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Abstract

Over the past three decades, Nigeria export base has grown tremendously but significant part of it is dominated by oil export which reflects the mono-cultural base of the Nigerian economy. This study investigates whether the Nigerian economic growth is export-led between 1980 and 2013 by regressing real output on total oil and non-oil export, import, investment, total labour force and exchange rate of naira vis-a-vis U.S dollar. The stochastic process of the time series variables employed are found to converge to stationary at higher difference level between one and two but their linear combination are found be co-integrated based on the Engle-Granger two procedures test. The estimated co-integrating regression model revealed that Nigerian economy is positively and significantly export driven in the long-run and therefore supporting the “export-led growth” hypothesis. Likewise, the hypothesis also holds in the short-run based on the estimated error correction model. For policy simulation, the estimated ECM model revealed that 68% of disequilibrium in long-run growth nexus between export and growth in Nigeria is restored in the first period. This implies that it will take time before exports and other incorporated macroeconomic factors can transit economic growth to its long-run equilibrium in Nigeria.

Keywords

Entrepreneurs, Export, Macroeconomic Policies, Export-Led Growth Hypothesis, Economic Growth

1. Introduction

The export potential of small and medium-sized firms has been a growing subject of interest among policy makers and researchers as a result of their immense contribution to economic development. Over the years, entrepreneurship activities via cottage, small and medium sized industry have been recognised to play a much more important role in economic growth and development. The immense benefits of entrepreneurship has been realised in many economies of the world, developed and developing country like Nigeria due to their potential for export diversification and expansion of industrial production as well as the role they play in the attainment of the sustainable socio-economic development objectives which include poverty eradication and human welfare development. According to the ADB Report (2011), SME sector represents a strategic pillar for Nigeria’s quest to modernise and improve its economy, while diversifying away from heavy dependency on the oil industry. According to the Nigeria Federal office of Statistic, SMEs account for 90% of all businesses in Nigeria, contributing 50% of employment and output in the non oil sector. In view of this, the importance of trade in promoting development has been recognized by many nations. Not only does trade expand demand for products which a country is already producing for the home market but trade also makes possible the production of other products primarily to satisfy foreign demand and this helps a country to achieve economies of scale.

For developing countries, the export side of trade is usually the problem area. The debt burden on developing countries is the cause of the prior and present tendency to import more

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than what is exported. Export promotion is of great necessity in order to balance the flow of trade. Foreign trade stimulates a rise in income (GNP) thereby increasing the capacity of the economy to save and invest. The major dynamic impulse of Nigerian economy comes from export (Egwaikhide, 1990). The dominance of oil export in the economy is giving the nation a lot of concern prior to the oil boom era of 1970’s in Nigeria, the policy adopted by the government was that of an import substitution strategy. This was characterized by protection of infant industries and imposition of high tariffs and non tariffs barriers on imports. So the oil boom era increased the capacity to import as a result of increased foreign exchange earnings. This was soon followed by the oil glut of the late 1970’s and the 1980’s which adversely affected Nigeria’s foreign exchange earnings and triggered off the country’s socio- economic crisis.

Entrepreneurship in Nigeria is perceived as a major avenue to increase the rate of economic growth, create job opportunities, reduce import of manufactured goods and decrease the trade deficits that result from such imports. Two approaches have been used for entrepreneurship development in Nigeria. One of these approaches is concerned with the provision of generous credit facilities for small scale industrialist. The aim of this scheme was to give the entrepreneur capital to boost the business. The second approach was the establishment of the training centre known as Industrial Development Centre (IDC). The idea of this centre was to provide facilities for on- the- job training of entrepreneurs especially those on the informal sector which include petty traders, artisans, peasant farmers, etc. and to train them in various aspects of industrial management. Unfortunately, some of this initiative did not achieve desired results due to certain factors such as (i) absence of infrastructural facilities e.g epileptic power supply, bad roads, lack of adequate security of lives and properties (ii) Economic factors e.g policy reversal, double taxation, high inflation rate etc.

