Post Deregulation Evaluation of Non-Oil Export and Economic Growth Nexus in Nigeria: An Empirical Analysis

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Abstract: The impact of non-oil export on economic growth in Nigeria has been one of the most debated issues in recent years. This study examines the role of non-oil export on economic growth since deregulation between 1986 when deregulation took effect and 2012 which previous studies might have ignored. In achieving the objectives of the study, Ordinary Least Square Methods was employed. The study reveals that the impact of non-oil export on the economic growth was significant and positive as a unit increase in non-oil export impacted positively by 43% on the productive capacity of goods and services in Nigeria during the period. This is evident in the study that the contribution of non-oil sector during the period in Nigeria has improved above the results of other studies carried out from the pre-deregulation era. The study among other things encourages the government to further reinforce the legislative and supervisory framework of the non-oil sectors in Nigeria and diversify the economy to ensure utmost contributions from all faces of the non-sector to economic growth of Nigeria.

Keywords: Non-oil export, economic growth, foreign reserve

I. Introduction

Export growth may generate specialization in the production of export commodities. By extension, specialization is argued to lead to efficiency gains in the export sector owing to the rise in skills due to learning-by-doing. Consequently, resources would flow from the relatively less productive and non-trade sector to the highly productive exports sector, leading to economic growth. On the same vein, further, Balassa (1978) and Buffie, (1996), dwell on an indirect argument linking exporting to economic growth. They argue that exporting activities generate foreign exchange that is required to import capital goods. Increase in capital goods imports in turn stimulate a country’s capacity to produce. This is more pronounced in developing countries that have an extreme disadvantage in the production of capital goods. In the same line of argument, it is recommended that the most up-to-date knowledge and technology is embodied in the capital goods (plants and equipments) imported from technologically advanced countries. This information transfer through international trade may increase productivity and, by extension, lead to economic growth and development.

The problems of our non-oil export sector is not that the oil export trade is in excess, but there a noticeable waning in non-oil export and loss of market share in the non-oil trade internationally which is a clear indication of how the non-oil sector competitiveness of the Nigerian economy has been time and again adversely affected over the last few decades. A strong and solid export trade is pinpointing of how competitive the commodities and services are, and how large the scale of the industrial base of an economy is, this is shown by the competitive advantages possessed by the country. Also, exports of commodities are achievable when home demand for such are satisfied and surpluses exist in commercial quantities. So, the non-oil export sector serves as the center for exporting these surpluses produces by the non-oil base of the country’s economy (Obagan, 2014). There has been a number of research works which have analyzed the relationship between non-oil export and economic growth. According to Okoh (2004) global integration had positive but not significant relationship in explaining the behavior of non-oil exports in the long-run.

There exists enormous empirical evidence on the relationship between exports and economic growth tested in a number of countries, employing time series techniques. It is noteworthy that the evidence generated does not translate into a consensus on the direction of causality of the two series. For that matter, the relationship between exporting and economic growth remains controversial issue for both researchers and academics alike (Bbaale and Mutenyo, 2011). Some authors have argued that export growth precedes economic growth hence giving a stance to the export-led-growth (ELG) hypothesis (Fosu 1996). On the other hand, others have provided evidence in support of the growth-led-export hypothesis (GLE) by arguing that economic growth precedes export growth (Krugman, 1984; Al-Yousif 1999). The stance of this argument is such that economic growth leads to knowledge and technological development in the various sectors of an economy through the learning-by-doing effect. This effect on the economy becomes a vehicle for export growth especially in those commodities where the country enjoys a comparative advantage. Other authors argue that there is a feedback
relationship between export growth and economic growth (Helpman and Krugman, 1985; Thornton 1996). The arguments obtainable along these lines are that exports may arise from the economies of scale effects of economic growth. At the same time, export expansion may propel further cost reductions leading to efficiency gains, and by extension, leading to economic growth. At an extreme end, some authors find no causal relationship between the two series. So many researchers have looked at single country effect of export on economic growth, while there are also substantial authors who have examined cross-country empirical literature on the effects of exports on growth (Michaely, 1977; Balassa, 1978; Fosu 1996; Greenaway and Kneller, 2007). In this work the author seeks to evaluate export-led-growth since deregulation with a particular reference to Nigeria.

