**Academic Journal of Economic Studies**
**Vol. 3, No. 1, March 2017, pp. 59–67**
**ISSN 2393-4913, ISSN On-line 2457-5836**

# Global Integration, Non-Oil Export and Economic Growth in Nigeria

**Ozoemena Stanley Nwodo[1], Fredrick Onyebuchi Asogwa[2]**

*[1,2]Department of Economics, University of Nigeria, Nsukka,*
*[1]E-mail: nwodo.ozoemena.pg68442@unn.edu.ng, [2]E-mail: **asogwafred@gmail.com***

***Abstract*** *This study focuses on global integration, non-oil export and economic growth in Nigeria. The direct and interaction effect of the both openness variables and non-oil export on economic growth in Nigeria is investigated using quarterly data from 1986-2014. For analysis, it uses one measures of financial openness: de facto (total capital flow) variables following Aizenman and Noy (2009).and a measure of trade openness adopted by Okoh (2004). The study applies the Autoregressive Distributed Lag Model (ARDL). The results show positive impact of non-oil export on economic growth in Nigeria both in the short run and in the long run, negative effect of trade and financial openness on economic growth however, the result recorded a negative effect of the interaction of trade openness and non-oil export on economic growth and a positive effect of the interaction of financial openness and non-oil export on economic growth. Thus, the study recommends among others that government should get the fundamentals right in the economy first that will boost non-oil sector before opening the economy for trade.*

***Key words*** Trade openness, financial openness, globalization, economic growth, non-oil export

**JEL Codes**: F10, F15, F43

## 1. Introduction

The world can be likened to a village with different units that strive to surpass each other. Interaction among the units becomes a major factor in the progress of each of the units and the village in general. Interaction among the units of the global village has become inevitable in this twenty first century that the units has no other option than to fashion out better ways of integrating with other units in the village. This increasing move towards the integration of countries into the world economy is referred to as globalization (Orubu and Awopegba, 2003). All the nations in the world today are faced with the fact of integration of the world trades motivated by the rapid growth of information technology and opening up of the hitherto closed societies and economies (Okpokpo *et al.*,, 2014).

Classical economists viewed trade and financial integration as two independent margins of openness. While trade openness deals with "real issues" related to export orientation versus import substitution, financial openness deals with "financial issues" related to the extent to which the local capital market is differenced from outside capital markets. However, modern research suggests that the two measures of openness are interrelated in various channels. Examples of these links include market pressures through, for example, the need for trade financing.(Aizenman and Noy, 2008).

Nigeria, the most populous and biggest economy in Africa has made several efforts to integrate her economy to the world economy. This can be attested to by the fact of joining of the World Trade Organization as one of the founding members in January 1st, 1995 as a member of the General Agreement for Tariff and Trade (GATT) since 1960, Nigeria has layed more emphasis on speedy development of her economy through expansion of the industrial base of the nation. In a bid to build this strong industrial base, Nigeria, in the pre Structural Adjustment Programme (SAP) era enhanced the production and export of cash crops to fund the imports that are needed to execute the industrialization programme. Thus the Marketing Boards were to boast the export basket which consisted of cocoa, palm produce, rubber, groundnut, ginger and some solid minerals, coal and tin.

Nigerian has been one of the highest recipients of capital inflow from the rest of the world (CBN 2010). This could be a result of the large market size of the economy and the level of its trade openness among others. Though the economy has been reasonably open, and the GDP growth rate has been constant even increasing sometimes, yet, the declining non-oil export growth rate coupled with the volatility of the oil price has been of great concern. Despite these great openness of the economy, non-oil export growth rate have dwindle greatly in recent years compared to GDP growth rate which is relatively constant. The effect of this among others is a kind of a slow developmental process, lack of industrialization, capital flight, and absence of technology transfer, increased unemployment rate, youth unrest, unequal distribution of income etc. Nigeria is today in dire need to expand its source of foreign earnings, if not, the economy may collapse soonest.

In a bid to improve the situation, the federal government of Nigeria has taken great measures to boost the non-oil export components of her international trade. These efforts include the stoppage of marketing boards, the commencement of the second tier foreign exchange market (SFEM), export expansion motivation schemes, creation of the Nigeria Export-Import Bank etc.(Okoh, 2004). These measures also include recently, the various campaigns for foreign investment, measures to

boost the capital mobility of the economy, etc. However, these efforts had not yielded significant effects as can be witnessed by the current scarcity of foreign currency due to the sharp decline in oil prices.

