued that trade may not be the only key to rapid economic growth and development. They noted that the success of some countries that experienced accelerated growth did not follow simple path to trade liberalization because the government directs the economy through the use of subsidies. However, there are many arguments as regards trade and growth; one suggests that international trade improves resources allocation in the short

run or raises growth rate permanently. There are other arguments that suggest the contrary. Shafaeddin (2005) posits that trade is necessary when an industry reaches a certain level of maturity provided it is undertaken gradually and selectively.

In addition, the policy is often implemented along with the devaluation of currency in order to make the exports of the devaluation country's export cheaper and is of good quality it tends to sell more internationally there by encouraging growth and development Agbeyegbe (2006), Wolde Mariam (2006), and Obadan (2006). The ultimate aim is to remove taxes on exports which will encourage further exportation of goods and services that will further encourage growth and development, restriction on imports and reduction of imports tariffs. Sachs and Warner (1995) using cross-country growth model argued that trade liberalization leads to higher growth rates in poorer countries than in richer countries. In support of this, Ajayi (2003) reports that the removal of barriers to trade has increased the flow of trade by 16 percent fold in the last 50 years, with the world exports of goods and services almost tripled in real terms between 1970 and year 2000. However, the share of developing countries or third world countries contribution to world trade is still very low because their exports are predominantly primary products which do not contribute much to GDP of such countries compared to trade on manufactured or finished goods. Greenway, Morgan and Write (2002) having carried an empirical study on the impact of international trade on 70 developing countries found a significant positive relationship between trade and economic growth, i.e., international trade is a bedrock for economic growth. Frankel and Roma (1999) and Irwin and Tervio (2002) in their separate and independent studies also suggested that countries that are more open to trade tends to experience higher growth rates and per-capita income than closed economy.

Klanow and Rodriguez-Clare (1997) used general equilibrium model to establish that the greater number of intermediate input combination results in productivity gain and higher output, despite using the same capital labour input which exhibits the economies increasing international trade return to scale. Kavousssi (1984), after he studied middle and low income developing countries, he found out that the high rate of economic growth was strongly correlated with high rate of export growth. He observed that there is a positive correlation between exports and economic growth for both middle and low income countries but the effects tend to diminish according to the level of economic development of the country. Obadan (1983) also writes on the impact of export instability on the economic development of Nigeria, during 1960-1977. More importantly, the study examines whether or not fluctuations in Nigeria's export earnings have adverse effects on the economy. The results of the study using multivariate analysis as the frame work, confirm the hypothesis that export instability is an important obstacle to Nigeria's economic development. In particular, export instability is found to be highly detrimental to the growth rate of investment as well as resulting in smaller proportions of national income being invested. The result also supports the claim that Nigeria's economic growth is export led. Similarly, Akerele (2004), with the use of appropriate quantitative techniques, he identified sources of instability in export earnings for the Nigeria economy for the period of 17years (1980-1997). He observed that both political and economic factors were the major sources of instability in Nigeria's export earnings. The influence of political factors on export earnings is not surprising, since the period of study coincided with the imposition of various sanction on Nigeria for failing to adopt western-style democracy. Ogbokor (2001) analyzed the macroeconomic impact of oil exports on the economy of Nigeria. With the use of OLS technique, he observed that economic growth reacted in an expected way to changes in the variables used in the study. He also found that 10% increase in oil exports would lead to 5.2% increase in economic

growth. He concluded that export-oriented strategies should be given a more practical support. Michaely (1977) focused his attention on the improvement between the rate of growth of export and GDP. He found out that the correlation between rates of growth of the economy is particularly strong among the countries with successful growth experience. Asher (1970) outlined that more than 80% of the foreign exchange of the less developed countries is earned through exports of goods and services. Massel et al (1972) investigated the pattern of economic growth of some selected less developing countries using regression methods. They observed a high degree of association between exports and economic growth. They suggested that countries should aim at 2.5% expansion in export activities to obtain 1% increase in economic performance.