In 1986, Structural Adjustment Programme (SAP) was introduced, its main aim was to liberalise trade and encourage export oriented industries but this did not bring about the expected result. Nigeria’s economy has been adversely affected by the ups and downs brought about by the volatility of world prices of export (oil and primary products) which many writers have varied views on. That is why it is now universally acknowledged that diversification is a pre-requisite to sustained economic growth in the developing world. The practical applicability was found with the Asian countries e.g. Korea, HONG Kong, Taiwan and Singapore.

Prior to the oil boom of the early 1970’s, non-oil exports were sufficient in quantity and revenue for the growth of the Nigerian economy. The oil boom led to the total neglect of the traditional export commodities such as cocoa, rubber, palm kernel, palm oil, groundnut, cotton, timber, tin, columbite and so on, these formerly accounted for 65% of Nigeria’s total exports. The manufacturing sector was also neglected; its exports performed dismally in spite of the trade policy reforms embodied in SAP. The seemingly tremendous increase in the nominal value of manufactured exports can be traced to the massive devaluation of the naira, thereby remaining below 1% of total exports (Jerome and Adenikinju, 1995). The present situation in which about 90% of the country’s foreign exchange earnings are from one commodity where output and prices are externally determined does not augur well for economic development. Export promotion has been known to be a sure means of developing an economy which is confirmed by the new industrialized countries (NIC) that have macroeconomic stability and export promotions.(Egwaikhide,1990). Studies on Sub-Saharan Africa countries have also shown that there is a positive relationship between export expansion and economic growth (Fosu, 1995). Based on this, the objective of this paper is to examine the impact of entrepreneurs’ (SMEs) exports capacity on economic growth in Nigeria between 1980 and 2013. The remaining part of the paper is organized as follows: section 2 provides a review of theoretical literature and empirical evidences. Section 3 presents the methodological issues while section 4 presents empirical analysis. The last section concludes the paper.

2. Review of Related Literature

2.1. Literature Review

Debates have centred on whether export is the “engine” of growth or “promoter of growth. Most studies have been influenced by Robertson’s proposition (1938) that export is the engine of growth. Fajana’s work in 1979 showed that export has a significant effect on growth, so it advocates export expansion and reduced reliance on external financing. Oyejide (1986) revealed that exports represent one important variable explaining output performance during the period 1950 -1985. Obadan (1994) also showed that exports have instrumental significance on the intermediate goods used for the “indirect production” of imports. A nation can take advantage of the internal division of labour and procure desired goods and services from abroad at considerable savings in terms of productive resources, thereby helping to increase the efficiency of the export industry. Krueger (1988) examining the relationship between export and economic growth referred to the use of (inward oriented) import substitution strategy by many less developed country in
trying to achieve a rapid rate of growth of employment in industry than in agriculture would be a hallmark of successful industrialization. Haberler (1988) also stressed on the importance of international division of labour and international trade (import and export) which enables every country to specialize and to export those things it can produce cheaper in exchange for what others can produce at a lower cost. These are basic factors promoting economic well being and increasing national income of every participating country. The higher the level of output, the easier it is to escape the “vicious circle of poverty “and to take off into sustained growth. So, if trade raises the level of income, it also promotes the economic development.

