

International Trade And Economic Growth: An Empirical Analysis Of West Africa

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Abstract: *Studies on the effects of international trade on economic growth have varying outcomes. Thus, this study analyzed the relationship between international trade and economic growth in West Africa from 1991-2011. Based on the panel data of 16 out of 17 countries in the region, the study found that a one percent rise in export variable will lead to growth of GDP by 5.11 percent. Import on the other hand has positive but insignificant impact on GDP growth. Foreign exchange has negative impact on GDP growth. Therefore, the study concluded that exports impact positively on economic growth of the region and recommended that West African countries should encourage indigenous enterprise for export promotion and import substitution.*

Keyword: *International Trade, Economic Growth, Gross Domestic Product (GDP), West Africa.*

I. Study Background

International trade enables countries to sell their domestically produced goods to other countries (Abdullahi, Sokoto & Safiyanu 2013). Thus, international trade is the buying and selling of goods and services between countries.

Economic growth is an increase in real per capital income which can be sustained over a long period of time (Clunnies, 2009).

Interestingly, West Africa is a liberal economy with major proportion of aggregate output being determined by international transactions. International trade accelerates economic growth through foreign exchange earnings and market stimulus (Adewuyi, 2002).

However, the empirical linkage between international trade and economic growth is still unclear despite numerous studies conducted in the area with varying outcomes (Balassa, 1978; Bairam, 1988; Medina, 2001; Usman, 2011 etc). Thus, the relevant questions to address are; does international trade have a significant impact on economic growth in West Africa? What is the effect of individual component of international trade on economic growth in West Africa?

It is on the basis of the aforementioned, that this study seek to empirically examined the impact of international trade on economic growth in 16 west African countries using panel data from 1991-2011 and to proffer appropriate policy recommendations based on finding from the study.

II. Literature Review

2.1 Conceptual Issues

International trade is the buying and selling of goods and services between countries (Usman, 2011). It enables countries to sell their domestically produced goods to other countries (Abdullahi et al 2013). While, economic growth is an increase in real per capital income which can be sustained over a long period of time (Clunnies, 2009).

2.2 Theoretical Framework

The theoretical framework that will serve as a guide for this study is endogenous growth theory. According to Romer (1990), in addition to direct exchange of goods and services, international trade has indirect effects on growth through the transfer of knowledge as a side product of trade. This theory advocated the use of internal variables to spur growth within a system which is a major departure from the use of exogenous variable in the neoclassical growth theory. What is pivotal for growth in endogenous growth model is education, on the job training and development of new technologies for the world market. For example, if research and development activities informed growth, then international trade provides a platform for the advancement in technological knowledge of trade partners. Further, trade allows producer to access bigger markets and encourage the development of research and development (Abdullahi et al, 2013). The shortcoming of this model is that growth in per capital output tends towards zero in a steady state.

2.3 Empirical Evidence

Balassa (1978) studied eleven countries that have an established industrial base and discovered a positive correlation between export and growth. In the same vein, Bairam (1988) examined the model for a large sample of developed countries and conclude that the growth performance of a country is informed by the values of income elasticity of exports and imports. Massel (1972) investigated the pattern of the economic growth in selected developing countries using regression methods and observed a high degree of correlation between exports and economic growth. He suggested that countries should target 2.5% expansion in export activities in order to obtain 1% increase in performance. Michaely (1977) investigated the degree of association between the rate of growth of export and GNP and found that the correlation between rates of export growth and GNP of the economy is strong particularly for countries with successful growth experiences. Perraton (1990) estimated the model for 59 developing countries from 1970-1984 and found that the model provides a good fit for significant proportion of the sampled countries. His suggestion also concord with Bairam (1988) that the growth performance of countries depends on income elasticity of both exports and imports.

Wah (2004) reported that for the past four decades (1961-2000), the Malaysian economy grew at a significant average rate of 6.8% per annum. The rapid growth was partly informed by the success in the export oriented Industrialization policy. Edwards (1998) after due consideration to the roles of all other factors including capital accumulation, growth in labour force as well as the differences in level of technology, explained that countries with higher degrees of restrictions, on the average tend to grow at a much low pace than countries with higher trade protections.