II. Review Of Related Literature

According to the traditional Keynesian theory, an increase in exports is one of the factors that can cause increases in demand and thus will certainly bring about increases in outputs, all other things being equal (Lin and Li, 2007). It is important to note that though this method is highly refined and robust, it has not been commonly used. This is to some extent because of the remnant of Say’s law in people’s mind (McCombie and Thirlwall, 1994). Indeed most people believe that the major challenges of modern economic growth lie on the supply side instead of on the demand side. In other words, they consider that only increase in factor inputs and improvements in economic efficiency can accelerate economic growth (Lin and Li, 2007). Meanwhile, proponents of the demand-oriented analysis oppose the above view and argue convincingly that it is growth in exports that is the major stimulant of aggregate economic activity and economic growth.

Thirlwall(1987), McCombie (1985), McCombie and Thirlwall (1994, 1997 and 1999) and others later developed the argument of the proponents of the demand-oriented analysis into a powerful theoretical framework that analyses the relationship between exports and economic growth. Put briefly, the theoretical framework has the following characteristics: (a) contrary to popular belief, the Keynesian theory/model can be used to analyze long-term phenomena such as economic growth; (b) exports are an autonomous component of demand; (c) the role that exports play in an open economy model is as important as investment in a closed economy model; and (d) the role of the balance of payments as a constraint on economic growth is important.

The so-called Export-Led Growth (ELG) hypothesis is at least as old as the classical school, as both Adam Smith and David Ricardo supported it (Richards 2001). Among modern economists, Beckerman (1965) attributed exports’ favorable impact mainly to the production efficiency gains stemming from improved resources allocation, while Haberlar (1959) stressed the relevance of dynamic benefits, such as the improved availability of foreign capital and technology through the release of the balance of payments constraint. Vernon (1966) focused on the opposite causality channel, in which the self-propelled growth of the domestic economy leads to improved competitiveness and eventually to the expansion of exports.

More recent “endogenous growth” theories emphasize the benefits stemming from a dynamic export sector, in a framework characterized by increasing returns to scale and by virtuous technological and managerial spill-over effects towards other sectors (Feder 1992). Helpman and Krugman (1985) develop some of Beckerman’s and Vernon’s ideas, arguing that the initial growth spurt favoured by export expansion through the efficiency and allocation effects reverberates in enhanced international competitiveness, fostering a new round of export expansion and paving the way for a virtuous development path.

After several decades and the accumulation of an ever-expanding body of research literature, however, “No consensus has emerged on the theoretical appropriateness of the export-led growth hypothesis...Theoretical disagreement on the role of exports is matched by mixed empirical evidence” (Jin 2002; Richards 2001). To this respect, it must be taken into account that attempts to show econometrically that exports are a crucial cause of growth face two basic problems. First, exports are themselves a component of GDP, and thus evidence of a correlation is insufficient to prove consistently any actual causal relationship which might in fact exist. Second, other relevant macroeconomic variables, and especially other components of aggregate demand, are also correlated with GDP growth, and thus a missing variables problem of model mis-specification inevitably arises (Sheehey 1990). Arguments have been put forward, however, that the relationship between trade and development is complex, and that it is not guaranteed that trade will automatically lead to economic growth for developing countries, especially those that predominantly rely on exportation of primary commodities, such as coffee, tea, maize, rice, and the like, as is the case for the countries of the EAC. Terms of trade play a large role in export promotion and economic growth as a whole. Unfavorable terms of trade may lead to sluggish production growth in the commodities a country exports and also affect investments in commodity production, ultimately slowing GDP growth (Fatima, 2010).

The results of Coe and Moghadam (1993) suggests that trade and capital have positive influence on growth in France. Lin (2000) investigated the relationship between trade and economic growth based on China’s national data for the period 1952-1997. The results reveal that the growth rate of export, growth rate of import, growth rate of the volume of trade and labour force growth were positively related to economic growth.
Maddison (1998) showed that the gradual trade liberalization and capital flows in the OECD countries stimulated Western Europe’s reconstruction, recovery and catch up growth. Also, the outward orientation, gradual trade liberalization and inward investment in some East Asian countries like China, Hong Kong and Singapore have significantly contributed to their sustained economic growth.

