AN ANALYSIS OF THE IMPACTS OF TRADE OPENNESS ON NIGERIAN ECONOMIC GROWTH

Arulogun Olaleye Ola  
Department of Management and Accounting, Ladoke Akintola University of Technology, Ogbomoso.  
Corresponding email: leyearu@gmail.com

Adebayo Moses  
Department of Management and Accounting, Ladoke Akintola University of Technology, Ogbomoso.  
Email: More1600@gmail.com

Oladipo Jacob Olubukola  
Department of Management and Accounting, Ladoke Akintola University of Technology, Ogbomoso.  
Email: olubukolaoladipo@yahoo.com

ABSTRACT

This study evaluated the impacts of trade openness on economic growth in Nigeria using relevant data from publications of the Central Bank of Nigeria (CBN) Statistical Bulletins and National Bureau of Statistics (NBS). The data covered a 40-year period between 1971 and 2010. Multiple regression analysis technique (Ordinary Least Square (OLS) method) was used to analyse the relationship between the dependent variable (Gross Domestic Product) and independent variables (FDI, external debt, degree of openness, export and import). The coefficient of determination ($R^2$) to the tune of 86.3% (approximately 86%) supported by high value of adjusted $R^2$ which stood at 0.8381 (83.8%) connoting that the independent variables incorporated into this model have been able to determine variation of Gross Domestic Product (GDP) to the tune 83.8%. Also, F probability statistics also confirmed the significance of the model. Likewise, findings to establish a long run association between dependent and independent variables indicated that trade openness had positive impact on Gross Domestic Products in the long run where the coefficient of multiple determinations ($R^2$) of 0.9290 or 93 percent variation in the observed behaviour in the GDP is jointly explained by the independent variables. In view of the these, all the components of international trade forming independent variables of the study should be accurately managed so that their importance could be continually felt in the Nigerian Gross Domestic Product positively.

KEYWORDS: Economic growth, Gross Domestic Product, Trade openness, Foreign Direct Investment

1. INTRODUCTION

The economic aspiration of every economy all over the world ever is to achieve some set of macroeconomic objectives which are mainly aimed at impacting the standards of living of its citizens. Some of these macroeconomic objectives include: economic growth, employment generation, price stability, among others. The successive Nigerian governments have clearly demonstrated this approach in almost all its economic development plans. For instance, the major goals of the various national development plans initiated and implemented in Nigeria, particularly the first national development plan (1962-1968), second national development plan (1970-1974), third national development plan (1975-1980), and fourth national development plan (1981-1985), and the various rolling plans of the 1990s conformed to this approach. (Aremu and Aiyegbusi 2011). Judging from above submission, devising way forward to positively improve economic growth is highly essential through several growth drivers in Nigerian economy and among such is trade openness that is capable of launching the economy above other developing countries. Therefore, embarking on interlocking strategies to create a thriving environment on which trade openness could thrive to bring about rising level of significance on economic growth in Nigeria is highly
demanding, and it is now apparent to encourage private entities, West African countries and the whole world at large by creating enabling environment that will aggravate continual growth aspirations.

A critical assessment of the Nigerian situation revealed that there are a lot of economic deficiencies and mismanagement in the Nigerian economic system in terms of high inflation rate, large current account deficits, dwindling reserves and fiscal deficits. This menace of imbalances has continued despite the efforts of governments at implementing policy reforms to alleviate the worsening situation, and in spite of the fact that Nigeria has abundant human and natural resources as sighted by (Afaha and Aiyelabola 2012), nevertheless, the desired economic haven has not been so material. This perhaps could be ascribed to the revealed observations of the Central Bank of Nigeria (2003) that a country’s growth, over a reasonably long period of time is ultimately determined by the accumulation of productive resources, technological progress and the efficiency with which any existing stock of resources is utilized. This efficiency however could be endogenously or exogenously determined. There are interlocking internal capacities and advantages ranging from, agrarian raw material, natural endowments, record-breaking human resource and host of other valuables that would have beckoned on the external counterparts to invest within the country which would have formed a noble sources of employment to the populace and either directly or indirectly fulfilling component of macroeconomic objective. Managing the internal advantages so well should be one of the major foci to boost higher economic status among other African countries that is strong enough to compete with the developed countries having been grounded with the understanding to employ all resources to better trade openness and invariably enhancing economic growth in Nigeria.