In a related study, Sachs and Warner (1997) estimated a model of African countries and reported that trade restrictions impact negatively on growth. They concluded that lack of openness was responsible for the dismal economic growth performance in sub-Saharan African. Krueger (1997) in a study of 10 countries from 1954-1974 using a single non-linear regression equation for each of the chosen countries, he found exports and GNP to be highly correlated. Frankel and Romer (1999) extended the study to include 150 countries, in the 1985, and concluded that trade raise income level by spurring the accumulation of physical and human capital and by increasing capital-output ratio. A large number of studies used trade shares in GDP and found a positive and strong relationship with growth (Harrison, 1996).

Most of earlier studies showed evidence of positive impact of exports and growth which was used to support the export led growth hypothesis, this is evident for cross section study because recent evidence on time series study cast doubts on the positive effects of exports on growth in the long run (Medina, 2001). Oviemuno (2007) viewed international trade as a catalyst to growth in developing countries using Nigeria (1960-2003) a case study. He used export, import, inflation and exchange rate and found that Nigeria's export value and inflation rate do not act as catalyst for growth in Nigeria. Usman (2011) further used OLS techniques to examine the performance evaluation of foreign trade and economic growth in Nigeria. He found that export, import and exchange rate all have negative impact on real output.

III. Methodology

3.1 Method of Data Analysis

In analyzing the panel data set obtained from World Bank and African Development Bank from 2011-2010, we use STATA 10.0 version of econometric software. Accordingly, the result of Hausman test is the basis for selecting the appropriate model which could be fixed effect model or random effect model (Gujarati and Sajeetha, 2007). If the null hypothesis is rejected, we can conclude that there is correlation and therefore a panel model of fixed effect is the most appropriate way of carrying out the analysis of the relationship between international trade and economic growth and the converse it true.

3.2 Model Specification

In analyzing the relationship between international trade and economic growth, we specify a mathematical multiple regression model. The model is thus;

$$\text{Economic Growth} = \beta_0 + \beta_1 \text{exp} + \beta_2 \text{imp} + \beta_3 \text{exr} + \mu$$

Where:

Economic Growth = GDP growth

exp = Export

imp= Import

exr = Exchange Rate

μ = Error Term

β_0 = Intercept

β_1 = Coefficient of Export

β_2 = Coefficient of Import

β_3 = Coefficient of Exchange Rate

The above model implies that GDP growth is a function of exp, imp and exr.

3.3 Model Estimation and Interpretation of Result

Table1. Panel Regression Result for West Africa GDP is the dependent variable

Variables	RE Regression	FE Regression
Intercept	344.1073(3.25) ***	377.0544(5.92) ***
Export	5.106061(2.96) ***	5.052326(2.86) ***
Import	0.4115808(0.32)	0.2310013(0.18)
Exchange Rate	-.0442693(-1.69) *	-.0411977(-1.53)
R ²	0.0409	0.0409
F	10.92**	3.20**

Significant at 1% (***), 5% (**), 10% (*).

Source: STATA 10.0 output

The appropriate model of estimation is random effect model which follow the acceptance of null hypothesis and rejection of alternative hypothesis. The estimated model is thus:

$$\text{GDP growth} = 3.44.1073 + 5.106061\text{exp} + 0.4115808\text{imp} - 0.0442693\text{exr}$$

(3.25) (2.96) (0.32) (-1.69)

The above results show that a one percent increase in export variable will lead to 5.11 percent increase in GDP growth. This implies that export leads to growth in West Africa. Import on the other hand has positive but statistically insignificant influence on GDP growth. While exchange rate has negative but statistically significant influence on GDP growth at ten percent level of significant. The model is adequate because the F statistic is statistically significant.