Drabek and Laird (1998) have noted that developing countries with progressively more liberal trade policies are those with growing ratios of trade, inward investments, and national income and its growth rates. Earlier studies by Singer (1950) and Prehisch (1962) disagreed with the widely held notion that free market and trade would solve the development problem in poor countries. They calculated the net terms of trade of developing countries and found that the terms of trade of these countries have worsened over the years. They concluded that the division of labour between rich countries and poor ones has brought about a state of underdevelopment in less developed countries.

Moreover, Appleyard, et al. (2006) noticed that there is a common misconception that China’s economic growth is taking place at the expense of its many trading partners-Nigeria being its largest trading partner in Africa. Contrarily, a critical overview of the impact of Chinese investment and trade on the growth and development of Nigeria as explicated by Nabine (2009) 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. A number of empirical studies on the relationship between export and economic growths have found export growth to be associated with increase in output or GDP (Michaely, 1977; Tyler, 1981 and Balassa, (1985)).

Michaely (1977) used simple regression and correlation analysis to investigate the relationship between exports and growth. He found that in less developed countries, there was a weak correlation. He, however, raised an important issue as to determine the minimum level of development a country has to attain in order to benefit from trade. As a follow-up on Michaely (1977) work, Tyler (1981) worked on a sample of 55 developing countries. He confirmed the positive relationship between expansion of exports and increase in production. In his analysis, he observed that it is necessary for some countries to achieve a minimum level of development in order to benefit from export expansion, especially of manufactured exports. This conclusion was later supported by Jude and Pop-Silaghi (2008) in the case of Romania. Ram (1988) questioned Balassa (1985)’s finding that the contribution of exports to growth has increased in the post-1973 period compared with the pre-1973 period. He argued that Balassa’s analysis used heterogeneous samples. He used a balanced sample of 45 developing countries and found that the contribution of export, although significant but reduced in the post-1973 period. Also, some studies built on the import-growth relationship have found positive impact of import on growth especially through the impact of technology imports in the production process of developing countries (Perreira, 1996).

Grossman and Helpman (1991) demonstrated the importance of imports of foreign technology in the growth process of a country. He explained that the importation of foreign equipments creates a more efficient production system, increases productive capacity, global output, technological capacity development and economic growth. International trade also impacts the economic growth of countries through the attraction of foreign direct investment (FDI). According to Lall (2000) the main channels through which FDI contributes to economic growth are technology transfer, capital accumulation, access to international market, job creation and managerial and marketing practices; and Blomstrom and Kokko (2003) added that trade and FDI can only facilitate growth after the minimum level of human capital, infrastructure and technology have been met (Karbasi et al., 2005).

Karbasi, et al. (2005) analyzed the role of FDI and trade in promoting economic growth in 42 selected developing countries. They argued that FDI, human capital, trade and domestic investment are important source of economic growth for developing countries. They found a positive significant relationship between trade and growth. They concluded that the contribution of FDI to economic growth is enhanced by its positive interaction with human capital and sound macroeconomic policies and institutional stability. This point is also confirmed by Pop-Silaghi (2009) who concluded that the FDI induced a false effect on growth in the Romanian economy when other factors of growth are omitted. In the same vein, Fogel (2006) opined that for China to achieve the desired objective of quadrupled rate of GDP by 2020, improvement in quality of education, political stability and institutions’ quality should be the key major priorities. Fosu and Magnus (2006) examined the long-run impact of FDI and trade on economic growth in Ghana between 1970 and 2002. They found a long-run relationship between economic growth and its determinants in the model. The results showed a positive and negative growth effect of trade and FDI respectively. This result is in agreement with Pop-Silaghi (2009) for Romania.