Inspite of these observed facts, little efforts had been made to research on this problem. Although, Okoh (2004), Edame and Eyang (2013), Okpokpo *et al.*, (2014), Mathew and Adegboye (2013) Nwakanma and Ibe (2l014), Raheem and Busari (2013), Edeme and Karimo (2014), Ademola *et al.*, (2013), Soliu and Ibrahim (2014), Oyovwi and Eshenake (2013), Nduka (2013) did study the problem, many of the researchers such as Okoh (2004), Okpoko *et al*., (2014), etc just narrowed trade openness as the only booster of Non-Oil export, thereby neglecting a major component, "financial openness". They equally failed to check the direct impact of the both components of openness on economic growth, and finally, most of the works used ordinary least square (OLS) estimation technique not minding the weakness of the OLS such as the possible endogeneity in the their models which OLS cannot address.

Therefore, this study intends to identify, the real openness policy that boosts non-oil export cum economic growth more by estimating the direct and interaction effect of each of the openness policy instruments and non-oil export on economic growth in Nigeria.

## 2. Literature review

In literature, different studies have been carried out on the different areas of global integration and non-oil export as it affects the growth rate of an economy. For instance Liberati (2006) tried to find out the relationship between trade openness, financial openness and government size in a panel study of sixteen developed nations of Europe and America. Applying the Prais-Winsten Panel corrected standard error estimator for panel data, the study found that financial openness is significantly and negatively related to government size in line with the aprori believe that capital mobility may undermine the ability of government to tax and spend. Similarly, Aizenman and Noy (2009) tried to find out the "endogenous determinants of financial openness and trade openness". They disaggregated financial openness variables into de facto and de jure variables and applying the use of Prais-Winsten algorithm, they found that one standard deviation improvement in trade openness is associated with a 9.5% increase in de facto financial openness and that the rise in the de facto openness influences future trade openness. As a result, they suggested that in time of commercial liberalization economies cannot choose financial openness separately from their degree of openness to trade. This result is in contrast with that of Hanh (2010) who employed the Pedroni co-integration technique and GMM estimator, to study the possible connection between "financial sector development, financial sector openness and trade openness in twenty nine Asian countries between the period ranging from 1994 and 2008". From his result, he concluded that there a bidirectional causality between trade openness and financial openness and that the link between financial sector development and financial openness is different across the various measures.

Ademola *et al*., (2013) examined the impact of trade openness on economic growth in Nigeria using time variables that ranges from 1981 to 2009 and employing the OLS technique, the study found that there is significantly positive relationship between trade openness and economic growth in Nigeria. Based on the result, the authors recommended among others that government should investment heavily in infrastructure to encourage private participation in exports.

Soliu and Ibrahim (2014) investigated the nexus between trade openness, capital formation, foreign direct investment and economic growth using a time series model of the period between 1986 and 2011 with an OLS technique, the Johsanseen-Juselius procedure was used check for cointegration and the result is that there is a positive effect of the degree of openness on capital formation. Also there is positive significant relationship between FDI and gross domestic product growth rate. The authors therefore recommended among others that government should make FDI led policies and boost capital formation to enhance the GDP growth rate. This is similar to Saibu (2014) who examined the direct and interactive effects of capital flow, trade openness and economic growth in Nigeria using a time series data that spanned fro1960 to 2011 and principal component analysis in an Autoregressive Distributive Lag bound testing model found significantly effect of capital inflow – economic growth relationship in Nigeria. It also shows the significance of the interaction term which (foreign capital and trade openness) in the growth model. The study therefore, encouraged trade openness policies to enhance the effectiveness of the capital inflow and also promote GDP growth.

Similarly, Oyovwi and Eshanake (2013) studied the impact of financial openness on economic growth in Nigeria. Using financial depth as a proxy to financial openness and with the use of A Vector Error Correction model in a time series study of the period 1970 to 2010, the study discovered that the link that exist between the variables in the long run are stable and in equilibrium. Therefore, the authors recommended among others that legal and accounting reforms required to strengthen operations in the financial sector should be made.

Feridun *et al*., (2006) investigated the effect of globalization on economic growth in Nigeria. Using a time series OLS, Error Correction Modeling analysis that spans the period of 1986 to 2003. The result showed that economic integration, private investment, public investment and debt services had positive impact on growth. The study therefore, concluded that Nigeria should fully integrate to the world to fully benefit from globalization.