A special exogenous influence over time has resulted from trade globalization which is seen as one of the major drivers of economic growth. This is a multi-dimensional policy that has impacted not only the economic, socio-cultural and environmental aspects of life but also the international relations and economic alliance between governments and other countries of the world (Akinlo, 2003). Different World Development Reports (World Bank, 1987, 1991, 1999 – 2000) tried to revealed that external-oriented trade policies have been more successful in promoting economic growth than inward trade policies. World Development Report (1987) argued that “outward-oriented countries” performed better than their “internal-oriented countries” even under imbalance market conditions. Based on the above submission, a very promising pedestal should be created for outward oriented trade policies and should be given utmost priority so that influx of advantages from such policies will invariably make Nigerian economy better.

Establishing the fact that international and multinational trade openness enhances economy is not menial fact but it has been resourceful across continents as it could be found in the success stories of East-Asian countries (‘East Asian Miracle’) which were often shown as the success of free trade and export-oriented policies. The trade theorists advanced the work that trade was essential for the growth of nations. It has often been argued that the more open an economy is, the higher the rate of economic growth. The extent to which an economy is liberalized is influenced by factors such as the strength of the domestic economy, the competitiveness of the external sector, the level of the exchange rate, domestic gross capital formation, among others (Eleanya 2013). Coming into full realization that liberalization of economy through trade openness is never trivial but a good soft-landing economic syndrome to continually impacting economy.

Over the years, economies of countries of the world have increasingly been connected through international trade in service, primary, industrial goods and through foreign direct investment. The emergence of Nigeria into global market arena started significantly with the emergence of Structural Adjustment Programme (SAP) in 1987 in collaboration with the International Monetary Fund (IMF) and World Bank which led towards external liberation focusing on market oriented economic system, export-led strategy and stability of the economy (Obadan 1996). It is therefore a major concern to fully rise to the demanding economy undertaking as this that is capable of adding better value to Nigerian economy.

1.1 Statement of the Problem

The business environment has witnessed momentous and breathe—taking changes, becoming so volatile and unpredictable over the last three decades, especially since the beginning of the 21st century. An important dimension of these changes relates to the fact that the world has rapidly become a global village through several avenues and most importantly technology. Consequently, geographical distance is no longer the barrier as it used to be before the 1970s, in terms of interaction and economic relationships between buyers and sellers (Okpeh, 2006). This challenge has metamorphosed the international trade out from how it used to be owing to interference of technological potency making the whole world a global village by instrumentality of technology. However, this could turn into global opportunity if it is well managed as the challenge would have been opportunity-based. Arising from this submission, internet crime still stands as a challenge inherent in in the use of technology as a gap-bridging means in making the international trade to thrive better.
A careful examination of the available evidence especially with respect to growth in the real per capital income, trade volume and capital flow help to shed light on this assertion as sighted by (Craft, 2006) stating that since the emergence of global advocacy of economic liberalization and openness, Nigeria has been increasingly and endlessly worried about greater participation in the international trading system. And the fear is that Nigeria gets swamped and overwhelmed by the products and services from the richer and developed nations. International trade has not accounted into economic growth because some of the products imported into the country were those that cause damages to local manufacturing industries by rendering their products inferior and being neglected, this thereby reduces the growth rate of output of such industries and this later spread to the aggregate economy. Nevertheless, the principles and belief of trade openness are widely acknowledged but there are practical issues that have inhibited and unfettered their application.

Increasing interest has been developed in the study of international trade and its importance mainly to developing nations. There has been general consensus recently that every country take advantage of in both international and domestic trade. However, recent empirical investigations also showed that less-developed countries have not benefitted from international trade as much as the developed countries. Besides, the poor state of these economies in terms of gross domestic product, per capita income, unemployment, human capital status and poverty level despite several decades of participation in trade has further increased the trade development debate.

