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## **International Trade as an Engine of Growth in Developing Countries: A Case Study of Nigeria**

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### **Abstract**

*This study examines international trade as an engine of growth in developing countries, a case study of Nigeria. A review of the literature reveals that countries that are more open to international trade tends to experience higher growth rate and per-capital income than countries who do not trade or closed economy. The primary objective of the study is to test the impact of international trade on economic development in Nigeria. In the paper, data were collected mainly from secondary sources, e.g. central bank of Nigeria(CBN) bulletin, federal office of statistics, etc. the test for the study is*

*regression analysis, specifically the unit root test, error correction model (ECM) and the co-integration analysis. The study reveals that export is highly significant to international trade, since it is significant at both levels and first difference. In conclusion government should consider exporting more goods and services in order to promote international trade which is a veritable tool for economic growth of the Nigerian economy*

## **Introduction**

The classical and Neo-classical economics believed that participation in international trade could be a strong positive force for economic development. There are so many reasons that support the role of international trade to economic development one of such approach of export trade to development is to concentrate on the industrial sector that is the key to manufacturing of goods and services that is the core of international trade. Promoting exports could directly lead to economic development either through encouraging production of goods for export or allowing accumulation of foreign exchange with importation of capital inputs. Moreover such trade may result in facilitating more diffusion of knowledge that will enhance efficiency of inputs that will translate into manufactured outputs that will in turn way for economic development. In any of these cases, international trade can be described as an “engine of growth” (Hogendorn. 1996, cyper and Dietz, 1997).

There are various standard methods that have been tested in detecting the relationship between trade and economic growth, and the result vary accordingly. Although there are some disagreements among economist due to the different approach, some authors opined that international trade has a strong positive relationship with growth while other authors are against this background and they opined that there is a negative relationship between trade export led and growth of the economy.

## **Growth via export**

One of the basic techniques to identify the important role of trade and growth is to notice the effectiveness of export promotion that is outward-looking strategy in fostering economic growth. In this strategy, the countries initiate adding on the existing export structure of some standard manufactured goods exports, but without the scheme of reducing the importance of the primary product export structure (Cyper and Dietz, 1997). By concentrating and differentiating on producing export, the countries anticipate the main

advantage of export led trade and not terminating in static gain but will gradually establish dynamic comparative advantages to reach the dynamic gains.

The dynamic gain can stimulate innovation and exploit better economic growth, especially manufactured export product is indeed important prior to economic growth.

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 growth and development, they found a positive relationship between growth and export trade to imports  $(X-M) / (GDP)$ . The growth rate of selected Asian countries GDP for various decades of 1951 to 1990, it suggests that export promotion is an important contributor of economic growth. Bal Assa (1986) argued that the favourable effects of trade especially export on economic growth would be higher if such a country employs outward-looking industrialization strategy. Since such strategy would be more efficient utilization of the productive resources. While countries with inward-oriented strategy industrialization would have limited effort to increase export growth. Because in such countries or economies there is no enough domestic production that will encourage export of locally made goods and services that will encourage growth via international trade and secondly, there is no proper encouragement through funds or resources for producing manufactured products that acts as a constraint to production.

Similarly, Asafu-Adjaye and Chakraborty (1991) having carried out an empirical analysis found evidence which is constraint with the weak relationship between exports and real output for inward looking countries. They provided a super ergogeneity test for export and found that export were weakly exogenous implying inward oriented strategy was ineffective to development strategy when prematurely initiated.

The purpose of this study is to test the impact of international trade on economic development in Nigeria. Towards achieving this objective, the rest of the paper is organized as follows; section one, Brief introduction, section two, review of related literature, section three, Methodology, section four, Results and discussion and section five is finding and conclusion.

### **Review of related literature**

Trade liberalization is an important component of Structural Adjustment Programme (SAP) which aimed at opening up economics to increased

international trade (because it a policy that encourage the production of locally made goods and services that will further enhance international trade) by either producing or eliminating protection for domestic industries (Jubilee Australia, 2006). 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 in the international market because when a countries goods and services is cheaper and is of good quality it tends to sell more internationally there by encouraging growth and development (Agbeyegbe, (2006) and WoldeMariam, (2006) 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, restrictions on imports and the reduction of imports tariffs. Sachs and Warner (1995) using a 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 per cent 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 Gross Domestic product (GDP) of such countries compared to trade on manufactured or finished goods. In another study, Dollar (1992) linked economies that are outward-oriented through liberalized trade with rapid economic growth. 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.