In summary, most of the empirical studies in Nigeria like Okoh (2004), Nduka (2013), Okpoko *et al*. (2010) Nwakama and Ibe (2014), Mathew and Adeboye (2013), Ude and Agodi (2015) among others only made use of a single measure of economic openness which is trade openness, thereby neglecting the important complementary role played by financial openness. However, Feridun *et al*. (2006) who applied the both economic openness measures constrained their study to direct effect of such openness on the economic growth, neglecting the transmission process of the openness variable to economic growth. Also most works reviewed apart from Ude and Agodi (2015) and Orji (2014) employed the Ordinary Least square estimation neglecting the weakness of OLS in addressing the problem of endogeneity in their model.
None of the works reviewed in Nigeria ever interacted the openness variables with non-oil export. Therefore, this study will look at the both direct and the interactive effect of global integration variables and non- oil export on economic growth in Nigeria.

## 3. Methodology of research

The AK model of Rebelo (1991) adapted by Pagano (1993), Bailiiu (2000), Saibu (2014) and Orji (2014) will serve as the starting point of the framework for this study. The AK model is one of the new growth models which came into existence as a result of the unsatisfactory nature of the neoclassical growth models. The AK model, an endogenous growth model is chosen over any neo-classical model because it is closer to reality and it provides the closest answer to the research question. Rebelo (1991) modeled output as a function of capital stock and factor productivity. The AK model looks thus:

$Y = AK_t$ (1)

Where Y is the aggregate output, A is total factor productivity and K is capital stock. The model assumes excess labour supply, productivity of capital constrains production and that the rate of capital to be invested depends on financial intermediation, the long run economic growth rate of the AK model is:

$$g = A\left(\frac{I}{Y}\right) - \delta = \emptyset s - \delta \quad (2)$$

Where:
g is the growth rate of output;
A is the total factor productivity;
$\delta$ is the rate of depreciation;
$\emptyset$ is the proportion of savings converted to investment and it is the efficiency of financial intermediation;
s is the savings rate;
I is change in capital.

Note, this is a closed economy. Extending this model for an open economy, Bailliu (2000) incorporated capital inflow and derived the steady state growth rate as

$$g^* = A^*\frac{I^*}{Y} - \delta = A^*\emptyset^*\left(\frac{S+NCF}{Y}\right) - \delta = A^*\emptyset^*(s+ncf)^* - \delta \quad (3)$$

Where, NCF is net capital flow.

It is obvious here that net capital flow has a positive relationship with the growth rate of an economy, in the sense that, an increase in investment leads to an improvement in competiveness. In addition to foreign direct investment, trade openness police also contribute to capital inflow, a trade policy that allows free flow of capital goods will definitely affect the growth rate of the economy positively.
Saibu, (2014) translated equation 3 (which is the AK model in open economy) into an empirical specification bringing in trade openness and other growth macroeconomic variables into the model to have:

$$\Delta Y_t = \alpha_0 + \beta_{1i}\Delta Z_{it} + \beta_{2i}\Delta CF_{it} + \beta_3 \Delta OPEN_t + e_t \quad (4)$$

Where, $\Delta Y_t$ = is the real output growth rate, Z is other growth conditioning variables which include fiscal and monetary policies which can cover for the total factor productivity (A) in the AK model, CF is capital inflow variables and OPEN is trade openness.

3.1. Model specification

Following Aizeman and Noy (2009) we employ a composite measure of financial openness which is $\frac{FDI+FPI}{GDP}$ where FPI is foreign portfolio investment. Also Trade Openness is measured as $\frac{Import+Export}{GDP}$ (Javid and Qayyum, 2011 and Kargbo, 2012 in Saibu, 2014). We modify equation 4 to include Non-Oil export as one of the macroeconomic conditioning variables as follows

LREGDP=F(LGFCE, PSC, LLAB, FOP, OPEN, LNOEXP OPEN*NOEXP FOP*NOEXP) (5)

Econometrically, equation 5 is transformed to be:

$$LREGDP = \beta_0 + \beta_1 LGFCE + \beta_2 PSC + \beta_3 LLAB + \beta_4 FOP + \beta_5 OPEN + \beta_6 LNOEXP + \beta_7 OPEN * NOEXP + \beta_8 FOP * NOEXP + \mu \quad (6)$$

