

## **Promoting Nigerian Non-Oil Export in the Global Market and its Impacts on Economic Growth in Nigeria**

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### **Abstract**

The dominance of oil resource over non-oil resource in the determination of national output in Nigeria has resulted in the slim revenue currently being generated from the non-oil sector of the economy especially in the face of dwindling oil prices. This of course left huge gap in revenue over the years particularly 2015 and 2017 and consequently plunging the nation into recession. This research work investigates the impact of non-oil exports on economic growth in Nigeria between 1980 and 2016 especially from the perspectives of components of non-oil products. Ordinary Least Square Methods involving Error correction mechanism, over-parametization and parsimonious were utilized. In testing for the time series properties, the evidence from estimated economic models using the Augmented Dickey-Fuller (ADF) suggests that most variables examined are stationary at first difference I(1s) while one is stationary at level I(2), hence the application of Auto-regressive distributive lag model (ARDL). Johansen Co integration test reveals that the variables are co integrated. Due to this cointegration result among the variables, the Fully Modified OLS (FMOLS), an efficient estimation technique for long-run cointegrating regression was utilised. This result reveals the existence of long-run equilibrium relationship between the variables. It further reveals that the impact of non-oil export on the economic growth was positive and significant over the years covered in the study. The result also further indicates the near extinction of the non-oil sector revenue source if crucial policy formulation and execution is not embarked upon. The study however recommends the government to provide infrastructural framework, broaden the non-oil export base, among others steps aimed at promoting non-oil exports in the global market and thereby developing suitable alternative to oil which will make a re-occurrence of recession rather impossible in Nigeria

**Keyword:** *Non-oil export, Economic growth, Ordinary least square, Diversification, Nigeria*

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### **Background to the Study**

The unimpressive revenue from oil exports and its attendant effect of scarcity in foreign exchange over the years particularly between 2015 and 2016 in Nigeria told a huge negative toll on government expenditure during the period. High unemployment rate, high foreign exchange rate, general rise in prices of items within the country are few of the evils that bedevilled the Nigerian state as a result of the dwindling oil revenue. Moreso, the civil unrest witnessed in the oil producing states affected daily production. The Minister of state for petroleum, IbeKachikwu said: "The country's situation was worsened by the spate of militant attacks and pipeline vandalism in the Niger Delta, resulting in the country losing over 54 per cent of its daily oil production, from about 2.2 million barrels to about 1.2 million barrels. (Vanguard News, 2017).

A well-developed non-oil export will surely provide a viable substitute which should have continually provide employment to teaming populace, development of infrastructure, increase in government expenditure, increase in foreign exchange earnings and reduced foreign exchange rate. Such well-developed export has the tendency of turning a slow and underdeveloped economy as Nigeria into a booming economy. It is important to state that even in the face of unimpressive contribution from the non-oil sector of the economy, various policies, drives and strategies programmes of government continued to be introduced. Agricultural sector has continued to remain at undeveloped stage as various problems face the sector making it rather difficult to generate much revenue from the sector. These problems include inadequate and expensive credit facilities, inadequate production machinery, inadequate fertilizer support, poor infrastructure, lack of adequate preservation equipment, poor agricultural extension programme etc.

Whereas it is worthy of note to state that the great attention channelled towards oil sector to the disadvantage of the non-oil sector, it is equally true that the problems of this sector goes beyond this assertion. It is important to state that the dismal record of the non-oil export has been the largely due to the underdeveloped nature of the sector, leading to inability of its exports to compete globally. The recent purported export of yams from Nigeria as being embarked upon by the Buhari Administration has met with several criticism. The argument has been that such products and other non-oil sector products are either inadequate for consumption within the country or could not enjoy preservative facilities. This notwithstanding, other non-oil sector products have however attracted government attention and expenditure which translates to surpluses, and this surpluses need be exported.