It has been concluded that trades collectively and in various ways predict that an economy will tend to be relatively effective at producing goods that are intensive in the factors with which the country is relatively well endowed. In other words, comparative advantage provides that when nations specialize, they become more efficient in producing a product (and indeed a service), and thus if they can trade for their other needs, they and the world will benefit (Hechsher Ohlin, 1933).

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-capital 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.

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. Rodriguez 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 qualitatively 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 believe that trade policy works differently from natural or geographical barriers to trade and other exogenous determinants. Khan and Zahler (1985) assert that trade can promote growth from the supply side, but, if the balance of payments worsen due to fall in the price countries tradeable, growth 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.

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 trade liberalization because the government directs the economy through the use of subsidence. 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.

Shafaeddin (2005) posits that trade is necessary when an industry reaches a certain level of maturity provided it is undertaken gradually and selectively. However, Britton Wood institution's methodology of liberalization is likely to lead to the destruction of infant industries as well as hamper the emergency of new ones a situation that would only serve to confine low income countries to the production and export of primary commodities. This assertion captures the prevailing situation in most countries in Sub Sahara Africa (SSA) especially Nigeria that implemented rapid trade liberalization (Albaladejo, 2003).

## Methodology

The model is built or designed to provide an informed better understanding of international trade as an engine of growth in Nigeria.

Using annual data for Nigeria over the period 1970 -2010, the relationship between international trade and economic growth in Nigeria is hereby investigated by applying regression analysis for the study, specifically the Unit Root Test, Error correction model (ECM) and the cointegration analysis methods was adopted.

## Model specification

The work estimates one model i.e. growth. The model can be expressed in its functional form as

$$\text{GDP} = F(\text{EXPT}, \text{EXR}) \text{-----} 1$$

For estimation purpose, equation 1 is recast in terms of logarithms as  $\text{LGDP} = \alpha_0 + \alpha_1 \text{EXPT} + \alpha_2 \text{EXR} + \text{Ut}$ ----- 2

Where:

GDP = Gross Domestic Product

EXPT = Export

EXR = Exchange rate.

Ut = Error term

## Results and discussion

In order to use the cointegration and Error correction model test for long run relationship, we have to establish whether or not the variables are stationary or not. We used the argueded Dickey Fuller (ADF) test statistic which is lower than the tabulated t-statistics at 5% level of significance, we thus conclude that the variables are Random walk and therefore there is the existence of unit roots in these variables.

We then carried out unit root test on the first differences of the time series variables.

**Table 1: Summary of ADF Unit Root Test**

Variables	Level data	1st difference	Status
GDP	0.137400	-4.077919	1(i)
EXPT	-0.008336	-5.314097	1 (I)
EXR	-0.171810	-3.415969	1 (i)
ECM	-2.63332	-6.170523	1 (I)

The variables i.e Gross Domestic Product (GDP), Exports (EXPT), and Exchange Rate (EXR) are not significance at the levels but are significant at stationary at first difference.

1% ADF critical value -3.6171

5% ADF critical value -2.9422

10% ADF critical value -2.6092

**OVER – PARAMATIZED TABLE**

**Table 2: Summary of Over Parameterized ECM Model**

Dependent variable: LGDP				
Method: Least squares				
Date: 04/05/10 Time: 08:23				
Sample (adjusted): 1974-2008				
Included observations: 35 after adjusting endpoints				
Variables	Coefficient	Std. Error	T-statistic	Prob.
ECM (-1)	0.847138	0.164900	5.137286	0.0000
LEXR	-0.097451	0.251694	-0.387180	0.7022
LEXR (-1)	-0.217289	0.373423	-0.581884	0.5663
LEXR (-2)	0.497948	0.390264	1.275928	0.2147
LEXR (-3)	-0.037274	0.378357	-0.098514	0.9224
LEXR (-4)	-0.163949	0.291611	-0.562216	0.5794
LEXPT	0.219683	0.216073	1.016708	0.3199
LEXPT (-1)	0.012756	0.236956	0.053835	0.9575
LEXPT (-2)	-0.072054	0.229089	-0.314525	0.7560
LEXPT (-3)	0.273991	0.230870	1.186774	0.2474
LEXPT (-4)	-0.076444	0.185411	-0.412296	0.6839
C	8.042380	2.172137	3.702520	0.0012
R-Squared	0.895733	mean dependent var	12.25214	
Adjusted R-square	0.845867	S.D. dependent var	0.975510	
S.E of regression	0.382984	Akaike info criterion	1.184211	
Sum squared resid	3.373559	Schwarz criterion	1.717474	
Log likelihood	-8.723700	F- statistic	17.96255	
Durbin – Watson stat	1.893708	Prob.(F-statistic)	0.000000	