In the Nigerian context some studies conducted were not quite different from the above studies. Uche (2009) in his studies employed econometric methodologies to assess the impact of oil export and non-oil export on the growth of Nigerian economy and discovered that there is a unidirectional casualty from oil export to GDP which goes to support the export-led-growth in the case of Nigeria but with reference to oil sector only. He
also found non-oil export does not granger cause economic growth in Nigeria. This work followed most of the set rules in econometric analysis and may have generated a robust result but was not able to cover up to 2012 period, and government have taken a number of steps to improve the non-oil sector of the Nigerian economy and the effect of these policies and programme by the government may have improved the impact of non-oil sector to the growth of Nigerian economy. And so, a resent look at this subject area becomes necessary to give consideration to the response of these government policies and program aimed at improving the non-oil sector of the economy. Thus this study intends to improve on these methodological defects in most of the works mentioned.

III. Research Methodology

This work used OLS multiple regressions analysis to determine the effect of the independent variable on the dependent variable. And so, to improve on the linearity of the model we introduced log in the model. The choice of OLS is mainly because it minimizes the error sum of squares and has a number of advantages such as unbiasedness, consistency, minimum variance and efficiency; it is widely used based on its property of BLUE (Best, Linear, Unbias, Estimate), it is also simple and easy to understand. (Koutsoyannis, 1971; Gujarati, 2004). The E-view econometric software 3.0 was used for this analysis. The statistical test of parameter estimates was conducted using their standard error, t-test, F-test, R, and R². The economic criteria shows whether the coefficients of the variable conform to the economic a priori expectation, while the statistical criteria test were used to assess the significance of the overall regression. The variables under consideration includes: Gross Domestic Product (GDP) which was used as a proxy for economic growth, oil export, non-oil-export, and foreign reserve for the period of 1986-2012.

3.1 Model Specification

The selection of the model is based on the theoretical perspectives of the relationship between non-oil exports which maintains that it stimulates economic growth. Therefore, mathematically, economic growth is expressed as a function of non-oil exports thus:

\[ GDP = f(GDP, NOEXP, FRSV) \]

This equation can be transformed into a linear function thus:

\[ \log GDP_t = b_0 + b_1 \log NOEXP_t + b_2 \log FRSV_t + \mu_t \]

Where,

\[ GDP_t = \text{Gross Domestic Product at time } t \]
\[ NOEXP_t = \text{Non-oil Export at time } t \]
\[ FRSV_t = \text{Foreign Reserve at time } t \]
\[ b_0 \text{ and } b_1, b_2 \text{ are parameters estimates,} \]
\[ \mu_t \text{ is error term} \]

(i) Unit Root Test

A diagnostic test for unit root was considered necessary because time series data are quite prone to being spurious if not handled properly. Hence, we utilized the augmented Dickey-Fuller unit root test to ascertain if the variables in our equation are stationary, at first difference. Secondly, this test will help us find out if we our equation has any problem of autocorrelation.

<table>
<thead>
<tr>
<th>Table 3.1 Augmented Dickey-Fuller Unit Root Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
</tr>
<tr>
<td>Test critical values:</td>
</tr>
<tr>
<td>1% level</td>
</tr>
<tr>
<td>5% level</td>
</tr>
<tr>
<td>10% level</td>
</tr>
<tr>
<td>Durbin-Watson stat</td>
</tr>
</tbody>
</table>

| Augmented Dickey-Fuller test statistic         | -10.16051 | 0.0000 |
| Test critical values:                          |           |       |
| 1% level                                      | -3.724070 |
| 5% level                                      | -2.986225 |
| 10% level                                     | -2.632604 |
| Durbin-Watson stat                            | 2.399753  |


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In table 3.1 above, unit root was test for all the variables adopted in the study. It can be seen that for GDP, FRSV and NOEXP, the calculated values -4.390293, -10.16051 and -6423420 respectively are less than the critical values at 1%, 5% and 10%. This shows that the variables are stationary and are fit to be used OLS regression. It can also be adjudged that the equation is free from problems of autocorrelation. This is based on significant values of the Durbin-Watson stat which stood at approximately 2.00000 for each of the diagnosed variable.