There has been several other research works which investigates the relationship between exports of non-oil sector on Nigerian economic growth. Abogan, Akinola&Baruwa (2014) in their study of relationship between non-oil exports and GDP observed a negative and insignificant trend and adduced this to the fact that that during the periodinconsideration (1980-2011) attention were almost shifted from non-oilsectors to the oil sector which reduced its contributions tototal revenue and gross domestic product in Nigeria. Other

researchers who have carried out similar works but with different scopes include Matthew, Charles, Dorathy, & Suleiman (2017) as well as Ogunjimi, Aderinto, & Ogunro(2015)

### **Objectives of the study**

The broad objective of this study is to evaluate the impact of non-oil exports on economic growth in Nigeria and proffer recommendations for promotion of non-oil exports

Specific objectives include:

1. To investigate the impact of non-oil exports on Real Gross Domestic Product (Real GDP) in Nigeria
2. To assess the impact of non-oil products such as Agriculture and Solid Minerals on Real Gross Domestic Product (Real GDP) in Nigeria

### **Research Questions**

1. Does non-oil exports have significant impact on Real Gross Domestic Product in Nigeria
2. Do non-oil products such as Agriculture and Solid Minerals have significant impact on Real Gross Domestic Product in Nigeria

### **Statement of the Problem/Motivation**

The focus of the Nigerian government in the wake of oil price fluctuation in 2015 on development of the non-oil sector of the economy in order to ensure diversification of the economy has been regarded as deliberate efforts at broadening the export basket of the economy.

Specifically, data obtained from the Central Bank of Nigeria, CBN, showed that Nigeria's oil revenue from January to April 2016 stood at N852.8 billion, compared to N1.497 trillion in the same period in 2015. (Vanguard, 2016) More so, data obtained from the Nigerian National Petroleum Corporation, NNPC, also disclosed that within the same period, January to April 2016, it paid N313.652 billion into the Federation Account, down by 15.79 per cent from N372.443 billion recorded in the same period in 2015.(Vanguard, 2016)

With this strength becoming persistent, Nigerian government on all fronts have since commenced frantic efforts aimed at developing the non-oil sector of the economy as being the only veritable substitutes for sustained revenue generation It is therefore imperative to study the impact of the exports of the non-oil sector products on economic growth of the economy.

Moreso, the various results obtained in the research work carried out by Abadan, Akinola&Baruwa (2014) which portends a negative and insignificant relationship between non-oil exports and Nigerian economy continues to raise curiosity. Whereas the work of Abogan, Akinola&Baruwa (2014) terminated in 2011 which was an era characterized by impressive crude oil prices and total neglect of the non-oil sector, this

research work tends to extend the investigation till 2016, test the reversal of trend if possible, given the recent drive embarked by the Nigerian government for growth in the non-oil sector on economic growth. It shall also test the reliability of these previous studies.

### **Hypothesis**

This is a statement drawn to be tested for the purpose of acceptance or rejection. The hypotheses of this study are stated as follows:

#### **Hypothesis I**

**Ho:** Non-oil exports have no significant impact on Real Gross Domestic Product (Real GDP) in Nigeria.

**H1:** Non-oil exports have significant impact on Real Gross Domestic Product (Real GDP) in Nigeria.

#### **Hypothesis II**

**Ho:** Agriculture has no significant impact on Real Gross Domestic Product (Real GDP) in Nigeria.

**H1:** Agriculture has significant impact on Real Gross Domestic Product (Real GDP) in Nigeria.

#### **Hypothesis III**

**Ho:** Solid Minerals rate has no significant impact on Real Gross Domestic Product (Real GDP) in Nigeria.

**H1:** Solid Minerals rate has significant impact on Real Gross Domestic Product (Real GDP) in Nigeria.

### **Literature Review**

#### **Conceptual Framework**

##### **Export Promotion**

Export promotion strategies or outward oriented strategies are policies that encourage exports, often through the free movement of capital, workers, enterprises, and students; a welcome to multinational corporations; and open communications (Todaro & Smith, 2011).

According to Abou-Strait (2005), an export led growth strategy aims to provide producers with incentives to export their goods through various economic and governmental policies. These strategies are aimed at increasing the level of national output in order to increase the volume of exports of the nation. The government encourages and helps to enhance the output of domestic industries for it to exceed the domestic demand so that the surplus can be sold in the international market for an inflow of foreign exchange.

Export promotion involves encouraging domestic production for exportation usually by providing incentives for the domestic producers. This could be in the form of tax cuts or holidays, subsidies, finding markets for such products, providing special loans, etc. It is however important to note that this export promotion strategy rests upon diversification and expansion of non-traditional exports (Dunn&Mutti, 2004).

