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Abstract
The Nigerian economy has for decades precariously leaned on the fragile leg of crude oil. An emerging trend suggests that in the last decade the economy was growing without job creation and poverty reduction before it starts slowing down in the last four years. Exports have been described as catalysts for overall development and increase the earnings of the country thereby creating an avenue for growth by raising the national income of the country. Since the importance of foreign income cannot be over-emphasized, this study therefore examines the performance of non-oil exports over the years as well as the reason for that pattern and level of performance. The study evaluates the impact of Nigeria’s non-oil exports as to whether they have been effective in diversifying the productive base of the Nigerian Economy from Crude oil as the major source of foreign exchange. Expectedly, attention of scholars had shifted towards non-oil exports as a remedial for this quagmire. This study investigates the specific impact of the non-oil exports to the growth of Nigerian economy using annual data between 1980-to-2016. The study adopted the Phillip Perron (PP), the Engel-Granger Model (EGM) for co-integration were employed in its analysis. Findings revealed a strong evidence of co-integration relationship of non-oil exports in influencing rate of change in the level of economic growth in Nigeria. The study, apart from empirically providing information that has failed to give backing to recent claims of non-oil exports led growth in Nigeria, has also make some recommendations which include government should re-emphasized and strengthen industrial revolution plan with a clear strategy to develop sectoral plan so that the planned should be working sector by sector for better outcome of these sectors. Also, government should invest in non-oil sector in other to diversify the economy from monoculture economy to a multicultural economy and creating economic environment which will help boost the activity of non-oil export sector.

Keywords: Engel-granger, Phillip perron, Non-oil export, Economic growth, Nigerian economy

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Background to the Study

Income of the country, it also increases the level of employment in the economy as a higher demand for exports will require more production which will in turn lead to the employment of more people (Adenugba & Dipo, 2013). Exportation by a country also helps attain a favorable balance of trade and balance of payment position for the exporting country provided its exports reasonably exceed its imports.

Exportation is required by any economy to enhance revenue and usher in economic growth and development. It is therefore crucial for economic progress and this has informed the idea of export-led growth. Export is a catalyst necessary for the overall development of an economy (Abou-Strait, 2005). It was also noted that foreign trade creates an avenue for foreign capital to flow into a country (Ricardo, 1817 cited in Kubalu & Hanif, 2016). This increases the earnings of the country thereby creating an avenue for growth by raising the national.

In a country like Nigeria where the level of investment is low, foreign capital is very much needed in order to accelerate the creeping rate of economic growth. The Nigerian economy is one that depends largely on foreign trade for growth and is also one which depends majorly on one export commodity at a time. For instance, at independence, the major export commodity was cocoa and the leading sector in the economy was the agricultural sector but today, the major export commodity is crude oil and the leading sector is now the petroleum sector. This has not allowed for balanced growth in the economy as some sectors have been allowed to grow while growth has been impeded in others and this has made the country remain a developing country. In Nigeria, crude oil is the major export because of the large revenue it generates. This has led the economy to focus on the petroleum sector while ignoring the other sectors as well as the potential revenue they can generate. This research aims to determine if non-oil exports contribute significantly to the Gross Domestic Product (GDP) of the economy and to what extent they contribute. It also aims to determine the factors responsible for the current performance of the non-oil sector.

Nigeria is yet to attain the ranks of a developed economy due to lack of structural change, among other factors. Also, it was observed that a factor crucial to this lack of economic progress is the lack of economic diversification which has caused the economy to rely heavily on crude oil sector for revenues and as the major export commodity in the economy (Osuntogun, 1997). Prior to the 1970s, Nigeria's exports were predominantly non-oil commodities with agricultural commodities accounting for the high contribution. However, in the 1970s, when the price of crude oil in the international market skyrocketed, the contribution of non-oil exports began falling and has remained low ever since. This is majorly due to the money-spinning nature of oil exports which makes it more profitable to export oil and less profitable to export non-oil commodities. This has cause a rather heavy dependence on the oil sector and the proceeds from the exportation of crude oil. This heavy reliance subjects the country to difficulties when the price of crude oil, the major export commodity, is low in the international market. In light of this, the government adopted various strategies to boost non-oil exports and stabilize the economy. In spite of these efforts, the performance and contribution of the non-oil exports sector has remained very low. The sector has continued to perform below its full potential.
It is in the light of these conflicting views on the impact and the possible long run relationship that may exist between non-oil export and economic growth, and the co-integration, Engel-Granger model developed by Engel and Granger (1987) that has called for this study, and hence, the study aims to contribute in that way, help enhance the economic progress of the economy, to appraise the past efforts at diversification and to discover how the current performance of the non-oil sectors can be improved. Therefore, the objective of this study is to empirically analyze the impact relationship of non-oil export and economic growth in Nigeria and also to determine the long run relationship between non-oil export and economic growth in Nigeria.