Where:
LREGDP = log of Real GDP growth (a proxy to economic growth);
LGFCE = log of Government Final Consumption Expenditure (A proxy to fiscal policies (Easterly and Rebelo, 1993 in Sabiu, 2014)). The government final consumption expenditure, according to Keynesian school of taught is expected to positively affect economic growth.
PSC = Credit to Private Sector (A proxy to monetary policy (Burnside and Dollar, 1997 in Sabiiu, 2014)). This captures the improvements in the banking sector. It is expected that improvements in financial intermediation will affect economic growth positively (Levine 2008).
LNOEXP = log of Non-Oil Export (which comprises manufacturing and agricultural exports). It is expected that increase in non-oil export affects economic growth positively and significantly too. (Okoh, 2004a)
LLAB = log of the size of the labour force. The endogenous growth theory posits that human capital is one of the main sources of economic growth, especially in the developing countries. Human Labour (HML) and especially trained labour, is expected to enhance productivity and growth by giving incentives for innovation (Owusu, 2012).
FOP: Financial Openness. Financial Openness de facto measures. Here we use total capital flow as a ratio of GDP to capture our degree of Financial Openness. The sum of FDI, portfolio investments and other investments make up the capital flows, (Aizenman and Noy, 2009).
OPEN= Trade openness. Here we adopted Okoh (2004b), we use sum of value of non-oil export and value of non-oil export as a ratio of GDP. Theoretically, there should be a positive relationship between trade openness and economic growth.
The inclusion of the interaction term is to estimate the influence of trade openness policy on effectiveness of non-oil export and the influence of financial openness on the effectiveness of non-oil export. In other words, the interaction effect of openness policies and non-oil export on economic growth in Nigeria. Therefore, the parameters $\beta_7$ and $\beta_8$ are expected to be positive. According to Saibu (2014), the parameters $\beta_1$, $\beta_2$, $\beta_3$ and $\beta_5$ are expected to be positive. While $\beta_4$ is expected to be positive according to modernization theory, while it should be uncertain according to the dependency theory.

3.2. The Autoregressive Distributive Lag (ARDL) Model

An ARDL is a least squares regression containing lags of the dependent and explanatory variables. ARDLs are usually denoted with the notation ARDL (p, $q_1$ …, $q_k$), where 'p'is the number of lags of the dependent variable,$q_1$ is the number of lags of the first explanatory variable, and $q_k$is the number of lags of the k-th explanatory variable. (Eviews 9)
The ARDL model developed by Pesaran and Pesaran (1997), and used by Owusu (2012), Orji (2014), Saibu (2014) among others; was employed to measure the objective one and two of this study. ARDL becomes most appropriate for the study because of its nature and in the fact that it can be used notwithstanding the order of integration of the variables and it can still be used for small sample (Orji, 2014). Based on this, the equation 6 is estimated as follows:

$$\begin{aligned}\Delta LREGDP_t = {} & \alpha_0 + \sum_{i=1}^{p} \delta_i \Delta LREGDP_{t-1} + \sum_{i=1}^{p} \beta_k \Delta LGFCE_{t-k} + \sum_{i=1}^{p} \in_F \Delta PSC_{t-k} + \sum_{i=1}^{p} \gamma_l \Delta LLAB_{t-l} \\ & + \sum_{i=1}^{p} \varphi_m \Delta FOP_{t-m} + \sum_{i=1}^{p} \Psi_n \Delta OPEN_{t-n} + \sum_{i=1}^{p} \varrho_o \Delta LNOEXP_{t-o} + \sum_{i=1}^{p} \vartheta_p \Delta OPEN_{t-P} * \Delta NOEXP_{t-p} \\ & + \sum_{i=1}^{p} \tau_p \Delta FOP_{t-P} * \Delta NOEXP_{t-p} + \lambda_1 LREGDP_{t-1} + \lambda_2 LGFCE_{t-1} + \lambda_3 PSC_{t-1} + \lambda_4 LLAB_{t-1} + \lambda_5 FOP_{t-1} \\ & + \lambda_6 OPEN_{t-1} + \lambda_7 LNOEXP_{t-1} + \lambda_8 OPEN_{t-1} * NOEXP_{t-1} + \lambda_9 FOP_{t-1} * NOEXP_{t-1} + \mu_t \end{aligned} \quad (7)$$

Where $\alpha_0$ and $\mu_t$ represent the drift component and the white noise respectively. The terms with the summation signs in the equation represents the error correction, while their parameter coefficients indicates the short run effects and the lambda ($\lambda$) represents the corresponding long run relationship.

3.3. ARDL Bound Test Approach

To verify if long run relationship exist in the model, the study will apply the use of ARDL co-integration method. The test is otherwise known as the bound test. The bound test approach of the ARDL estimation technique makes use of the F or Wald-statistics. Null hypothesis of no co-integration ($\lambda_i = 0$) will be tested against the alternative hypothesis of co-integration ($\lambda_i \neq 0$). Decision condition follows Pesaran *et al.* (2001) who computed critical values (two sets) for a given significance level. While one assumes all the variables are I(O) (lower bound), the other concludes all the variables are I(1) (upper bound). If the calculated F is greater than the critical value (upper bound), we will reject null hypothesis. Alternatively, if the lower critical bound value is greater than the F statistics, then we would not reject the null hypothesis. If there is establishment of co-integration (if there is a long run relationship) that means there is a long run relationship, the model was be estimated.