### **Non-oil Exports and Non-oil Sector**

Non-oil exports are those products not including crude oil (petroleum products), which are sold in the international market for the purpose of revenue generation. The scope of Nigeria's non-exports sector includes four broad constituents which are the manufactured exports, agricultural exports, and solid mineral exports and services exports (Akeem, 2011).

The non-oil export products are unlimited as they include agricultural crops, manufacturing goods, solid minerals, entertainment and tourism services etc. (Abogan, Akinola, &Baruwa, 2014). This explains non-export in the context of this study.

Akeem (2011) defined the non-oil sector of the Nigerian economy as the whole of the economy less oil and gas sub-sector. It covers agriculture, industry, solid minerals and the services sub-sector, including transport, communication, distributive trade, financial services, insurance, government, etc.

### **Economic Growth and Gross Domestic Product (GDP)**

Economic growth refers to increase in the total goods and services produced in an economy. Pritzker, Arnold and Moyer (2015) identified Gross Domestic Product (GDP) as the economic indicator which measures the value of the goods and services produced in an economy in a given time period. They stated that GDP is a measure of the economy's output and is a measure of current production, not sales. Thus GDP, is the market value of all final goods and services produced in a country in a given time period and it indicates an economy's performance (economic growth). When a GDP is measured using the current market prices it is called a nominal GDP, but when a certain base year is used for the calculation of a GDP, it is called a real GDP.

### **Definition of Key Terms**

**Real Gross Domestic Products:** Implies the market value of all officially recognized final goods and services produced within a country in a given period. GDP per capita is often considered as an indicator of a country's standard of living. GDP is related to national account, a subject in macro -economics. Abogan, Akinola and Baruwa (2014)

**Non-Oil Exports:** These are exportation of non-oil products which consists of industrial, manufacturing, agricultural outputs etc.

**Solid Minerals:** are minerals that are entirely crystalline solid unlike those that are crystalline liquid.

### **Theoretical Framework**

Various theories of international trade involving interplay of export and import shall be considered for the theoretical framework. Specifically, the theory of absolute and the theory of comparative advantage shall be employed.

### **The Theory of Absolute Advantage**

Adam Smith (1776) in his famous publication, an inquiry into the nature and causes of wealth of nations introduced the theory of Absolute Advantage. This theory states that a country should export commodities on which it is more productive than and import others. This also means that it should continue to produce the commodities that it can produce more at a lower cost than other commodities.

Sylvester & Aiyelabola (2012) saw this theory as a positive-sum game, especially as both countries involve will benefit from the trade. Hence, a nation does not necessarily need to gain at the expense of other nations.

According to Smith, each nation benefits by specializing in the production of the good that it produces at a lower cost than the other nation, while importing the good that it produces at a higher cost. This will increase specialization, world output and the gains from trade (Carbaugh, 2004). There however arose challenges arising from countries who have absolute advantages in almost all commodities it require over a trading partner country. This however led to the breakdown of the theory of absolute advantage and paved road to the theory of comparative advantage

### **Theory of Comparative Advantage**

According to Ricardo's theory of comparative advantage, even if a nation has an absolute cost disadvantage in the production of both goods, there still exists a basis for mutually beneficial trade. The less efficient nation should specialize in the production and exportation of the good in which it is relatively less inefficient (where its absolute disadvantage is least) while the more efficient nation should specialize in the production and exportation of the good in which it is relatively more efficient. That is where its absolute advantage is greatest (Adenugba&Dipo, 2013).

Efficient utilization of available resources should rather be considered in the allocation of products that a country will specialize in and not mere ability to produce one product over another. When such trading partner countries comparatively consider the quantum of resources needed to produce commodities in individual countries, then the clear advantage can be identified. These countries should however specialize along this line and import other products.

Export promotion strategies or outward oriented strategies are policies that encourage exports, often through the free movement of capital, workers, enterprises, and students; a welcome to multinational corporations; and open communications (Todaro& Smith, 2011).



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### **Empirical Review**

Relationship that exists between export of non-oil products, exchange rate, inflation have been investigated by previous studies. Some of these studies vary in term of methodology adopted, scope etc which has separated them in term of conclusions.