Krueger (1997) expressed in his work additional empirical demonstration of a strong association between export performance and economic growth by undertaking a comprehensive study of the role of exports on the economic growth of 10 countries from 1954 – 1974. He found export and GDP to be highly correlated. Lin and Li (2002) examined the contribution of foreign trade to china's economic growth and found that the previous reviews on foreign trade underestimated the contribution of exports to GDP growth by overlooking the indirect impacts of exports on domestic consumption, investment, government expenditures and imports. They proposed a new estimation method and found that 10% increase in exports resulted in 1% increase in GDP in the 1990's in China, when both direct and indirect contributions were considered. Wah (2004) in his study reported that for the past forty years (1961-2000), the Malaysian economy grew at an impressive average rate of 6.8% per annum. The rapid growth was attributed, in part, to the remarkable success in the export-oriented industrialization policy. Sachs and Warner (1997) found that lack of openness was the most significant contributor to the dismal- economic growth performance in sub-Sahara Africa. Ann Harrison (1991) study made a synthesis of previous empirical studies between openness and the rate of GDP growth comparing the results from cross section and panel estimations while controlling for country effects. The study concluded that on the whole, correlations across openness measure seem to be positively related with GDP growth- the more open the economy, the higher the growth rate or the more protected the local economy. Oyejide (1974) also indicated the impact of restrictive measures was to produce a large anti-export bias in the African countries.

Thirlwall (1997) in his work explained the possibility that export growth may set up a vicious cycle of growth such that once a country is on path of growth, it maintains its competitive position in world trade and performs continually better relative to other countries. Oviemuno (2007) studied foreign trade as an engine of growth in developing countries taking Nigeria (1980-2003) as a case study; the findings showed that Nigeria's export value does not act as an engine of growth in Nigeria. Nigeria's import does not act as an engine of growth in Nigeria and that Nigeria's inflation rate does not act as an engine of growth. Edwards (1998) after carrying out his studies on factors including capital accumulation, growth in labour including differences in level of technology, found out that countries with lower degrees of protectionism, on average tend to grow at a much faster pace than countries with higher trade restrictions. Similarly, Asafu-Adjaye and Chakraborty (1999) having carried out an empirical analysis found evidence which is constrained with the weak relationship between exports and real output for inward looking countries. They found that export were weakly exogenous implying inward oriented strategy was ineffective to development strategy when prematurely initiated. However, Sinha and Sinha (1996) having studied a cross section and the role of balanced trade, that is export minus imports, to illustrate the role of international



trade on economic growth and development, they found a positive relationship between growth and export trade to imports (X-M)/(GDP).

## METHODOLOGY

The data used for this study are basically annual time series data covering 1981 to 2012. The data used for both dependent (real gross domestic product) and independent (degree of openness, foreign exchange and interest rate) variables were obtained from World Bank data outlook, and Central Bank of Nigeria Statistical Bulletin. This study adopts the statistical method of multiple linear regression approach using Ordinary Least Square (OLS) to examine the relationship between RGDP, DOP, FX and INTR.

### Model specification

The multiple regression equation is explicitly specified as follows:

$$RGDP = F(DOP, FX, INTR) \quad (3.1)$$

The above model can be expressed in a linearized form as thus:

$$\text{Log}RGDP_t = \beta_0 + \beta_1 \text{log} DOP_t + \beta_2 FX_t + \beta_3 INTR_t + \mu_t \quad (3.2)$$

Where: RGDP = Real Gross Domestic Product, DOP = Degree of Openness FX= Foreign Exchange and INTR = Interest Rate.