## 4. Results presentations and analysis

4.1. Unit Root Test Result

*Table 1*. Summary of Philip Peron Unit root test result of the series

| Variables | Test Critical Values (5% Level) | Level Philip Peron stat. | 1st Difference Philip Peron test stat | Order of integration |
|---|---|---|---|---|
| LREGDP | -3.449365 | -0.917317 | -5.260023 | I(1) |
| LGFCE | -3449365 | -1.227235 | -6.532502 | I(1) |
| LLAB | -3449365 | -1.648666 | -5.078207 | I(1) |
| PSC | -3449365 | 0.755042 | -4.978936 | I(1) |
| FOP | -3.449365 | -4.031181 | | I(0) |
| OPEN | -3.449365 | -3.238035 | -10.10080 | I(1) |
| LNOEXP | -3.449365 | -3.237708 | -8.612863 | I(1) |

Table 2 presents the summary of the unit root test result for the series in levels and in first difference. The Philip Peron test is the applied test. The result indicates that apart from FOP which is integrated of order zero, all other variables were non-staionary, since their absolute value of Philip Peron test statistic exceeded the critical value only at first difference. The result also showed that none of the variables is I(2) thereby further justifying the use of ARDL model for the study.

4.2. ARDL Bound Test Result

From the result on table 4.2 above, it can be viewed that the bound test F-statistics of 4.374747 is greater than the upper bound critical value 3.39 at 5% level of significance. This indicates that there is a long run relationship among the variables. And this result qualifies us to move on with the estimation of the ARDL model.

*Table 2*. The ARDL bound test

ARDL Bounds Test
Date: 04/04/16 Time: 12:17
Sample: 1986Q3 2014Q4
Included observations: 114
Null Hypothesis: No long-run relationships exist

| Test Statistic | Value | k |
|---|---|---|
| F-statistic | 4.374747 | 8 |
| Critical Value Bounds | | |
| Significance | I0 Bound | I1 Bound |
| 10% | 1.95 | 3.06 |
| 5% | 2.22 | 3.39 |
| 2.5% | 2.48 | 3.7 |
| 1% | 2.79 | 4.1 |

*Table 3.* Estimated Long-run Coefficients Based on ARDL (2, 1, 1, 2, 1, 1, 0, 1, 0)

| Regressor | Coefficient | Standard Error | t-Statistics (p-Value) |
|---|---|---|---|
| Dependent Variable: LREGDP | | | |
| LGFCE | -0.105236** | 0.050243 | -2.094537 (0.0388) |
| PSC | 0.000007 | 0.000009 | 0.742889(0.4594) |
| LLAB | 2.373265** | 0.619964 | 3.828067(0.0002) |
| LNOEXP | 0.175016** | 0.054370 | 3.218955(0.0018) |
| FOP | -0.000904 | 0.005319 | -0.169891(0.8655) |
| OPEN | -0.887796 | 0.696787 | -1.274129(0.2057) |
| FOP*NOEXP | 0.000390 | 0.001243 | 0.313520(0.7546) |
| OPEN*NOEXP | -0.000715** | 0.000354 | -2.019044(0.0463) |
| Intercept | -32.673274** | 9.979526 | -3.274031(0.0015) |
| Notes: $R^2$ =0.862895<br>Adjusted $R^2$ = 0.838616<br>S.E of regression = 0.003416<br>F-statistics = 35.54090<br>Prob(F-statistics) = 0.0000<br>Durbin Watson = 2.200924 | | | |

** Denote significant at 5% level

Based on table 3, the long-run elasticity on REGDP with respect to non-oil export in Nigeria is positive as expected. The long-run impact of non-oil export on REGDP is positive and indicates that a one percent increase in non-oil export increase real gross domestic product by about 0.18 percent, holding all other factors constant. This result is statistically significant but the result indicates a negative relationship between REGDP and OPEN. That is, opening the economy through trade openness by one naira reduces REGDP by about 89 percent (i.e.0.89X100) However; the result is not significant statistically. Despite the above positive results of NOEXP, the interaction of the two variables of NOEXP and OPEN indicates a negative result. The result shows that opening up the economy in terms of trade, reduces the effectiveness of non-oil export on GDP by 0.1 percent. This goes to confirm the coefficient of OPEN which is too large but a confirmation of the fact that opening the economy through trade only encourages imports in Nigeria and does not encourage exports much due to the inelastic demand nature of the Nigeria's export product.