Table 3.2 Regression Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.352564</td>
<td>0.421558</td>
<td>10.32495</td>
<td>0.0000</td>
</tr>
<tr>
<td>LOG(NOEXP)</td>
<td>0.973205</td>
<td>0.052013</td>
<td>18.71069</td>
<td>0.0000</td>
</tr>
<tr>
<td>LOG(FRSV)</td>
<td>0.041838</td>
<td>0.044707</td>
<td>0.935834</td>
<td>0.3587</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.749313</td>
<td></td>
<td>14.86304</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.696756</td>
<td>0.710094</td>
<td>0.71069</td>
<td>0.3587</td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.359182</td>
<td>0.359182</td>
<td>0.359182</td>
<td>0.3587</td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>3.096280</td>
<td>3.096280</td>
<td>3.096280</td>
<td>3.096280</td>
</tr>
<tr>
<td>F-statistic</td>
<td>379.0424</td>
<td>379.0424</td>
<td>379.0424</td>
<td>379.0424</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Source: Authors’

LogGDP = 4.352564 + 0.973205LogNOEXP + 0.041835LogFRSV + µt - - - - (3)

Drawing from the result table 4.2 above, the overall regression is significant as explained by the probability of F-stat at 0.00000. The coefficient of Non-oil export (NOEXP) is positive (0.973205) which imply that a 1 unit increase in NOEXP will result to 0.973205 increases in economic growth in Nigeria for the period under review. The positive impact that exists between Non-oil export and economic growth simply shows that other sectors of the economy other than that of oil sector contributes positively to the overall growth of the economy. The result of the probability of the t-statistics is 0.0000 which is less than 0.05 further goes to indicate that the impact of non-oil export on GDP is not only positive but significant. On other hand, foreign reserve has positive and non-significant impact on economic growth. This is reflected on the positive value of FRSV coefficient at 0.041835 and the probability of the t-stat which is 0.3587, which is greater than the 0.05 critical values. The significant impact that was established among the two variables under consideration portrays the fruitfulness of government effort to revamp the economy by strengthening the non-oil sector of the economy.

Table 3.3

<table>
<thead>
<tr>
<th>CORRELATION MATRIX</th>
<th>LOG(GDP)</th>
<th>LOG(FRSV)</th>
<th>LOG(NOEXP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOG(GDP)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG(FRSV)</td>
<td>0.722272</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LOG(NOEXP)</td>
<td>0.983968</td>
<td>0.710094</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Authors’

The correlation result as indicated from table indicates that there is positive relationship between Non-oil export (NOEXP), foreign reserve (FRSV) and economic growth. This was indicated by the correlation
coefficient (R) = 0.99 and 0.72 for NOEX and FRSV respectively. The implication is that as the non-oil export and foreign reserve increases, the Nigerian economy also increases.

IV. Conclusion And Recommendation

Non-oil export (NEOXP) and foreign reserve (FRSV) both have positive and significant impact on the growth of the Nigerian economy for the period under review so more emphasis should be placed in export diversification in favor of non-oil export as this has a great potential in bringing about sustained growth in the Nigerian economy. This is an improvement over the result of Abagan, et al (2014) which reveals that the impact of non-oil export on the economic growth was moderate and not all that heartening as a unit increase in non-oil export impacted positively on economic growth 26%. Meanwhile, instead of sole dependent on oil export for the ever increasing need for foreign exchange earnings, urgent attention should be given to non-oil export trading as it has the capacity to positively and significantly drive the economy to the desired direction. Policies should be aimed at transforming the economy from a resource based economy to a growth oriented one, because countries that are best placed to benefit from export trading are those that are rapidly transforming their policies and structures to support outward growth. The government should devise strategies aimed at orderly implementation of external sector performance through increased trade openness.

Another way to boost export of finished products is by government intervention in the form of tax incentives. This has been considered a very important factor in attracting FDI, and tax incentives have been an essential pull factor for export-oriented foreign investors Okafor, et al (2015). This is because Nigeria is still regarded as a relatively high-risk country, with the high level of corruption, high transaction cost, insecurity and violence in some parts of the country. Government should promote export-friendly environment which entails creating political stability, effective and efficient public administration, increased trade openness and good governance characterized by reduction of corruption to the barest minimum, security of lives and property, etc to sustain non-oil export.

References