Literature Review and Theoretical Framework

Exports play a vital role in the growth of any economy just as Ricardo (1817) pointed out that foreign trade is highly beneficial to a nation. Also, as observed by Singh (2010), trade is one of the several catalysts of productivity and growth and hence its contribution is contingent on its weight in the aggregate economic activity. The knowledge of this has helped many nations achieve economic growth and development. In light of this, the Nigerian economy left import substitution policies for the export promotion strategies or export-led growth approach. Export promotion strategies or outward oriented strategies are policies that encourage exports, often through the free movement of capital, workers, enterprises, and students; a welcome to multinational corporations; and open communications (Todaro & Smith, 2011). According to Abou-Strait (2005), an export led growth strategy aims to provide producers with incentives to export their goods through various economic and governmental policies. These strategies are aimed at increasing the level of national output in order to increase the volume of exports of the nation. The government encourages and helps to enhance the output of domestic industries for it to exceed the domestic demand so that the surplus can be sold in the international market for an inflow of foreign exchange.

Export promotion involves encouraging domestic production for exportation usually by providing incentives for the domestic producers. This could be in the form of tax cuts or holidays, subsidies, finding markets for such products, providing special loans, etc. It is however important to note that this export promotion strategy rests upon diversification and expansion of non-traditional exports (Dunn & Mutti, 2004). Earlier as the 1970s, studies were published showing that developing countries that pursued an export-led approach experienced far more rapid economic growth than did countries with protectionist policies. The original Four Tigers (Hong Kong, Taiwan, Singapore, and South Korea) were the subject of most of this early research, but the second wave of Asian newly industrialized countries or NICs (Indonesia, Thailand, Malaysia, and China) has also been very successful in pursuing export markets. As a result, these countries have grown rapidly. India, Mexico, and Brazil could be added as recent converts to this approach (Dunn & Mutti, 2004). Abou-Strait (2005) found out that exports of goods and services represent one of the most important sources of foreign exchange income that ease the pressure on the balance of payments and create employment opportunities.
Also, according to Frankel & Romer (1999), trade increase GDP which ultimately increases the income per person. In other words, trade not only enhances economic growth but is also a useful tool in achieving economic development provided there are other structural and institutional changes in the economy and as Morton and Tullock (1976) noted, international trade brings gains to a nation and it acts as a stimulus to growth.

Export trade is an instrument for growth. It increases foreign exchange earnings, improves balance of payment position, creates employment and development of export oriented industries in the manufacturing sector and improves government revenue through taxes, levies and tariffs. These benefits will in turn enhance the process of growth and development in such economy. However, before these benefits can be fully realized, the structure and direction of these exports must be carefully tailored such that the economy will not depend on only one sector for the supply of needed foreign exchange (Onayemi & Akintoye, 2009). Hence, there is a need for economic diversification in the economy.

Abebe (1995) noted that Nigeria’s over-dependence on crude oil is dangerous for two reasons one being because crude oil is a wasting asset with a proven reserve which would eventually become depleted and secondly, the vagaries of the oil market has resulted in a significant decline in the earnings because of the exogenously determined price of crude oil.