The result is in line with the work of Ifeacho *et al*. (2014) who found a positive relationship between non-oil export and economic growth. However, the finding contrasted that of Raheem and Busari (2013) who found a negative relationship between non-oil export and economic growth in Nigeria. It also contrasted the works of Ademola et al (2013), Ude and Agodi (2015), who found positive relationship between trade openness and economic growth. The result of the interaction term seems to be in agreement with the findings of Okoh (2004b) who used trade openness as a proxy for global integration and found that global integration though positive does not explain the behavior of non-oil export. However, in this case, it was found that trade openness actually de-enhances non-oil export.

In like manner, the result in table 3 above also indicates a negative relationship between financial openness and economic growth in the long run, though the result is not statistically significant, it shows that a one naira increase in financial openness reduces real GDP by 0.1 percent. However, interacting financial openness with non-oil export indicates a positive relationship. That is, financial openness enhances the effectiveness of the non-oil export by about 0.1 percent, though, the effect is statistically insignificant. However, this result is in contrast to that of Orji (2014) who found a positive relationship between financial openness and economic growth in the long run, but found a negative relationship in the short run.

Also other variables included in the model are all statistically significant except the private sector credit which has an insignificant result though the coefficient is positive. The result indicates that a one percent increase in government final consumption expenditure reduces real GDP by 0.12 percent holding all other factors constant. This is however not in agreement with economic theory as government expenditure ought to increase economic growth, but, also the result goes a long way in explaining the effect of heavy corruption in the system which sees most of the government expenditure going into private pockets. Also there is a positive relationship between real GDP and private sector credit in Nigeria which is as expected, that is, holding all other factors constant a one naira increase in private sector credit, increases real GDP by 0.001 percent due the coefficient is insignificant but it is as expected. Finally, there is positive relationship between the size of the labour force and economic growth which is as expected also. A one percent increase in the size of the labour force increase real GDP by 2.37 percent and this is statistically significant.

The $R^2$ value of 0.862895 shows that about 86 percent of the variations in the dependent variable (REGDP) are explained by variations in the model (Independent variables) this is reasonably ok as it is above 50 percent. Likewise, the F statistics

of 35.54090 and its probability of 0.000000 shows that the independent variables are jointly statistically significant and therefore reliable. While the Durbin Watson value of 2.200924 shows the regression is not spurious.

The next step is to analyze the short run dynamic impact of the independent variables on REGDP. Short-run dynamics of the equilibrium relationship are obtained through the error correction model and the results are presented in table 4 below. The error correction term measures the speed at which the endogenous variable adjusts to change in the explanatory variables before converging to its equilibrium level.

*Table 4*. Short run Results and Diagnostics Tests

| Regressor | Coefficient | Standard Error | t-Statistics (p-Value) |
|---|---|---|---|
| ΔLREGDP (-1) | 0.585798* | 0.078244 | 7.486832 (0.0000) |
| ΔLGFCE | 0.007786 | 0.006016 | 1.294190 (0.1987) |
| ΔPSC | -0.000003 | 0.000001 | -4.587685 (0.0000) |
| ΔLLAB(-1) | 0.217170 | 0.054261 | 4.002343 (0.0001) |
| ΔLNOEXP | -0.000277 | 0.002885 | -0.096019 (0.9237) |
| D(FOP) | -0.000668 | 0.000308 | -2.171317 (0.0324) |
| ΔOPEN | -0.016175 | 0.010289 | -1.572080 (0.1192) |
| Δ (FOP*NOEXP) | 0.000190 | 0.000069 | 2.744874 (0.0072) |
| ΔOPEN*NOEXP | -0.000013 | 0.000007 | -1.857766 (0.0663) |
| ecm (-1) | -0.018219 | 0.005935 | -3.069838 (0.0028) |

| Test | F-statistics | Prob. Value |
|---|---|---|
| $\chi^2$ SERIAL | 1.055000 | 0.3523 |
| $\chi^2$ ARCH | 0.094721 | 0.7588 |
| $\chi^2$ REMSAY | 0.005954 | 0.9387 |

Table 4 above reports the results of short-run dynamics of trade openness, financial openness, non-oil export and real GDP in Nigeria. In the short span of time, financial openness and the interaction term of FOP*NOEXP have significant impact on REGDP; while financial openness has a negative and significant impact on REGDP, the interaction of financial openness on non-oil export has positive and significant impact on REGDP in the short run. This corresponds to the long run result of FOP and FOP*NOEXP, as a one naira increase in FOP, decreases real GDP by about 0.07 percent while, one naira increase in the interaction term FOP*NOEXP increases real GDP by 0.02 percent all other factors held constants in the short run.