## DATA ANALYSIS AND RESULTS

The unit root test adopted here is the Augmented Dickey Fuller Test and the results are shown below:

Table 1: The ADF unit Root Test for the series of LRGDP, LDOP, INTR and FX

Variables	At level		At first difference		Remark
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	
LRGDP	2.127413	0.112942	-3.796300**	-3.63296 **	stationary at first difference
LDOP	0.741301	-2.281834	-7.281662**	-7.750162**	stationary at first difference
FX	-0.030011	-2.118196	-5.226117**	-5.215110**	stationary at first difference
INTR	-2.917554	-2.965950	-6.221526**	-6.294825**	stationary at first difference

Note: \*\* denote significance level @ 5%

Table 1 above shows that all the variables are stationary at first difference I(1). So the variables are integrated in the same order. With the result we proceed to estimate the model thus:

Table 2: Result of the estimated model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.407448	1.924861	2.809266	0.0093
LDOP	0.178513	0.060716	2.940110	0.0068
FX	0.005884	0.000649	9.071346	0.0000
INTR	0.005481	0.004627	1.184606	0.2461
$R^2=0.91$	$\hat{R}^2=0.91$	F= 106.33	F <sub>prob</sub> = 0.000	D.W= 1.72
Akaike criterion= -0.88    Schwarz= -0.69    RSS= 0.60				

**Source: E-Views Regression Output**

From the above result,  $R^2$  shows that all the explanatory variables in terms of degree of openness (DOP), foreign exchange rate (FX) and interest rate (INTR) explained 91% variability in the gross domestic product (RGDP). This implies that the model explain 91% of the changes in RGDP and the remaining 9% is contributed by other variables outside the model or that are captured by the error term. Since  $R^2$  measures the fit of the model so this model is well fit i.e. the data is fitted well. Considering the adjusted  $R^2$  (which can be less than or equal to  $R^2$ ) after considering the degrees of freedom, the  $\hat{R}^2$  explained 91% variability in RGDP. Therefore, we can still conclude that the explanatory variables perfectly explained the behavior of the dependent variable. Durbin Watson statistic, the bench mark for DW is 2 given the DW to be 1.79 which can be approximated to 2 shows that the model is free from autocorrelation problem.

To check if the independent variables are jointly significant to explain the dependent variable or the overall significance of the model we use F-statistic. So given the F-statistic value to be 106.33 with the FProb value of 0.000 we can conclude that there is statistically significant relationship between the explanatory variables and the dependent variable. This is because the prob value of 0.000 is less than 0.05 i.e. at 5% level of significance which led to the rejection of the null hypothesis which states that there exist no significant relationship between the explanatory variables and the dependent variable; hence, the acceptance of alternative hypothesis which states otherwise. The coefficient of DOP is 0.18 and it gives a positive and significant relationship with real GDP and it shows that percentage increase in DOP will lead to 0.18% increase in real GDP. This is in line with economic theories that held that open economies would experience increased economic growth while closed economies, those with restrictive tariffs and not open to trade would experience no economic growth. This result agrees with the notion that economic growth cannot exist without degree of openness of the countries involved since it is the measure of economic policies that either restrict or liberalized trade. The coefficient of FX is positive and statistically significant. Foreign exchange plays a vital role in Nigeria's level of trade and its movements affect the country's trading relationships with other countries. The higher the exchange rate the more expensive the exports and more cheaper the imports in foreign markets, and the lower the exchange rate the cheaper the exports and more expensive the imports in foreign markets, so the higher the exchange rate the lower the GDP while a lower exchange rate will increase the GDP. The coefficient of interest rate (INTR) showed positive and in line with the apriori expectation that there is positive relationship between interest rate and RGDP.

Given the value of interest rate to be 0.005, interest rate explained positive but an insignificant relationship with RGDP, insignificant relationship in the sense that the

probability value is more than 0.05. Higher interest rates increase the value of a given country's currency. The higher interest rates that can be earned tend to attract foreign investment, increasing the demand for and value of the home country's currency. Conversely, lower interest rates tend to be unattractive for foreign investment and decrease the currency's relative value.