Osuntogun, Edordu & Oramah (1997), in their research on the potentials for diversifying Nigeria’s non-oil export to non-traditional markets found out that Nigeria could not fully utilize its potential because the implementation of export promotion policies followed key market concentration strategy i.e. concentration on developed countries like Europe or USA, thereby resulting in less attention to gathering trade facilitating information that may further diversify Nigeria’s export market to less developed countries such as the countries in sub-Saharan Africa. This inter-regional trade, if conducted, will require lower transportation costs and enhance the competitiveness of commodities traded and ensure market clearing of export commodities thereby reducing such problems faced by exports to developed countries.

Lyakurwa (1991) also posited that export diversification is important because it will play an important role in reducing the variability of the export earnings of developing countries and raising the growth rates of both exports and domestic output. However, he warned that the composition of a diversifying country’s exports has to match the import structure of the target countries (Osuntogun, Edordu, & Oramah, 1997).

According to the World Trade Organization (2010), diversification of countries export base increases local production, employment, income and economic growth. Developing countries that export large amounts of a small number of products have export revenues that are quite volatile. Many OPEC members derive more than 80 percent of their export revenues from oil and gas. As a result, the decline in oil prices from the early 1980s to 2000 reduced export receipts. After the four Asian Tigers (South Korea, Singapore, Taiwan and Hong Kong) achieved economic progress through export promotion. Dunn and Mutti (2004) observed that the export promotion strategy does enhance economic growth but they also pointed out that the strategy rests upon the diversification and expansion of non-traditional exports.
Osuntogun, Edordu, and Oramah (1997) discovered that the core of the export-led strategy is the diversification of export products and export markets to minimize risks and ensure a more stable and sustainable current account position. Lewis (1980) also found that diversification of exports will help countries achieve and maintain a high level of economic growth.

Opara (2010) said that exports are the bed-rock of any economic development which is meaningfully centered on non-oil export in most countries of the world. He also said that promoting non-oil export products will bring about a reduction of the nation’s level of dependence on crude oil or what he describes as, “monoculture foreign trade product”.

Theoretical Framework
Theory of Absolute Advantage
This theory was propounded by Adam Smith in his 1776 publication, An Inquiry into the Nature and Causes of the Wealth of Nations. This theory uses a two by two model, i.e. there are two countries involved in the trading of two commodities and using only two factors of production; labour and capital. The theory says that a country should export products in which it is more productive than other countries: that is, goods for which it can produce more output per unit of input than others can (i.e. in which it has an absolute advantage) while importing those goods where it is less productive than other countries (i.e. in which it has an absolute disadvantage) (Dunn & Mutti, 2004).

Absolute advantage means the ability of a country to produce a larger quantity of a good with the same amount of resources as another country. The country’s absolute advantage may be due to the nature of its resources or to its production skills (Hoag & Hoag, 2006). According to Smith, each nation benefits by specializing in the production of the good that it produces at a lower cost than the other nation, while importing the good that it produces at a higher cost. This will increase specialization, world output and the gains from trade (Carbaugh, 2004).

According to this theory, foreign trade is a positive-sum game, because both countries involved will benefit from the trade. Thus, a nation need not gain at the expense of other nations, as all nations could gain simultaneously (Sylvester & Aiyelabola, 2012). However, there arises the question of whether or not to trade when one of the two countries trading has an absolute advantage in the production of the two commodities. Should trade still take place when one partner can produce both commodities more efficiently than the other partner? The theory failed to answer this question satisfactorily and that gave rise to Ricardo’s theory of Comparative Advantage.

Theory of Comparative Advantage
This theory was put forward by David Ricardo in 1817 because he was dissatisfied with the looseness in Smith’s theory (Carbaugh, 2004). According to Ricardo’s theory of comparative advantage, even if a nation has an absolute cost disadvantage in the production of both goods, there still exists a basis for mutually beneficial trade. The less efficient nation should specialize in the production and exportation of the good in which it is relatively less inefficient (where its absolute disadvantage is least) while the more efficient nation should specialize in the production and exportation of the good in which it is relatively more efficient (where its absolute advantage is greatest).
This theory proved to be better than Smith’s absolute advantage theory because it is possible for a nation not to have an absolute advantage in anything but it is not possible for one nation to have a comparative advantage in everything and the other nation to have a comparative advantage in nothing. That is because comparative advantage depends on relative costs (Carbaugh, 2004).