Also, there is a negative relationship between non-oil export and real GDP in the short, as a one percent increase in non-oil export in the short run reduces the real GDP by about 0.0003 percent which is statistically insignificant. Trade openness is also negatively related to real GDP in the short as a one naira increase in trade openness reduces real GDP by about 1.6 percent. This is also statistically insignificant, and consequently the interaction of trade openness and non-oil export possess a negative relationship with real GDP that is only significant at 10 percent level of significant.

However, the negative statistically significant estimate of $ECM_{t-1}$ validates the established long run relationship among real GDP, non-oil export, trade openness, log of government final consumption expenditure, private sector credit, log of the size of labour force and the both interaction terms in the model in Nigeria. The results also indicate that the estimate of $ECM_{t-1}$ is -0.018219 and is statistically significant at 5 per cent level. This implies that about 1.82 percent of deviations from long run equilibrium are corrected for in one quarter period.

## 5. Conclusions and recommendations

In conclusion, The result showed that the long-run impact of non-oil export on REGDP is positive and indicates that a one percent increase in non-oil export increase real gross domestic product by about 0.18 percent, holding all other factors constant. This result is statistically significant but the result indicates a negative relationship between REGDP and OPEN. That is, opening the economy through trade openness by one naira reduces REGDP by about 89 percent. However, the result is not significant statistically. Despite the above positive results of NOEXP, the interaction of the two variables of NOEXP and OPEN indicates a negative result. The result shows that opening up the economy in terms of trade, reduces the effectiveness of non-oil export on GDP by 0.1 percent.

The result also indicates a negative relationship between financial openness and economic growth in the long run, though the result is not statistically significant, it shows that a one naira increase in financial openness reduces real GDP by 0.1 percent. However, interacting financial openness with non-oil export indicates a positive relationship. That is, financial openness enhances the effectiveness of the non-oil export by about 0.1 percent, though, the effect is statistically insignificant.

The result of one of the control variables which is government final consumption expenditure also attests to the fact that the present style of governance among the leaders has serious negative impact on the growth of the Nigerian Economy.
The first significant policy implication arising out of the empirical finding of the study is that the both openness variables (financial and trade openness) are directly negatively related to economic growth in Nigeria both in the short run and in the long run. But the interaction of financial openness and non-oil export becomes positively related to economic growth. Thus, policy makers will be wasting a whole lot of time implementing only openness policies of financial and trade openness without boosting the fundamentals in the economy. Even if the government opens up the economy without boosting or bringing up policies that will boost non-oil export more, the openness policies may not work for the economy.
From the findings of this study, it was discovered that the interaction of financial openness and non-oil export is positively related to economic growth, while the interaction of trade openness with non-oil export is negatively related to economic growth. Therefore, government should pay more attention to policies that will boost financial openness than on policies that will boost trade openness. Among the policies that will boost financial openness include, creating an enabling environment for foreign direct investment, making the stock exchange market more transparent for portfolio investment. Encouraging and marketing of Nigeria bond in the Eurobond market just as the immediate past regime did in order to sell more of Nigeria bonds in the Euro market.

**Acknowledgement**

We acknowledge the assistance of Dr. Emenike Ogbuabor and Dr. T. Orji of the Department of Economics, University of Nigeria to the success of this work. They spared their scarce time to proof read this work and made meaningful contributions. We say thank you sirs.