IV. Discussion Of Results

The result of this study that export has positive influence on GDP growth (our proxy for economic growth) in West Africa conform with a priori expectation and other studies such as Balassa, (1978) Massel (1972), Michaely (1977), Wah (2004) and Krueger (1997). The positive and statistically significant impact of export on economic growth is not unconnected to the success in the exports oriented industrialization policy. On the other hand, our finding in respect to export does not concur with the result of Medina (2001), Oviemuno (2007) and Usman (2011) who reported that exports does not act as an engine of economic growth. The study also found that import does not spur GDP growth in West Africa. Finally foreign exchange is as well found to have negative effect on GDP growth but statistically significant at 10% in West Africa.

V. Conclusions And Recommendations

Based on the findings of this study, we conclude that international trade has positive influence on economic growth in West Africa. Specifically, it is only export that has positive significant impact relative to import and exchange rates. This supports the export-led growth hypothesis.

Therefore, West African countries should pursue export promotion and import substitution with the sincerity of purpose. Also, the deregulated exchange rate regime should be guarded and placed in perspective which will improve the value of local currency relative to other currencies.

References

- [1]. Abdullahi, Y.Z., Sokoto, A.A & Safiyanu, S.S. (2013), Analysis of the relationship between foreign trade and economic growth in Africa, *Economic and Financial Review*, 3(03): 01-10, ISSN: 2047-0401, Retrieved from <http://www.businessjournalz.org/efr>
- [2]. Adewuyi, A. (2002), Balance of payment constraints and growth rate differences under alternative policy regimes, *National Institute of Social and Economic Research (NISER) Monograph Series* No. 10 Ibadan, Nigeria.
- [3]. Africa Development Bank (2012), *Selected statistics on African countries*, Published by the Statistics Division of ADB, Tunis, Tunisia
- [4]. Bairam, A. (1988), Balance of payments, the Harrods foreign trade multiplier and economic growth; *the European and North American Experience, 1970-1985 Applied Economics*, December
- [5]. Balssa, B. (1978), Exports and economic growth, further evidence, *Journal of Development Economics*, 5(2): 181-189
- [6]. Clunnies, R. (2009), *Development economics*, London McGraw Hills
- [7]. Edwards, S. (1998), Openness, productivity and growth, what do we really know? *Economic Journal*, 108(1): 383-398.
- [8]. Frankel, J. and Romer, D. (1999), Does trade causes growth? *American Economic Review*, 89(3): 379-399
- [9]. Gujarati and Sajeetha (2007), *Basic Econometrics*, New Delhi, Tata McGrew-Hill Publishing Company Limited
- [10]. Harrison, A. (1996), Openness and growth: a time series cross sectional analysis for developing countries, *Journal of Development Economics*, 48: 419-447.
- [11]. Krueger, A.O. (1997), Trade policy and economic development: how we learn, *American Economic Review*, 87(1): 1-21.
- [12]. Massel, E. (1972), Foreign exchange and economic development: An empirical study of selected Latin American countries, *Review of Economics and Statistics*: 208-212
- [13]. Medina, E.J. (2001), Is export-led hypothesis valid for developing countries? *A case study of Costa Rica*
- [14]. Michealy, M. (1977), Exports and economic growth: An empirical investigation, *Journal of Development Economics*; 4(1): 49-54.
- [15]. Oviemuno, K. (2007), International trade as an engine of growth in developing countries, a case study of Nigeria (1980-2003). *Journal of Economics Perspective*, 12(4): 45-62

- [16]. Perraton, C. (1990), The Harrod foreign trade multiplier and the developing countries, 1970-1985: *An examination of the Thaiwall Hypothesis*, university of Nottingham.
- [17]. Romer, P.M. (1990), Endogenous technical change, *Journal of Political Economy*, 98(5): 1002-1032
- [18]. Sack, J.D. and Warner, A. (1997), Sources of slow growth in African economy, *Journal of African Economics*, No.6 Oxford
- [19]. Usman, O.A (2011), Performance evaluation of foreign trade and economic growth in Nigeria: *Research Journal of Finance and accounting*, 2(2).
- [20]. Wah, A. (2004), The role of domestic demand in the economic growth of Malaysia; A co integration analysis, *International Economic Journal*, 18(4)
- [21]. World Bank (2012), World Bank database on macroeconomics indicators, *An Annual Publication of World Bank*