Nigeria’s volume of trade has increased significantly over the years with no commensurate and expected increase in growth and development in diversity. Whereas the classical and neo-classical schools of thought established that foreign trade does bring about growth and development. However, other schools/authors hold that foreign trade has only added to international inequality, a situation where developed countries have become richer at the expense of less-developed ones. Empirical studies have also not been conclusive on the above, for instance, according to Appleyard (2006), who stated that there is a common misconception that China’s economic growth is taking place at the expense of its many trading partners-Nigeria being her largest trading partner in Africa. However, in contrast to the above assertion, a critical examination of the impact of Chinese investment and trade on the growth and development of Nigeria as sighted by Nabine (2009) showed that in the short term, the bilateral trade did not contribute to Nigeria’s economic growth but the long-term relationship can enhance Nigeria’s economic growth.

But in recent years, earnest concerns have grown about the negative aspect of openness on macroeconomic stability and questions are always raised as to whether economies actually share in its benefits. Nigeria’s export performance has been exceptional unlike other countries producing oil, and this is due to the fact that the country has been managing to diversify its economy so that petroleum production continues to account for almost all merchandise exports. This dominance of oil exports has made Nigeria highly dependent in the world oil market and prevented it from taking benefit of dynamic opportunities in other sectors.

2. A REVIEW OF EMPIRICAL LITERATURE

International trade brings about welfare and efficiency gains to all nations irrespective of their initial conditions, level of development, technological abilities and natural resources endowments (Krugman and Helpman, 1988). Empirically, the effect of international trade on economic growth has been an important and controversial subject for several years. Many studies used different approaches, found growth to be greatly impacted by trade openness, or liberalization (Krueger, 1978; Feder, 1983; Ram, 1985 and 1987; Balassa, 1978 and 1985; Dollar, 1992; Edwards, 1998; Ben-David et al., 2000; among others). On the other hand, some studies such as Singer (1950), Prehisch (1962), Kavoussi (1985), Singer and Gray (1988), Sachs (1987 and 1989) and Taylor (1991) argued that trade or trade expansion may not be beneficial for the economic growth of all countries at all times.

The OECD (2003) studied the impact of trade on the average income per population. The results revealed that elasticity of international trade was 0.2 which was statically significant. Also, Maizel (1963) investigated the impact of international trade on economic growth using a rank correlation analysis among developed countries. The results of the study revealed a positive relationship between international trade and economic growth. Kavoussi (1984), after studying 73 middle- and low-income developing countries found out that the higher rate of economic growth was strongly correlated with higher rate of export growth. He revealed that there exists 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 development.

Balassa (1986) and Dollar (1992) argued that outward oriented developing economies achieve more rapid growth than inward oriented developing ones. Sachs and Warner (1995) construct a policy index to analyze economic growth rate and found that the average growth rate in the period after trade liberalization is significantly higher than in the period before
liberalization. Baldwin (2003) demonstrated persuasively those countries with few trade restrictions achieve more rapid economic growth than countries with more restricted policies. As poverty will be reduced more quickly through faster growth, poor countries could use trade liberalization as a policy tool. Trade liberalization reduces relative price distributions and allows those activities with a comparative advantage to expand and consequently foster economic growth. Poor countries tend to engage in labour – intensive activities due to an overabundance labour supply. Thus, the removal of trade openness measures seem to be positively associated with GDP growth – the more open the economy, the slower the growth rate. On the other hand, trade restrictions or barriers are associated with reduced growth rates and social welfare and countries with higher degree of protectionism, on average, tend to grow at a much slower pace than countries with fewer trade restrictions. This is because tariffs reflect additional direct cost that producers have to absorb, which could reduce output and growth.

Frankel and Romer (1999) and Irwin and Tevio (2002) in their separate and independent studies suggested that countries that are more open to trade tends to experience higher growth rates and per capital in income than closed economy Klanow and Rodriguez – Clare (1997) need used general equilibrium model to establish that the greater number of intermediate input combination results in productivity gain and higher output, despite using same capital and labour input which exhibit increasing return to scale. Lin and Li (2002) examined the contribution of foreign trade to China’s economic growth and found that the previous studies on this subject 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 a ten percent increase in exports resulted in a one percent increase in GDP in the 1990s in China, when both direct and indirect contributions are considered.