**References**

Ademola, I., Olusuyi, A., Ibiyemi, O. and Giwa, A. (2013). Trade Openness and Economic Growth in Nigeria. An Empirical Analysis. *International journal of Humanities and Social Science Invention. 2(6):101-113.*
Aizenman, J. and Noy, I. (2008), Links between Trade and Finance: A Disaggregated Analysis *A publication of the National Bureau of Economic Research*. Retrived from http://www.nber.org/chapters/c4773 on 16/07/15.
Aizenman, J.and Noy, I. (2009), Endogenous Financial and Trade Openness. *Review of Development Economics*, 13(2):175-189
Bailliu, Jeannine (2000). Direct Capital Flows, Financial Development, and Economic Growth in Developing Countries. *Bank of Canada Working Paper* No. 2000–15.
CBN (2010). Central Bank of Nigeria Annual Report and Financial Statement for Various Years.
Edame, G. and Eyam, N.(2013), Determinants of Non-Oil Exports in Nigeria: An Analysis of Manufacturing Firms. *African Economic Research Consortum*.
Edeme, K. and Karimo T. (2014), Economic Liberalization and Industrial Sector Performance in Nigeria- A Marginal Impact Analysis. *International Journal of Development and Emerging Economics. 2(4):43-59.*
Feridun, M., Olusi, J. and Folorunso, B. (2006). Analyzing the Impact of Globalization on Economic Development in Developing Economies: An Application of Error Correction Modelling (ECM) To Nigeria. *Journal of Applied Econometrics and International Development*. 6(3): 173-182.
Gries, T. and Redlin, M. (2012,). Trade Openness and Economic Growth: a Panel Causality Analysis. In *International Conferences of RCIE, KIET, and APEA, March* (pp. 16-18).
Gwartney, J., Holcombe, R. and Lawson, R. (2006). "Institutions and Impact of Investment on Growth." *Kyklos.* 59: 255.
Ifeacho, C., Omoniyi, B. and Olufunke B. (2014). Effect of Non-Oil Export on the Economic Development of Nigeria. *International Journal of Business and Management Invention.* 3(31): 27-32
Liberati, P. (2006). "Trade Openness, Financial Openness and Government Size.
Mbabazi, J., Milner, C. and Morrissey, O. (2004). "Trade Openness, Trade Cost and Growth: Why Sub-Saharan Africa Perform Poorly". *A Publication of the Centre for Research in Economic Development and International Trade, University of Nottingham.* Retrieved from www.nottingham.ac.uk/economics/credit/ on 16/07/15
Mehrara, M., Ahrari, A. Farahani and Sadr, A. (2008). The Effects of Globalisation on Non-Oil Export of Iran. Retrieved from jare-sh.com [PDF] on 16/07/15
Mujahid, H. and Alam, S. (2014) " Impact of Financial Openness, Trade Openness on Macroeconomic Volatility in Pakistan: ARDL Co Integration Approach". *Journal of Business Management and Economics. 5(1):001-008*
Nduka, E. (2013). "Openness and Economic Growth in Nigeria" *Journal of Education and Practice.* 4(1):68-73
Nwakanma, P. and Ibe, C. (2014), "Globalization and Economic Growth. An Econometric Dimension Drawing Evidence from Nigeria" *International Review of Management and Business Resarch. 3(2): 771-777.*
Okoh, R. N (2004), Global Integration and the Growth of Nigeria's Non-oil Exports. *A paper presented at the African Conference on 21st to 22nd March, 2004, Oxford, UK.*
Okpoko G., Ifelunini, I. and Osuyali F. (2014) "Is globalization A Potent Driver of Economic Growth? *Investigating the Nigerian Non-Oil Export" Asian Economic and financial Review. 4(6):781-792.*

Orji A. (2014), "Analysis of Financial Openness and Macroeconomic Performance in Nigeria, 1986-2011" A Ph.D Thesis submitted to the Department of Economics, University of Nigeria, Nsukka. Retrieved from www.unn.edu.ng on 17/07/15.

Orubu and Awopegba (2003). Market Economies, Globalization and the Role of Good Governance in the Development Process: Challenges for the Nigerian Economy.

Owusu, E. (2012). "Financial Liberalization and Economic Growth in ECOWAS countries. Unpublished PhD Research Work.

Oyovwi, O. and Eshenake, S. (2013). "Financial Openness and Economic Growth in Nigeria: A Vector Error Correction Approach". *An International Multidisciplinary Journal, Ethiopia. 7(4): 79-91.*

Pagano, M. (1993). Financial markets and growth: An overview. *European Economic Review*, 37(4). 613−622.

Pesaran, M. and Pesaran B. (1997). Working with Microfit 4.0: Interactive Econometric Analysis. Oxford, Oxford University Press.

Pesaran, M., Shin, Y., and Smith, R. (2001). Bound testing approaches to the analysis of level relationships. *Journal of Applied Econometrics, 16, 289-329.*

Raheem, I. and Busari A. (2013, "Non-Oil Export and Economic Growth in Nigeia: Does Methodology Matter?" *journal of Asian Development Studies. 2(2):21-34.*

Rebelo, S (1991), Long-run Policy Analysis and Long run Growth, *Journal of Political Economy, 99(3), 500-521.*

Saibu, F. M. (2014). Capital Inflow and Economic Growth Nexus in Nigeria: The Role of Trade Openness. *Acta Universitatis Danubius.* 10(6):98-112.

Skipton, C(2007), "Trade Openness, Investment and Long-Run Economic Growth" *A working paper presented at the 2007-2008 Southern Economics Association meetins, New Orleans, La. November, 18-21, 2007.*

Soliu A. and Ibrahim, O. (2014). "Empirical Analysis of Trade Openness, Capital Formation, FDI and Economic Growth: Nigeria Experience". *International journal of Social Science and Humanities Invention. 1(1):36-50.*

Ude, D. and Agodi, J. (2015). Does Trade Openness Make Sense? Investigation of Nigeria Trade Policy. International *Journal of Academic Research in Economics and Management* Sciences. 4(1):6-21.