Onayemi and Ishola (2009) reported that elaborate historical studies have provided empirical validation of the view that growth performance is more satisfactory under export promotion. This supports earlier findings by Bhagwati (1978), and Papageorgious, Michaely and Choski (1991), each of whom had earlier reported that sustainable increase in income per capita is better achieved under export promotion policy.

Onodugo, Marius, and Oluchukwu (2013) conducted a study entitled Non-oil export and economic growth in Nigeria: A time series econometric model. They made use of time series data from 1981 to 2012 and employed Johansen co integration. The result showed that non-oil exports have an infinitesimal impact in influencing economic growth in Nigeria. The study is limited to the year 2013.

Akeem (2011) undertook a study titled Non-oil export determinant and economic growth in Nigeria. Akeem employed data from CBN for the period 1989 to 2008. He used multi linear regression method and found non-oil export for previous year and consumer price index to positively affect GDP.

Adenugba&Dipo (2013) investigated Non-oil exports and the economic growth of Nigeria: The study revealed that the Nigerian Economy is still far from diversifying from crude oil export and as such the crude oil sub-sector continues to be the single most important sector of the economy.

### **Gap/limitation from Past Studies**

From most of the past studies reviewed, it was discovered that a large part of them ended in 2012, hence there arose the need to review the likely changes that may have occurred between 2012 and 2016. More so, these studies did not conduct some other necessary tests that are important in ensuring reliabilities, unbiasedness and stationarity of the variables. This study shall cover a period from 1980 to 2016, tests for stationarity including unit roots tests shall be employed. The drive for increased non-oil exports and reduction in the value of oil exports resorting from dwindling crude oil prices obviously characterised the period covered by this study, hence the need to check for the impact of these factors.

### **Methodology**

#### **Model Specification**

The model for this study was well designed to capture the effect of non -oil exports on Nigerian economic growth.

The model relates the country's growth in a 36 years period measured by real GDP at 2010 constant basic prices to the non-oil exports, Agriculture and Solid Minerals (Which are main non-oil income generating) The regression analysis will be employed to study the influence of export revenues on the economy. In this research work, GDP is the dependent variable and it is denoted by RGDP. Hence functional relationship for the model shall be in the form;

$$RGDP = f(NONX, AGRIC, SOLIDM) \dots \dots \dots (1)$$

Stated explicitly

$$RGDP = \beta_0 + \beta_1 NONX + \beta_2 AGRIC + \beta_3 SOLIDM + U_i \dots \dots \dots (2)$$

Where  $\beta_0$  is the intercept while  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are the regression coefficient and denote the change in the value of non-oil exports, agriculture and solid minerals,  $U_i$  is the error term.

- NONX** means non-oil export,
- AGRIC** means Agricultural product income,
- SOLIDM** means Solid Minerals income

Taking the log from of the model we have

$$\text{Log RGDP} = \beta_0 + \beta_1 \text{logNONX} + \beta_2 \text{logAGRIC} + \beta_3 \text{logSOLIDM} + U_i \dots \dots \dots (3)$$

where  $\beta_0$  is the intercept while  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are the slopes of the equation.

Apriori:  $\beta_1$ ,  $\beta_2$ , and  $\beta_3 > 0$

**Estimation Method**

The following processes would be employed for the purposes of estimation. the time series properties was ascertained especially to avoid problems of spurious regression. The Augmented Dickey Fuller (ADF) unit root test was applied to the various series to determine the order of integration of the variables. Upon discovery of different integration levels, Auto-regressive distributed lag (ARDL) model shall be applied to estimate the equations.

In its general form, ARDL is as follows

$$y_t = \alpha + \sum_{i=1}^p \gamma_i y_{t-1} + \sum_{j=1}^k \sum_{i=0}^q X_{j,t-1} \beta_{j,i} + \epsilon_t$$

ARDL includes the lag of the dependent variable as art of the explanatory variables.