In another study, Wah (2004) reported for the past four decades (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 tremendous success in the export-oriented industrialization policy. Adenikinju and Olofin (2000) examined the quantitative effects of the role of economic policy in the growth performance of the manufacturing sector in Africa. The study used panel data for seventeen countries over the period 1976 to 1993. Their econometric results suggest that level of human capital; proxied by primary and secondary school enrolment rates; have a positive impact on growth in manufacturing. The competitiveness index, that is the unit of labor cost, has a negative impact on the growth performance of the manufacturing sector in African countries, though the improvement in terms of trade was found to have a beneficial impact on manufactures. The trade liberalization policy, proxied by index of openness, has an insignificant effect on the growth in the manufacturing. On the other hand, some studies find little empirical evidence to support a link between trade liberalization and industrial growth (Lucas, 1988; UNIDO, 1995; and Young, 1991). For instance, in Adenikinju and Chete (1995), it is shown that in the Nigerian manufacturing sector, import liberalization has had a negative impact on total factor productivity growth. The reason for this was adduced to the fact that domestic manufactures are unable to compete with better quality and often imported products. Several authors have also pointed to the example of Korea and Japan where some form of protection allowed for rapid transformation of the industrial sector (Pack and Westphal, 1986). Oyelabi (1971) estimated and tested factors substitutions in Nigeria's manufacturing sector and found that the elasticity of substitution in Nigeria’s manufacturing industries varies from industry to industry Osakwe (1976) fitted a Cobb-Douglas production function to time series observation of ten industries in the manufacturing sector of Nigeria and found that labor productivity exceeds that of capital by more than double, with the coefficient of capital being negatively signed and statistically insignificant.

3. DATA AND MODEL SPECIFICATION

Secondary data were used in this study. The relevant data for the study were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins (various issues) and National Bureau of statistics. The data covered 40 years period from 1971 - 2010. The mathematical models for this study were based on the methodology adopted by Jude and Pop-silageh (2008) for 42 developing countries with slight adjustment based on relevance to Nigeria and availability of data. Hence, the mathematical form of the model was stated as follows:

This model was centered on the fact that to explain the extent to which trade openness has impacted Nigeria’s economic growth, there must be a systematic link with the production of goods and services.

\[
Y = f(\beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \mu) \tag{1}
\]

Where \( Y \) is d economic growth or GDP = dependent variable, \( \beta_1 - \beta_5 \) are the independent variables and \( f \) represent the functional notation.

This can be specifically stated as:

\[
\text{GDP} = f(FDI, EXD, OPEN, IMP, EXP, \mu)
\]
The multiple regression equation was based on the functional relationship is;

\[
GDP = \beta_0 + \beta_1 FDI + \beta_2 EXD + \beta_3 OPEN + \beta_4 EXP + \beta_5 IMP + \mu \tag{2}
\]

\[
\sum_{i=1}^{n} GDP = \beta_0 + \beta_1 \sum_{i=1}^{n} FDI + \beta_2 \sum_{i=1}^{n} EXD + \beta_3 \sum_{i=1}^{n} OPEN + \beta_4 \sum_{i=1}^{n} EXP + \beta_5 \sum_{i=1}^{n} IMP + \mu \tag{3}
\]

Transforming equation (3) to the natural logarithm was changed to:

\[
\sum_{i=1}^{n} LOG GDP = \beta_0 + \beta_1 \sum_{i=1}^{n} LOG FDI + \beta_2 \sum_{i=1}^{n} LOG EXD + \beta_3 \sum_{i=1}^{n} LOG OPEN + \beta_4 \sum_{i=1}^{n} LOG EXP + \beta_5 \sum_{i=1}^{n} LOG IMP + \mu \tag{4}
\]

Where:

- OPEN - Degree of Openness
- GDP - Gross Domestic Product
- FDI - Foreign Direct Investment
- EXD - External Debt
- EXP - Export
- IMP - Import
- \(\mu\) - Stochastic or error term

\(\beta_0\) is the constant of the model while \(\beta_1, \beta_2, \beta_3, \beta_4, \beta_5,\) and \(\beta_5\) are the coefficients of the explanatory variables.