Feder (1983), talking about the relationship between export and economic growth with empirical evidence in a group of semi-industrializing LDC has shown that the marginal value to the economy from a unit investment in non-export expansion is substantially than that of investment in non-export sectors. The study further showed that economies which shift resources into export will gain more than inward-oriented economies. Entrepreneurship and economic growth are very positively linked together according to Schumpeter. According to Schultz (1975), the entrepreneur is anyone who can perceive an economic disequilibrium, evaluate its attributes and if it is found to be worthwhile to act, reallocate their resources, while Kanbur (1979) has the notion of the entrepreneur as one who manages the production function by paying workers’ wages (which are more certain than profits) and shouldering risk and uncertainties of production. The way in which entrepreneurs discharge this functions would often, although not exclusively be through creation of a new firm, as defined by Hart (2003) who sees entrepreneurship essentially as the process of starting and continuing to expand new business. According to Schumpeter, increases in the number of entrepreneurs lead to an expansion in exports capacity which leads to increase in economic growth. This effect is as a result of concrete expression of entrepreneurs’ skills and innovative activities which are being carried out through the introduction of new goods, introduction of new methods of production, opening of new markets, searching for new source of supply of raw materials etc. In the World Development Report (1997), the World Bank presented some evidence which showed that the economic performance of the outward oriented economies performed better than inward looking economies. They performed better than inward looking economies in terms of real GDP growth rates, manufactured export growth rates and efficiency as illustrated by a lower incremental capital output ratio (ICOR).

### 2.2. Empirical Evidence

The debates on the test of “export-led growth hypothesis” as influenced by Robertson’s (1938) proposition has resulted in extensive empirical researches which are inconclusive on the channels and direction through export affect growth. Some of the earlier studies in exploring the significance of export led growth are the work of Feder (1983), Balassa (1985), Jung and Marshall (1985), Ram (1985, 1987), Chow (1987), Moschos (1989), Fusi (1990), Kugler (1991), Serletis (1992), Al-Yousif (1997), Begun & Sham (1998). The study of Oyejide (1986) and Obadan (1994) are the earlier leading studies supporting the export-led growth in Nigeria and established that exports represent one important variable explaining output performance in Nigeria.

Although, Darat (1987), Colombat (1990), Afxentiou & Serletis (1991), Henrigues & Facto (1996) argued that there is no systematic relationship between exports and economic growth. They ascertained that no strong evidence to support the export-led growth hypothesis. In a later study, Shan & Sun (1998) employed the vector autoregressive model and Granger-causality test to determine the contemporaneous and causal relationship between export and real output in China and they found a bi-directional causality. However, this prompt the rejection of the uni-directional causal ordering from exports to growth as proposed in the export-led growth hypothesis.

In recent time, different econometric techniques and data set have been employed by earliest studies to establish the effect of exports (trade) on economic growth. In particular, Vohra (2001) examined the role of export-growth linkage in India, Pakistan, the Philippines, Malaysia, and Thailand on the basis of time series data from 1973 to 1993 and multiple regression model that emanated from the production function. Vohra empirical results indicated that exports have a positive and significant impact on economic growth when country has achieved some level of economic development. The result also signifies the importance of liberal market policy by pursuing export expansion strategies and attracting foreign investments.

Pham (2008) employed a structural vector autoregressive method to determine whether Vietnam’s economy is driven by investment or export between 1986 and 2007. Their findings supported the investment-led growth hypothesis showing that for the past two decades, investment has been the main factor behind Vietnam’s economic growth. In contrast, the impact of export on the country’s GDP growth was found to be very small. The results also indicated that neither investment nor export has helped improve productivity, which in turn was assumed to promote economic growth. Yoon-Ha Yoo (2008) also used the Granger causality conducted within the context of a cointegrated vector autoregressive system to test whether the
Korean and Taiwan economy is export or investment-led and found that the two countries economic achievements were Granger caused by export rather than investment. In Nigeria, Obadan & Okojie (2009) employed regression analysis different from econometric method used by Pham (2008) & Yoon-Ha Yoo (2008) to examine whether the relationship between trade and growth follows the export led growth strategy from 1980 to 2007. Their results showed that trade openness positively impacted on Nigeria’s economic growth. Political instability had a strong negative impact on growth which reaffirms the very nature of our shaky nascent democracy. It is recommended that Nigeria should diversify her export base to include agricultural exports and solid minerals instead of depending solely on petroleum. Going by the reviewed studies, there is lead evidence of no exact findings on the link between export and growth which this study adds its contribution for the case of Nigeria.