The model of Kubalu and Hanif (2016) was used in this study because they emphasized the causal-Nexus and impact of non-oil export on economic growth. In addition, the growth in Kubalu and Hanif (2016), model is based on GDP level, which makes it very similar to the model chosen for this study. In order to capture this phenomenon, from the theoretical and empirical literature reviewed on the impact relationship and the long run positive and negative relationship between non-oil export and economic growth, the theoretical framework for this research work was established based on the review of Kubalu and Hanif (2016)

\[ RGDP_t = \beta_0 + \beta_1 NOEXP_t + \beta_2 EXCR + \mu, \ldots \ldots \ldots \ldots \ldots (1) \]

GDP = “Real Gross Domestic product” which is the proxy for Economic growth, NOEXP = “Non-Oil export” which is an independent variable, EXCR = Exchange rate, t = Time trend, \( \mu \) = error term or stochastic term at time “t”.

Methodology
In this research, the impact of non-oil export on economic growth was analyzed using a data over the period of 1980-2016. This was accomplished by utilizing the econometrics technique of Engel-Granger co-integration test.

Data Description
Sample Selection
According to the World Bank classification, all developing countries are classified based on level of GDP per capita, which has a threshold between $1,035 and $12,615. For the purpose of this study; annual growth rate (RGDP) was used as the dependent variable and as a proxy for economic growth. RGDP growth rate annually was used as a proxy for economic growth because it shows the monetary value of goods and services excluding inflation. The Central Bank of Nigeria (CBN) publish annual figures for RGDP, Non-oil export and the Exchange rate naira-dollar.

Estimation Procedure and Robustness Test
The analysis begins with ascertaining the order of integration of the variables. The procedure adopted in this study involves the use of the Phillips-Perron (1988) PP Test. The null hypothesis of PP tests are non-stationarity, thus failure with respect to rejection implies unit root in the series. Following these unit root tests, the Engel-Granger co-integration Models as well as fully modified ordinary least squared (FMOLS) regression is employed to examine the presence of any long-run association and significant impact among the variables. To account for the sensitivity of results using this approach to co-integration to the automatic choice of lag length, the schwarz information criterion (SIC) is used. The analysis of the data has been done using the EVIEWS 9 econometric package.
**Specification of the Model**
Based on the objectives of the study, this work adopts the model of Kubalu and Hanif (2016) with minor modifications. It employed a multiple regression model based on GDP level, which makes it very similar to the model chosen for this study.

**i. Phillip-Perron Unit Root Tests**
For this purpose, the study uses the conventional Phillip-Perron unit root tests as a tool for identifying stationarity (or non-stationarity) of a variable by running OLS regression of levels variables on their lag values.

Consider a variable $Y$ that has unit root represented by a first-order autoregressive AR (1):

$$\Delta Y = \alpha + \beta T + \gamma y + \varepsilon_i \quad \text{..........................................................(2)}$$

Where $\alpha$ and $\beta$ are parameters, $\varepsilon_i$ is assumed to be a white noise, $\Delta Y$, expresses the first difference of the variable with $p$ lag, $\Delta Y = Y - Y_{t-1}$ is a stationary series if $-1 < p < 1$. If $p = 1$, $y$ is a non-stationary series; if the process is started at some point, the variance of $y$ increases steadily with time and goes to infinity. If the absolute value of $p$ is greater than one, the series is explosive. Therefore, the hypothesis of a stationary series can be evaluated by testing whether the absolute value of $p$ is strictly less than one. If the series is correlated at higher order lags, the assumption of the white noise disturbance is violated.