**PARSIMONIOUS MODEL**

**Table 3: Summary of Parsimonious ECM Model**

Dependent variable: LGDP				
Method: Least squares				
Date: 04/05/10 Time: 08:24				
Sample (adjusted): 1974-2008				
Included observations: 35 after adjusting endpoints				
Variables	Coefficient	Std. Error	T-statistic	Prob.
ECM (-1)	0.797737	0.141618	5.633007	0.0000
LEXR	-0.130061	0.244470	-0.532014	0.5991
LEXR (-1)	0.131682	0.289020	0.455614	0.6523
LEXR (-4)	-0.065633	0.210055	-0.312456	0.7571
LEXR	0.236287	0.203508	1.161073	0.2558
LEXR (-1)	0.013852	0.2224074	0.061820	0.9512
LEXPT (-2)	0.143437	0.162425	0.883098	0.3850
C	7.682781	2.022098	3.799410	0.0008
R-Squared	0.895733	mean dependent var	12.25214	
Adjusted R-square	0.845867	S.D. dependent var	0.975510	
S.E of regression	0.382984	Akaike info criterion	1.070994	
Sum squared resid	3.373559	Schwarz criterion	1.426502	
Log likelihood	-8.723700	F- statistic	29.10552	
Durbin – Watson stat	1.893708	Prob.(F-statistic)	0.000000	

Exchange Rate (EXR) at levels has a negative relationship with Gross Domestic Product (GDP) with value -0.130061 but at first differences the EXR (-1)) has positive relationship with GDP.

Export (EXPT) at levels it has a positive relationship with Gross Domestic Product (GDP). Equally at first difference EXPT (-1)) has a positive relationship with GDP, i.e. EXPT has a positive relationship with GDP both at level and at first difference.

For  $R^2$ , it suggests that 88% of the total variation has been explained by the EXR and EXPT and the lag of GDP taken together.

The Adjustment R squared shows that 85% of GDP has been explained but the EXR and EXPT taken together.

Exchange rate (EXR) and lag 2 EXR (-2) at lag 4 EXR (-4) are statistically significant in explaining Gross Domestic Product (GDP).



Export (EXPT) at lag 3 EXPT (-3) is statistically significant in explaining Gross Domestic Product (GDP).

The Durbin Watson (DW) test of 1.829127 shows that there is no serial correlation in the system.

### **Cointegration test result**

Having confirmed statistically the variables at 1 (1), we proceed to examine the presence or non presence of cointegration among the variables when a cointegration relationship is present; it means that the variables have long run relationship. In the cointegration result the likelihood ratio (LR) and EXPT share a common trend and long-run equilibrium or relationship.

### **Findings and concluding remark**

The study focuses on finding the relationship between international trade and economic development in Nigeria. Ordinary least squares, error correction method, unit root test and cointegration test were employed in the empirical analysis.

Prior to the cointegration test, 1 test for stationarity of the variables using Augmented Dickey – Fuller (ADF). The variables proved to be integrated of the order one 1(1) at first difference. In the cointegration result, it indicates one cointegrating equation, which means that the variable (GDP, EXPT and EXR) have long run relationship.

The result shows that the level of export is highly significant or important on international trade, since it is significant at both levels and first difference. Exchange rate is equally a significant factor when looking at the impact of international trade on economic development in Nigeria. But like the study has shown exchange rate is not as significant as export.

The policy implication of the study is that the government should consider exporting more goods and services in order to promote international trade which is a veritable tool for economic growth. Equally, the government should monitor its currency vis-à-vis other currencies i.e. their rate of exchange, since the study has analyzed the impact of exchange rate on economic development in Nigeria.

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