However, interest rates alone do not determine the value of a currency. Two other factors that are often of greater importance are political and economic stability and the demand for a country's goods and services. Factors such as a country's balance of trade between imports and exports can be a much more crucial determining factor for currency value. Greater demand for a country's products means greater demand for the country's currency as well. Favorable gross domestic product (GDP) and balance of trade numbers are key figures that analysts and investors consider in assessing the desirability of owning a given currency.

Table 3: Results for Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
LDOP does not Granger Cause LR GDP	30	2.18829	0.1331
LR GDP does not Granger Cause LDOP		8.79843	0.0013
FX does not Granger Cause LR GDP	30	4.06861	0.0295
LR GDP does not Granger Cause FX		0.58807	0.5629
INTR does not Granger Cause LR GDP	30	0.01386	0.9862
LR GDP does not Granger Cause INTR		0.04417	0.9569
FX does not Granger Cause LDOP	30	4.57082	0.0203
LDOP does not Granger Cause FX		0.54271	0.5879
INTR does not Granger Cause LDOP	30	0.77812	0.4701
LDOP does not Granger Cause INTR		0.09317	0.9114
INTR does not Granger Cause FX	30	0.20024	0.8198
FX does not Granger Cause INTR		0.14465	0.8660

**Source: E-views**

Furthermore, from the above result, RGDP was found to granger cause DOP and foreign exchange rate (FX) was found to granger cause degree of openness (DOP). Foreign exchange rate (FX) was also found to granger cause real GDP (RGDP) within the period in review however, the fact that the probability of FX rate shows significance at 5%, therefore, we do not accept the null hypothesis that FX rate does not granger cause RGDP; in other words, FX rate indeed granger cause RGDP i.e. one-way causation in this case ceteris paribus. To further give exposition of the concept of causality, kindly take a look at the short note below on Granger Causality: In economics, correlation does not necessarily imply causation in any meaningful sense of that word (see Granger; 1969). As a result, the econometric graveyard is full of magnificent correlations, which are simply spurious or meaningless.

In Granger (1969), the question was that whether if x causes y would be to see how much of the current y can be explained by past values of y and then to see whether adding lagged values of x can improve the explanation. Y is said to be Granger-caused by x if x helps in the prediction of y, or equivalently if the coefficients on the lagged x's are statistically significant. Note that two-way causation is frequently the case; x Granger causes y and y Granger causes x. More so, it is important to note that the statement "x Granger causes y" does not imply that y is the effect or the result of x. From the above, we would normally



reject the hypothesis that X does not Granger causes Y if the p-value is significant at 5%. But we do not reject the hypothesis that y does not Granger cause X. Therefore in this case Granger causality runs one-way from Foreign Exchange to RGDP and not the other way.

## CONCLUSIONS AND POLICY RECOMMENDATIONS

This paper has empirically examined the impact of international trade on economic growth in Nigeria using real GDP as the dependent variable and degree of openness, foreign exchange and interest rate as independent variables from 1981-2012. Data analysis revealed that relationship exists between international trade and economic growth, and that while some components of international trade exerted positive and significant effect on growth, interest rate exerted positive but insignificant effect. Furthermore, the result shows that all the regressors except interest rate were statistically significant at 5% level of significance.

The results of the study suggest some policy recommendations which would be helpful and applicable to the Nigerian economy. Since all the coefficients are statistically significant and exhibit the correct signs according to theory except the coefficient of interest rate which has the right sign but statistically insignificant in the case of Nigeria. However, for the degree of openness; Nigeria should adopt more policies on trade liberalization like reducing non-tariff barriers, reducing tariffs, reducing or eliminating quotas that will enable the economy to grow at spectacular rates. The finding with respect to exchange rate implies that policy makers should adopt long term policies because in the long term, a strong currency depends on economic fundamentals. To have a stronger exchange rate, countries will need a combination of low inflation, productivity growth, economic and political stability.

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