### 3. Method of Analysis

This phase of the study covers the detailed description of the econometric methods employed for the precise analysis of the effect of export amidst macroeconomic fluctuations on economic growth in Nigeria. The empirical model for this study is formulated on the theoretical basis of export-led growth hypothesis and following the empirical studies of Riezman et al. (1996) and Al-Yousif (1999) and expressed real output as a function of export, import, real investment, labour force, and exchange rate. Then, the empirical model for this study is expressed as:

\[
RGDP_t = \theta_0 + \theta_1 EXP_t + \theta_2 IMP_t + \theta_3 INV_t + \theta_4 LBF_t + \theta_5 EXC_t + u_t
\]  

(1)

Where RGDP is real gross domestic product as a proxy for economic growth; EXP is total oil and non-oil export; IMP is total oil and non-oil import; INV is total investment as a proxy for capital stock; LBF is the total labour force; EXC is exchange rate of naira vis-a-vis U.S dollar; \(\theta_0\) is intercept; \(\theta_1\) to \(\theta_5\) are parameters of explanatory variables; and \(u\) is error term. Considering the different basis of measurement of the incorporated time series variables in the empirical model (1), the logarithm value of trade and other macroeconomic indicators are taking in order to express the empirical model in log-linear form as:

\[
\ln RGDP_t = \theta_0 + \theta_1 \ln EXP_t + \theta_2 \ln IMP_t + \theta_3 \ln INV_t + \theta_4 \ln LBF_t + \theta_5 \ln EXC_t + u_t
\]  

(2)

### 4. Diagnostic Test

Prior to the estimation of the empirical dynamic regression model (2), the Augmented Dickey-Fuller unit root test is employed to examine the properties of time series variables incorporated in the empirical model. The ADF unit root test requires the estimation of the test equations with intercepts and trend and this is expressed as:

\[
\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \sum_{i=1}^{n} \phi_i \Delta Y_{t-i} + \omega_t
\]  

(3)

Trend

\[
\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \alpha_2 t + \sum_{i=1}^{n} \phi_i \Delta Y_{t-i} + \omega_t
\]  

(4)

Where: \(\omega_t\) is the residual term and \(Y_t\) is the time series variable.

However, the Augmented Engle-Granger co-integration test is employed to determine the long-run relationship among the variables incorporated in the specified model (2) for this study. The variables incorporated will be taken cointegrated if the residual generated from the model (2) is stationary at levels i.e. integrated of order zero. The specified model for this test is given as:

\[
\Delta U_t = \theta_1 U_{t-1} + \sum_{i=1}^{n} \lambda_i \Delta U_{t-i} + \epsilon_i
\]  

(5)

Also, the error correction mechanism (ECM) model is employed to examine the short-run effect of exports on economic growth in Nigeria and to account for disequilibrium gap in the short-run from long-run equilibrium due to error terms. However, the error correction mechanism model involves the estimation of the empirical model (2) in first difference term and incorporation of first lag error correction term expressed as:

\[
\Delta \ln RGDP_t = \eta_0 + \eta_1 \Delta \ln EXP_t + \eta_2 \Delta \ln IMP_t + \eta_3 \Delta \ln INV_t + \eta_4 \Delta LBF_t + \eta_5 \Delta EXC_t + \eta_6 ECT_{t-1} + \omega_t
\]  

(6)

The time series variables employed for the estimation of the empirical models and diagnostic test equations are sourced from the various issues of Central Bank of Nigeria (CBN) Statistical Bulletin as well as World Development Indicator (WDI).
5. Analysis and Discussion of Results