3.1 Method of Data Analysis

This study made use of inferential statistics i.e. multiple regression analysis. This was used to measure the extent to which the trade openness has affected Nigerian economic growth and the long run relationship between the trade openness and economic growth. The statistical software that was used for the analysis is STATA 10.0.

4. RESULTS AND DISCUSSION

This section contains the results and discussion of the data, which were collected from the secondary source. The relevant data were sourced from the publications of the Central Bank of Nigeria and National Bureau of Statistics. The variables for which data were sourced include: Gross Domestic Product, Inflation rate, Real exchange rate, foreign direct investment, Import, Export, Degree of openness, and Interest for the period 1971 to 2010. Analyses of the results contain the presentation and interpretation of the scores obtained from Ordinary Least Square method (OLS). This approach, which is quantitative technique, includes table and the test for the hypotheses formulated by using multiple regression analysis at 0.05 level of significance. Below shows the impacts of the trade openness on Nigerian economic growth.

![Table 1: The Regression Result of the Short run impacts of the trade openness on economic growth in Nigeria](image)

**Source:** Researcher computation using STATA Version 10.0
1% increase in Foreign Direct Investment (FDI) brings about 0.2% reduction in GDP. An increase in the FDI has a negative impact on output. This also suggests a negative relationship between FDI and economic growth in Nigeria. The result is significant. The relationship between GDP and External Debt (extdebt) is negative. This indicates that 1% increase in extdebt reduces GDP by 0.2%. Also, 1% increase in degree of openness (OPEN) increases GDP by 2.7%, suggesting that there is positive relationship between GDP and OPEN. Also, there is a positive relationship between GDP and import (IMPORT) that is 1% increase in IMPORT increases GDP by 1.7%. The relationship between GDP and Export(EXPT) is positive. This indicates that 1% increase inEXPT increases GDP by 1.4%.

Also, given the coefficient of determination (R²) to the tune of 86.3% (approximately 86%) supported by high value of adjusted R² which stood at 0.8381 (83.8%), it connotes that the independence variables incorporated into this model have been able to determine variation of Gross Domestic Product (GDP) to the tune 83.8%. F probability statistics also confirmed the significance of this model. All the variables are statistically significant. The coefficient of multiple determinations (R²) of 0.8630 or 86% variation in the observed behavior in the dependent variable is jointly explained by the independent variables. The remaining 0.14 or 14% is captured by the stochastic or error term. Thus, the high R² indicates that the model is a good fit. The F-statistics 34.65 indicates that it is statistically significant. Therefore, the results indicate that the coefficient of GDP is statistically significant and the constant is also statistically significant. Below shows the long run effects of the trade openness on Nigerian economic growth in the long run.

Table 2: The Regression Result of the long run impacts of the trade openness on economic growth in Nigeria

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Independent Variables</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T</th>
<th>P-Value</th>
<th>[95%Conf. interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>logGDP</td>
<td>logfdi</td>
<td>-0.02485</td>
<td>0.051694</td>
<td>-2.48</td>
<td>0.034</td>
<td>-0.12959</td>
</tr>
<tr>
<td></td>
<td>logextdebt</td>
<td>0.021422</td>
<td>0.010804</td>
<td>-2.48</td>
<td>0.015</td>
<td>-0.00047</td>
</tr>
<tr>
<td></td>
<td>logOpen</td>
<td>0.843556</td>
<td>0.076116</td>
<td>11.08</td>
<td>0.000</td>
<td>0.68933</td>
</tr>
<tr>
<td></td>
<td>logimport</td>
<td>0.400946</td>
<td>0.053474</td>
<td>7.5</td>
<td>0.000</td>
<td>0.292599</td>
</tr>
<tr>
<td></td>
<td>logexpt</td>
<td>0.576509</td>
<td>0.049708</td>
<td>11.6</td>
<td>0.000</td>
<td>0.475791</td>
</tr>
<tr>
<td></td>
<td>constant</td>
<td>1.096744</td>
<td>0.130287</td>
<td>8.42</td>
<td>0.000</td>
<td>0.832757</td>
</tr>
</tbody>
</table>