Hence the original model is then transformed to ARDL as below

$$\Delta \text{LOG}(RGDP)_t = \beta_0 + \beta_1 \Delta \text{LOG}(RGDP)_{t-1} + \beta_2 \Delta \text{LOG}(NONX)_{t-1} + \beta_3 \Delta \text{LOG}(AGRIC)_{t-1} + \beta_3 \Delta \text{LOG}(SOLIDM)_{t-1} + U_{t-1}$$



### Cointegration test, short run error correction model (ECM) and fully modified OLS (FMOLS)

The cointegration tests leading to short run Error correction model (ECM) as well as long run estimates using Fully Modified OLS (FMOLS) shall be employed in the methodology based on the likely results of the research.

### Results and Discussion

#### Unit Root Test

**Table 1: Augmented Dickey Fuller (ADF) unit root test result**

| Variable  | ADF Statistic | Prob. Value | 1%        | 5%        | 10%      | Order of Integration | Conclusion |
|-----------|---------------|-------------|-----------|-----------|----------|----------------------|------------|
| LOGRGDP   | -7.81558      | 0           | -3.646342 | -2.954021 | -2.61582 | I(2)                 | Stationary |
| LOGNONX   | -6.83753      | 0           | -3.639407 | -2.951125 | -2.6143  | I(1)                 | Stationary |
| LOGAGRIC  | -3.86508      | 0           | -3.639407 | -2.951125 | -2.6143  | I(1)                 | Stationary |
| LOGSOLIDM | -6.08201      | 0           | -3.639407 | -2.951125 | -2.6143  | I(1)                 | Stationary |

**Source:** Authors' computation using Eviews 9. – see appendix for full result

Table 4.1 above reveals that LOGNONX, LOG AGRIC and LOGSOLIDM were stationary at 5% level of significance after first differentiating. These variables also have their Augmented Dickey Fuller (ADF) statistics at -6.84, -3.86 and -6.08 respectively. LOGRGDP was found to be stationary after second differentiating with ADF statistics of -7.82. The differences in their levels of stationarity, especially LOGRGDP as against other variables warrants the use of auto-regressive distributed lag (ARDL) model to estimate.

**Table 2: The Auto-regressive distributed lag model estimation result (ARDL)**

Dependent Variable: LOGRGDP  
Method: ARDL  
Model selection method: Akaike info criterion (AIC)  
Dynamic regressors (0 lag, automatic): LOGSOLIDM LOGNONX  
LOGAGRIC  
Fixed regressors: C

| Variable    | Coefficient | Std. Error | t-Statistic | Prob.* |
|-------------|-------------|------------|-------------|--------|
| LOGRGDP(-1) | 0.674309    | 0.085603   | 7.877148    | 0.0000 |
| LOGSOLIDM   | 0.073842    | 0.026587   | 2.777414    | 0.0094 |
| LOGNONX     | 0.022309    | 0.010217   | 1.569226    | 0.0171 |
| LOGAGRIC    | 0.020822    | 0.016667   | 1.249304    | 0.2212 |
| C           | 1.281794    | 0.329109   | 3.894744    | 0.0005 |

  

|                    |          |                       |           |
|--------------------|----------|-----------------------|-----------|
| R-squared          | 0.996307 | Mean dependent var    | 4.445429  |
| Adjusted R-squared | 0.995815 | S.D. dependent var    | 0.231965  |
| S.E. of regression | 0.015006 | Akaike info criterion | -5.429173 |
| Sum squared resid  | 0.006755 | Schwarz criterion     | -5.206980 |
| Log likelihood     | 100.0105 | Hannan-Quinn criter.  | -5.352472 |
| F-statistic        | 2023.624 | Durbin-Watson stat    | 1.750578  |
| Prob(F-statistic)  | 0.000000 |                       |           |

Table 2 is the auto-regressive distributed lag (ARDL) model. It reveals coefficient of non-oil export stayed at 0.022309 and the p value stood at 0.0142 which clearly indicates a positive and significant relationship between RGDP and non-oil export. This means that a 1% increase in non-oil exports will lead to 2.2% increases in GDP. It is in this line that the null hypothesis ( $H_0$ ) is rejected which states that non-oil exports do not contribute significantly to economic growth in Nigeria and accept the alternative hypothesis ( $H_1$ ) which admits that non-oil exports contributes significantly to economic growth in Nigeria.