The presentation of empirical results and discussion of findings are covered in this section. The result of the Augmented Dickey-Fuller unit root test employed to examine the time series properties of real output, export, import, real investment, labour force and exchange rate are presented in table 1. The table 1 revealed that all the entire time series variables incorporated in this study accept the null hypothesis “no stationary” at level for intercept and linear trend test models. This implies that real gross domestic product, total export, total import, real investment, labour force and exchange rate as time series variables are not consistent in distribution pattern and not randomly distributed. Although, after differencing and iteration based on number of lag length selected using minimum Akaike and Schwarz information criteria. Real gross domestic product as a proxy of economic growth, real investment, labour force, and exchange rate were found to reject the null hypothesis “no stationary” at first difference, while the trade indicators export and imports time series reject the null hypothesis at second difference at different lag length. This indicates that real gross domestic product, total export, total import, real investment, labour force and exchange rate series are not randomly distributed at levels. This translate that, real gross domestic product as a proxy of economic growth, real investment, labour force, and exchange rate are integrated of order one and the trade indicators are integrated of order two. It is conventional in econometric analysis that regressing one stationary series on the other might yield spurious regression.

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Tau Statistics</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGDP</td>
<td>-5.136861*</td>
<td>I(1)</td>
</tr>
<tr>
<td>EXP</td>
<td>-6.748855*</td>
<td>I(2)</td>
</tr>
<tr>
<td>IMP</td>
<td>-8.471842*</td>
<td>I(2)</td>
</tr>
<tr>
<td>INV</td>
<td>-4.828197*</td>
<td>I(1)</td>
</tr>
<tr>
<td>LBF</td>
<td>-3.471606**</td>
<td>I(1)</td>
</tr>
<tr>
<td>EXC</td>
<td>-4.877209*</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation (2014). Note: Significant at (*)-1%, and (**) -5% McKinnon Critical values. The tautestatistic are estimated using optimal lag length selected based on the minimum AIC and SIC.

After establishing the time series stochastic and consistent process of the incorporated variables in empirical model, the long-run regression model is estimated and presented in table 2. The table 2 revealed that importation of goods and levels of labour force have deteriorating effects on economic growth proxy by log of real gross domestic product. It is only the effect of import found to confirm with the theoretical expectations and statistically significant at 5% critical level.

<table>
<thead>
<tr>
<th>Dependent Variable: LOG(RGDP)</th>
<th>Method: Least Squares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Coefficient</td>
</tr>
<tr>
<td>C</td>
<td>32.91287</td>
</tr>
<tr>
<td>LOG(EXPT)</td>
<td>0.354292</td>
</tr>
<tr>
<td>LOG(IMP)</td>
<td>-0.470961</td>
</tr>
<tr>
<td>LOG(INV)</td>
<td>0.562774</td>
</tr>
<tr>
<td>LOG(LBF)</td>
<td>-1.417076</td>
</tr>
<tr>
<td>LOG(EXC)</td>
<td>0.260237</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.757757</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.714499</td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.495157</td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>6.865050</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-21.04532</td>
</tr>
<tr>
<td>Durbin-Watson stat</td>
<td>0.810362</td>
</tr>
</tbody>
</table>

Source: Author’s Computation (2014) using E-Views 5.1

Although, total exports, real investments and exchange rate exert positive influence on economic growth, exchange rate of naira exerted no significant effect on economic growth in Nigeria. In accessing the structural stability of the estimated long-run regression model, the F-statistic result revealed that the estimated parameters for total exports, imports, real investment, labour force and exchange rate have simultaneous significant effect on economic growth in
Nigeria and this is also confirmed by the adjusted R-squared result which indicated that 71.4% of the total variation in economic growth is accounted by changes in trade and other macroeconomic indicators.

Further attempt was made to examine whether the set of incorporated trade and other macroeconomic indicators in the empirical estimated model are co-integrated i.e. to examine existence of long-run relationship using the Engle-Granger cointegration test by examining the stationarity level of the generated residuals from the estimated model. The results of the Engle-Granger cointegration test result is reported in table 3 and it revealed that the residual series generated from the empirical model that captures the effect of export and macroeconomic fluctuations on economic growth reject the null hypothesis of no stationary at levels. This implies that there exist long-run relationship between export and economic growth in Nigeria between 1980 and 2013.