**ii. Co-integration Analysis**
The co-integration technique popularized by Engel and Granger (1987) which corrects disequilibrium will be used to test for the long run relationship between the variables.

$$\Delta Y = \alpha_0 + \alpha_1 \Delta X + \alpha_2 \mu + \varepsilon_i \quad \text{..........................................................3}$$

Where

$\Delta = $ First Difference Operator
$\varepsilon_i = $ Random Error Term
$\mu_i = (Y_{t-1} - \beta_1 - \beta_2 X_{t-1})$

**Empirical Results and Discussion**
**Unit root Results**
Before performing the Bounds test, it is essential to check for the stationarity of the data series to be used. The test is conducted using one unit root model. That is, the Philips-Perron (PP) model. The essence of using the PP test is for confirmatory testing and the result of the unit root test is shown in table 1 below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>PP at level</th>
<th>PP at First Difference</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRGDP</td>
<td>-1.892297</td>
<td>-8.004461*</td>
<td>I(1)</td>
</tr>
<tr>
<td>LNOEXP</td>
<td>-1.182930</td>
<td>-7.672140*</td>
<td>I(1)</td>
</tr>
<tr>
<td>EXCR</td>
<td>1.546605</td>
<td>-7.980608*</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

**Source:** Researchers computation using EVIEWS software version 9.0.

***(***)*** denote rejection of the null hypothesis of no level impact at 1%, 5% and 10% respectively.
The Augmented Dickey Fuller test for unit root shows all the variables were examined and found to be non-stationary at levels 1 (0). However, each series of the variables became stationary at first difference indicating that such variables are integrated of order one, I (1) as presented in table 2 above. Therefore, all variables are considered to be integrated of order one and this implies that there might exist a long-run relationship among the series. However, if two or more variables are integrated of the same order, co-integration is said to exist among such variables. Therefore, we proceed to test for their long run co-integration relationship using the Engel and Granger co-integration framework.

Table 2: Engle-Granger test for co-integration

<table>
<thead>
<tr>
<th>Variables</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual series from Engel-Granger</td>
<td>0.0003*</td>
</tr>
</tbody>
</table>

*(* *)*** denote rejection of the null hypothesis of no level impact at 1%, 5% and 10% respectively.

The results of co-integration test based on the Engle-Granger test for co-integration approach are presented in Table 2 above. Indeed, contend that a linear combination of variables integrated to the same orders may yield a stationary series. However, argues that given the problems associated with the testing procedures for co-integration, if the chosen set of variables (dependent and independent) co-integrated among themselves so as to produce a stationary residual, there is need to produce the degree of integration of the individual variables. This supports our choice of estimator which allows for inclusion I-(1) process in the same equation to estimate long run elasticity.

As indicated earlier, a fully modified ordinary least squared (FMOLS) regression was estimated using the variables presented and the residuals from this FMOLS regression was tested for stationarity using the unit root test, and also, E-views 9.0 has an in-built Engel-Granger Co-integration test both with Tau-statistic and Z-statistic values as reported in the above table 2. There was strong evidence of co-integration relationship between economic growth and the explanatory variables presented in the model. The implication is that, a linear combination of the variables will follow a stationary process hence convergence to long-run equilibrium is possible. Since the present of co-integration is established, a long-run relationship is said to exist among the variables of the study. The null hypothesis of no long run relationship between non-oil export and economic growth is therefore rejected. The results of the co-integration regression based on FMOLS are presented in Table 3. All the variables presented in the model were statistically significant to exert strong impact of non-oil export on economic growth in the long-run for Nigeria.
Table 3: Results of FMOLS Co-integration Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>t-test</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNOEXP</td>
<td>0.593391</td>
<td>6.362995</td>
<td>0.0000*</td>
</tr>
<tr>
<td>EXCR</td>
<td>-0.003543</td>
<td>-3.144761</td>
<td>0.0035*</td>
</tr>
<tr>
<td>C</td>
<td>3.282271</td>
<td>10.08499</td>
<td>0.0000*</td>
</tr>
</tbody>
</table>

R-squared = 0.607351, Adjusted R-squared = 0.583554

Source: Researchers computation using EVIEWS software version 9.0.
*(**)*** denote rejection of the null hypothesis of no level impact at 1%, 5% and 10% respectively

The empirical results in Table 3 are robust and satisfactory as well. The regression had a coefficient of determination of about 61% adjusted for the degrees of freedom. This means that about 61% of the variations in economic growth in Nigeria could be attributed to the explanatory variables presented and therefore presents a good fit of the regression model. This reinforces the existence of a long-run linear relationship among economic growth, non-oil export and exchange rate at level.