The table also reveals positive relationship between AGRIC and the RGDP with coefficient of 0.020822, which agrees with appriori expectation. The probability value at 0.2212 which indicates that AGRIC at the present state, though positive but does not significantly affect RGDP at 5% level of significance. The table further reveals positive relationship between SOLIDM and the RGDP with coefficient of 0.073842, which agrees with appriori expectation. The probability value at 0.0094 which indicates that Solid minerals does significantly affect RGDP at 5% level of significance.

Table 2 shows intercept (C) to be 1.2817. This indicates that the RGDP will have the value 1.2817 when any of the variables do not affect it. The adjusted R square ( $R^2$ ) shows overall goodness of the model revealing value of 0.9963, which reveals that about 99.6% of the variation in RGDP is explained by independent variables, that is Non-oil exports, Agric produce and Solid minerals in the model. The statistical influence of the independent variables was further confirmed by the F-statistics with a value of 2023 with a probability value of 0.0000.

This explains that the explanatory variables, Non-oil exports, Agric produce and Solid minerals are good determinants of the RGDP and are statistically significant at 5% level of significance.

The null hypothesis ( $H_0$ ) indicating that non-oil exports do not contribute significantly to economic growth in Nigeria is rejected. Whereas the alternative hypothesis ( $H_1$ ) is accepted which states that non-oil exports have significant influence on the economic growth in Nigeria

**Table 3: Cointegration Results**

Series: LOGRGDP LOGSOLIDM LOGNONX  
LOGAGRIC  
Lags interval (in first differences): 1 to 1  
Unrestricted Cointegration Rank Test (Trace)

| Hypothesized | Trace      | 0.05      |                |         |
|--------------|------------|-----------|----------------|---------|
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None         | 0.551930   | 48.82993  | 47.85613       | 0.0766  |
| At most 1    | 0.316101   | 38.53454  | 29.79707       | 0.5268  |
| At most 2    | 0.135745   | 25.616407 | 15.49471       | 0.7403  |
| At most 3    | 0.019116   | 0.656221  | 3.841466       | 0.4179  |

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

The cointegrating relationship as shown above indicates three equations. The null hypothesis (there is no co-integration) is clearly rejected since the trace statistics and Maximum Eigen values surpasses the critical values at 5%.

**Table 4: Error correction estimation**

Dependent Variable: D(LOGRGDP)  
Method: Least Squares  
Date: 04/20/18 Time: 21:19  
Sample (adjusted): 1982 2016  
Included observations: 35 after adjustments

| Variable     | Coefficient | Std. Error | t-Statistic | Prob.  |
|--------------|-------------|------------|-------------|--------|
| C            | 0.008660    | 0.004988   | 1.736127    | 0.0928 |
| D(LOGNONX)   | 0.010721    | 0.016577   | -0.646759   | 0.5227 |
| D(LOGAGRIC)  | 0.083639    | 0.049246   | 1.698378    | 0.0998 |
| D(LOGSOLIDM) | 0.102291    | 0.030475   | 3.356590    | 0.0022 |
| RESID01(-1)  | -0.492917   | 0.116295   | -4.238507   | 0.0002 |

The ECM (i.e Resid01 (-1)) coefficient is -0.492917. This coefficient has the correct negative sign and it has a probability value of 0.0002 which implies that the ECM coefficient is statistically significant. As such, any disequilibrium in the system can be adjusted back to equilibrium by a speed of adjustment of 49%. The result further reveals the fact that the first difference of LOGNONX (i.e D(LOGNONX)) has a direct relationship with the first difference of LOGRGDP (i.e D(LOGRGDP)) with a coefficient of 0.010721.

**Table 5: Fully Modified OLS (FMOLS)**

Dependent Variable: LOGRGDP  
Method: Fully Modified Least Squares (FMOLS)  
Date: 04/20/18 Time: 21:38  
Sample (adjusted): 1982 2016  
Included observations: 35 after adjustments  
Cointegrating equation deterministics: C  
Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

| Variable  | Coefficient | Std. Error | t-Statistic | Prob.  |
|-----------|-------------|------------|-------------|--------|
| LOGSOLIDM | 0.282805    | 0.016413   | 17.23026    | 0.0000 |
| LOGNONX   | 0.027148    | 0.002116   | 1.227516    | 0.0228 |
| LOGAGRIC  | 0.074786    | 0.023106   | 3.236633    | 0.0029 |
| C         | 3.860870    | 0.045032   | 85.73597    | 0.0000 |