R-Squared =0.9290 Adj R-squared = 0.9189 Prob>F= 0.0000

Source: Researcher computation using STATA Version 10.0

1% increase in foreign direct investment (LOGFDI) brings about 0.2% reduction in GDP. An increase in the FDI has a negative impact on output in the long-run. This also suggests that there is a negative relationship between FDI and economic growth in Nigeria in the long-run. The result is significant at 0.034. The relationship between GDP and External Debt (logextdebt) in the long run is positive. This indicates that 1% increase in logextdebt increases GDP by 0.21%. Also, 1% increase in degree of openness (LOGOPEN) increases LOGGDP by 0.8%, suggesting that there is a positive relationship between GDP and OPEN in the long-run. Also, there is a positive relationship between LOGGDP and import (LOGIMPORT) that is 1% increase in IMPORT increases GDP by 0.4% in the long-run. The relationship between GDP and Export (LOGexpt) in the long run is also positive. This indicates that 1% increase inEXPT increases GDP by 0.6% in the longrun.

Given the coefficient of determination (R²) to tune of 0.9290% (approximately 93%) supported by high value of adjusted R² significant at 0.9189 (92%), it connotes that the independence variables incorporated into this model have been able to determine variation of gross domestic product (GDP) to 93% in the long-run. The F and probability statistics also confirmed the significance of this model. All the variables are statistically significant. The coefficient of multiple determinations (R²) of 0.9290 or 93 percent variation in the observed behaviour in the dependent variable is jointly explained by the independent variables. The remaining 7% is captured by the stochastic or error term. Thus, the high R² indicates that the model is a good fit. The probability of F=0.0000 indicates that it is statistically significant. Therefore, the results indicate that the coefficient of GDP is statistically significant and the constant is also statistically significant.
5. POLICY IMPLICATION AND RECOMMENDATION

The regression results on the impact of trade openness on economic growth in Nigeria shows that the result is consistent with economic a priori expectation. The co-efficient of the constant term is 1.096744, which is positive and statistically significant. The coefficient of the log of openness is positive. This implies that the Nigerian economy is enjoying absolute advantage in the international business arena. The results conform to what Nabine (2009) arrived at, which shows that in the short term, the bilateral trade doesn’t contribute to Nigeria’s economic growth but the long-term relationship can enhance Nigeria’s economic growth. There exists an inverse relationship between the (logimport) and (logrexr) in the country in the long run. This mean that when our currency was devalued during the period of Structural adjustment programme (SAP) cost of import will be costlier, while when the currency is appreciated the cost of importing will be cheaper. Based on the results of the independent variables as explained by the dependent variable; it can conclusively be said that trade openness has negative impact on growth in the short run but has positive impact on economic growth in the long run while external debt (extdebt) has negative impact on economic growth in the short run but positive in the long run and FDI enhanced Nigerian economic growth positively in the short run but negative effect in the long run. The economic implication is the debt over hanging from our creditors (Paris Club). Based on the findings arrived at in the course of this study, the following recommendations were hereby suggested.

Strategic macroeconomic policies should be instituted in order to encourage domestic private investment in home and from abroad because of its significant capacity to enhance the growth of the Nigerian economic growth. Structural trade-oriented policies should be adopted to enhance economic growth in Nigeria via higher exports flows in order to accumulate more foreign proceeds to boost output growth rate in Nigeria.

5.1 Conclusion

The evidence provided in this study based on the empirical findings, showed that trade openness had weak positive impact on economic growth in Nigeria during the period of the study. From this study, it could be observed that the Nigeria economy employed different strategy in stimulating its economy through foreign trade. These strategies cut across different stages of economic lifecycle with different outcome. From the results above, export, import, degree of openness, foreign direct investment and external debt acts as an engine of growth in Nigeria. The results supported the claim that Nigeria economy is export-led as against the findings arrived at by Obadan (1989) and Oviemuno (2007). In view of the above, all the components of international trade forming independent variables of the study should be accurately managed so that their importance could be continually felt in the Nigerian Gross Domestic Product and if this is achieved, the envisaged economic fare haven could be in earnest reached and identified in the National development.

REFERENCES