From the results, a positive relationship is found to exist between non-oil export and economic growth. This is consistent to the a priori expectation indicating that a 1% increase in non-oil export brings about 5.9% increases in economic growth over the long run horizon. This of course is found to be highly significant judging from the t-statistics of approximately 6.36 which is greater than the standing rule of two point seven. Thus, in the long run, non-oil export affects economic growth positively in Nigeria. The positive sign of non-oil export suggest that policies that aim to cause an improvement in diversification of non-oil sector tend to raise economic growth in the long run since this variable was statistically significant at 1% and is consistent with the study found in Kubalu & Hanif in Nigeria (see Kubalu & Hanif, 2016). This is contrary to study submitted by Koester (see Koester, 1986; Arthar et al. 2012; About-Stait, 2005; Furaoka, 2007; Furaoka and Munir, 2010). However, this contrary position is reality for Nigerian economy as found in the literature (see Ogbonna, 2010; Usman, 2010) suggests that non-oil export will deter GDP, only if the government policy framework of export promotion strategies are diversified and expanded. Also, exchange rate (EXCR) appreciation has a positive impact on GDP which is consistent to a priori expectations.

Discussion of Findings

An Engel and Granger testing procedure that allows testing for a level relationship of the same order of integration of the underlying series has been applied on the data to ascertain the long run and impact relationships between non-oil export and RGDP growth in Nigeria. Findings from the analysis reveal that the main variable of interest (i.e. non-oil export) is statistically significant and positive, with a small coefficient in the level of its contribution in stimulating Nigerian economic growth within the period under study. A unit increase in non-oil export stimulates growth of the Nigerian economy by 5.9 percent. This outcome reveals the grossly underdeveloped state of the non-oil sector of the Nigerian economy. This implies that in stepping up the non-oil sector to have meaningful impact on the growth of the economy for balance and diversification, it has to be increased to about 97% up from what is
currently the situation. Where this analysis is stretched further; it means that, for non-oil export to be able to stimulate and influence the rate of change in the growth of Nigerian economy, a fast growing non-oil sector is required. Similarly, exchange rate indicates a negative long run relationship on economic growth in Nigeria. This result indicates that the non-oil export can be treated as a long run forcing variable explaining GDP growth. This result is contradicted with the findings of Koester (1986) among others. The finding however, agreed with the findings of Kubalu & Hanif, (2016), Todaro & Smith (2011) among many studies.

**Conclusion and Recommendation**

This study investigate the impact of non-oil export on economic growth in Nigeria, with the aim of either positive or negative claims that have attributed growth in the nation’s economy in recent times to contributions from non-oil export and the long run relationship. In the process of achieving this objective, the Engel and Granger co-integration and Fully Modified OLS (FMOLS) are employed. Findings show that the co-integration analysis indicates a long run relationship between non-oil export and economic growth over the period under study. Non-oil export and exchange rate can be treated as the 'long run forcing' variable explaining GDP growth in Nigeria. In other words, there is long run relationship between non-oil export, exchange rate and GDP growth in Nigeria. Moreover, the results of FMOLS co-efficient, had an expected and highly significant positive sign. Also, findings show that the fact that exchange rate, within the study period, is not a major factor influencing the rate of change in economic growth of Nigeria. In conclusion, the absence of recent time series study to provide empirical proof of the contribution of non-oil export to Nigeria’s economic growth, this study was undertaken to actually bridge this gap in the literature. From the findings, since the non-oil export has a significant positive impact in the long run on economic growth and also, exchange rate had a significant negative impact in the long run relationship in Nigeria; it means that empirically non-oil export has the potential significant contribution to the growth of economy while exchange rate depreciation has affected the growth rate of the economy negatively in the long-run, making the GDP continue losing it values.

The study therefore recommends that government should formulate meaningful economic policies aimed at re-inventing in the non-oil sector, especially the, growth of non-oil exports are accommodated, more exchange rate earning will be available to forestall recurrence of volatility in exchange rate for better economic growth. The volatility in crude oil price and falling in its production will not really affect the size and growth of the economy since they established long run relationship. Hence, there is need to reform and reinforce the existing policies of non-oil sector for more diversification of the economy which will yield better outcomes.
References


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