### Table 3. Engle-Granger Cointegration Test Result.

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF Tau Statistics</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td>Linear Trend</td>
</tr>
<tr>
<td>$u_t = \ln RGDP - (\theta_0 + \theta_1 \ln EXP + \theta_2 \ln IMP + \theta_3 \ln INV + \theta_4 \ln LBF + \theta_5 \ln EXC)$</td>
<td>-3.307345*</td>
<td>-3.898466*</td>
</tr>
</tbody>
</table>

Source: Authors’ computation (2014). Significant at (*)-10% McKinnon Critical values. The tau statistic are estimated using optimal lag length selected based on the minimum AIC and SIC.

However, the error correction mechanism (ECM) model is used to determine the level of dispersion of the short run disequilibrium from the long-run equilibrium and the rate of adjustment of the stochastic shocks in the short-run towards its long-run equilibrium. The results of estimated short-run empirical model that take into consideration the effect of exports on economic growth in Nigeria is presented in table 4.4. The table 4.4 revealed that the economic growth is above its equilibrium in the short-run as a result of trade and macroeconomic shocks during the period even though equilibrium can be restored by 0.67506 units decrease in previous error term.

### Table 4. Short-Run Estimated Regression Results.

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
<td><strong>Coefficient</strong></td>
<td><strong>Std. Error</strong></td>
<td><strong>t-Statistic</strong></td>
</tr>
<tr>
<td>C</td>
<td>37.19459</td>
<td>26.08419</td>
<td>1.425944</td>
</tr>
<tr>
<td>LOG(EXPT)</td>
<td>0.304469</td>
<td>0.123495</td>
<td>2.465429</td>
</tr>
<tr>
<td>LOG(IMP)</td>
<td>-0.128689</td>
<td>0.175331</td>
<td>-0.733981</td>
</tr>
<tr>
<td>LOG(INV)</td>
<td>0.296488</td>
<td>0.192641</td>
<td>1.539070</td>
</tr>
<tr>
<td>LOG(LBF)</td>
<td>-1.696271</td>
<td>1.602704</td>
<td>-1.058381</td>
</tr>
<tr>
<td>LOG(EXC)</td>
<td>0.147667</td>
<td>0.125554</td>
<td>1.176126</td>
</tr>
<tr>
<td>ECT,t-1</td>
<td>-0.675056</td>
<td>0.154281</td>
<td>4.375510</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.855390</td>
<td>Mean dependent var</td>
<td>12.37784</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.822018</td>
<td>S.D. dependent var</td>
<td>0.867258</td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.05878</td>
<td>Akaike info criterion</td>
<td>1.012800</td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>3.480541</td>
<td>Schwarz criterion</td>
<td>1.330241</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-9.711193</td>
<td>F-statistic</td>
<td>25.63222</td>
</tr>
<tr>
<td>Durbin-Watson stat</td>
<td>2.062009</td>
<td>Prob(F-statistic)</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Note: ECT-Error Correction Term-is the residual generated from the long-run regression. Source: Author’s Computation (2014).

The estimated short-run regression model reported was similar to the result of the long-run estimated regression model presented in table 4.1. Although, among all estimated parameters, it is only export that has significant effect on economic growth in the short-run.

### 6. Concluding Remarks

The empirical econometric analysis of the effect of export and other macroeconomic indicators on economic growth in Nigeria between 1980 and 2013 revealed that total export, imports and real investment are significant variables that influence economic growth in the long-run. It is instructive to note that total export has a significant short run relationship with economic growth in Nigeria. Therefore, on the basis of the entire econometric analysis, this study concludes that there is a significant relationship between total exports and economic growth in Nigeria between 1980 and 2013.
Emanating from the findings, the need to institute macroeconomic policy that will drive exportation in the real sectors of the economy and attract foreign private investment in order to boost economic growth in Nigeria is recommended. Also, restriction should be placed on importation of certain goods considering its deteriorating effect on Nigeria’s economic growth.

References