The Fully Modified OLS (FMOLS), which is one of the three efficient estimation techniques for long- run co integrating regression was applied. The long run result reveals a positive and significant relationship between GDP (LOGRGDP) and non-oil exports NONX (LOGNONX). From the table, the long run coefficient of non-oil exports (NONX) stood at 0.027 with probability value at 0.0228. This result shows that a 1% increase in the non-oil exports will increase Real GDP by 2.7%. This result contradicts the results of Abogan, Akinola&Baruwa (2014) and Ogunjimi, Aderinto&Ogunro (2015) who had earlier found that non-oil exports had a negative significant impact on Nigeria's economic growth.

The reason for this contradiction could be well understood when we consider the government drive in the development of non-oil sector between 2012 and 2017 as a result of the fall in the price of crude oil within the period. The drive came to a great height when the government revenue nosedived in 2014 and 2015. It is then important to state that the diversification drive within the few years into non-oil sectorial development has begun to yield effects. The result however pitched its tent and agrees with the work of Matthew J. Kromtit, Charles Kanadi, Dorathy P. Ndangra& Suleiman Lado (2017) which although terminated in 2015, but has so far agreed with the present trend.

The Long run status of Agric Income and Solid Minerals agree with the position of Short run which is a positive and significant relationship. Hence the null hypothesis is accepted for these variables

**Table 6**

Heteroskedasticity Test: ARCH

|               |          |                     |        |
|---------------|----------|---------------------|--------|
| F-statistic   | 0.245769 | Prob. F(1,33)       | 0.6234 |
| Obs*R-squared | 0.258737 | Prob. Chi-Square(1) | 0.6110 |

It is required that for ARDL model, test for heteroskedasticity be conducted.

**H<sub>0</sub>:** = There is no heteroskedasticity in the model

**H<sub>1</sub>:** = There is heteroskedasticity in the model

Gujarati (2004) says if the p value is less than 0.05(5% level of significance) we reject H<sub>0</sub>; otherwise we accept H<sub>1</sub>. From the heteroskedasticity test result, the p values is 0.6234 this is greater than 0.05(5% level of significance) and is significant. We therefore accept H<sub>0</sub> that there is no heteroskedasticity in the model and reject H<sub>1</sub>.

### Conclusion

This research work has so far shown that given the huge drive of the Nigerian government within a very short period by shifting attention to the development of the non-oil sector comprising of the agricultural drive, boosting production, facilitating Central Bank Medium and short term lending to Micro, Small and Medium scale enterprises, has actually changed the trend of revenue generation mix in Nigeria.

While the earlier research work concluded with a negative relationship between Non-oil exports and economic growth (RGDP), this research work, which has studied the very recent events has shown that the trend has significantly changed. From Hypothesis 1, H<sub>0</sub> was rejected and H<sub>1</sub> was accepted which indicates a positive and significant relationship between non-oil export and Real GDP

Hypothesis 2, H<sub>0</sub> was rejected and H<sub>1</sub> was accepted which indicates a positive and significant relationship between Agric and Real GDP (especially in the Long run)

Hypothesis 3, H<sub>0</sub> was rejected and H<sub>1</sub> accepted which indicates a positive and significant relationship between solid minerals and Real GDP

### Recommendations

From the above, it is explicitly seen from this work that the non-oil exports have positive and significant impact on the economic growth.

It is then imperative to advise the policy makers in the country as follows:

1. The opportunity for increased channels of non-oil sector of the economy should be opened. The present drive should not be limited to boosting agricultural products such as yams, rice production, but that the diversification drive should also include such other industries as Textiles etc

2. Manufacturing subsector should be encouraged through lower or interest free credit facilities. Tax holidays can also be utilized. Monetary policy indicators could also be adjusted so as to encourage the manufacturing and agricultural sectors.
3. Further boost should be given to improve agricultural produce, including mechanisations, preservations, storage, good road networks so as to increase our level of economic growth
4. Partnership with foreign investors should also be explored where necessary to solve the infrastructural deficit especially in the areas of electricity and road network. This will increase the nation's capacity to produce sufficiently for exports.
5. Further efforts should also be geared towards improving solid mineral explored to increase level of economic growth

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