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The Impact of Agriculture on Diversification of the Nigerian Economy

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ABSTRACT
One of the advantages of Nigeria is that it is a third World country that is dynamic, it is an emerging economy. On the other hand, the problems of the highly developed countries are that they are strongly established for decades. With strong institutions that are slow in reacting to economic crisis. Therefore, many invented formulas that they have been using to handle the economic crisis and the unfortunate financial situations are no longer useful for them. On the contrary, Nigeria, a developing nation that is relatively new, embryonic and emerging is more flexible and more elastic in its ability to invent new ideas and invent brand new responses to the conditions of the international global economic crisis. Therefore, whenever, there is change in form of global financial crisis like the World is currently experiencing, a developing country like Nigeria can be proactive and inventive in new ideas to take advantage of the financial crisis. This paper therefore seek to fill the numerical chasm that is in the plethora of literature using available statistical and economic data collected on Gross Domestic Product (GDP); crude oil revenue; total manufacturing output and Agriculture for the periods 1970 to 2016 from the World Bank website. The study is very significant because the global economic crisis is going to create demand for the untapped natural resources of Nigeria such as copper; zinc; uranium and bauxite since the World's developed economies runs on basic things like these. This will give opportunity for Nigeria to diversify its economy away from crude oil whose contribution to GDP is less than twenty percent. What is needed therefore is improving its skills; work force; education and technological advancement so that Nigeria can respond to a more progressive and inventive ideas that is going to be used in adding value to our vast natural resources and thereby creating wealth and generating employment. Finally, the study will recommend that if there would be deep studies and quality leadership that would recommend sound policies in politics; business; religion; social development and city development in the whole of Africa; The Caribbean; Central America and the far East, then these countries can emerge the future Nations of the World.
Keywords: Diversification, ARDL, Economic Crisis, Development, Nigeria

INTRODUCTION

Although Nigeria is huge in size, demography and wealth; Nigeria as a country that export oil is confronted with the threat of jobs creation and advancing additional inclusive growth (GDP). The present situation of anticipated long continued low prices of oil has intensified these threats. The non-oil private sector remains rather very small and the fallout has only lead to a hampered rising of employment and growth (GDP).Although some countries like Malaysia and India have made greater advancement more than Nigeria in diversifying their economies, the oil sector in Nigeria has rather remain highly capital intensive and dominates its economy. Howbeit, the oil sector only created just a few direct jobs and the revenue from the oil is actually always been used to fund the already over blotted public sector. In the interest of the limited nature of oil resource, there is the need to develop different sectors that can effectively replace the oil and gas industry. Even though, the non-oil enterprises in Nigeria are heavily dependent on financing from revenues from oil.

The demand therefore is for Nigeria to sincerely grow self-sufficing non-oil categories that would administer a sustainable source of growth (GDP) and employment when eventually oil resources have finally drained. Additionally, Nigeria needs to save a part of its present income on oil for the future generation. The over dependence on oil has as well triggered macroeconomic volatility in Nigeria and consequently the fall in the prices of oil has led to the reduction in fiscal revenue of Nigeria and eventual cutting of public spending. Consequently, the growth in the Nigerian non-oil sector is dampened which has eventually bruised the public employment sustainability leading to many job losses.

Diversifying the Nigerian economy would create jobs and would create growth. It would also increase the resilience to volatility in oil price and it would improve the prospects of future generations. Diversification of the Nigerian economy would also broaden the base of government revenue which will reduce the overdependence on oil and making its economy very resistant to oil price shocks.

The most important requirements for diversifying the Nigerian economy are: supportive regulatory and institutional frameworks and macro-economic stability. In other to lay a solid foundation for economic diversification, Nigeria has to shield itself from the impact of volatility of prices of oil. It also requires a framework of sound fiscal policy and effective management of liquidity and supportive financial sector policies and prudent monetary policy with an exchange rate that is fairly valued.

To open up the private sector to thrive in Nigeria, strong regulatory and institutional frameworks are necessary. Also, strengthening economic governance; transparency; Improving the business environment; including streamlining procedures; and reducing regulatory barriers to economic diversification are as well very necessary. Additionally; competition; Labor market reforms and better access to finance are equally necessarily needed for the growth of private sector in Nigeria.

However, to support economic diversification in Nigeria, the public sector should empower and not contest with the private sector. In this regard, reforming incentives and assisting in raising the supply of highly-skilled labor for the private sector should be the focus in public employment and wage policies. Moreover, to improve competitiveness in public spending in human capital and investment in infrastructure should be the central focus of the Nigerian government. Also to boost the private sector, the government should focus on reducing the non-tradable sector extreme monopoly rents by enhancing bidding procurement processes and increasing competition among the private sectors. What could facilitate economic diversification is strategies and policies that would advance the emergence of new and dynamic tradable sectors.

Nigerian economic diversification depends upon enhancing productivity based on innovation in products and processes that would sustain growth in new organizations and sectors to keep producing more efficiently. These strategies could associate pursuing to champion vertical and horizontal diversification.

Therefore, this paper empirically examines the diversifying away of the Nigerian economy from oil product to manufacturing and farther attracting FDI (foreign direct investment) into the non-oil sector and as well as consolidating into the global agricultural value chain and to confirm the causality from oil to agriculture; manufacturing and FDI because of attractiveness of oil in attracting FDI and the eventual contribution of all these four components of GDP in Nigeria. The research paper seeks to as well fill the empirical chasm existing in the plethora of studies in this area of diversifying the Nigerian economy whereby only limited empirical attempts have been made to study the mode and direction of causality of oil on agriculture; FDI and oil and the aggregate contribution of all these four major components of growth to the GDP. Finally, the research paper would recommend a policy statement based on the outcome of the findings of the results of the causality.

While this research paper does not expressly dwell on the matter of security and political stability, the research overwhelmingly believe that these factors are the most essential stipulations for diversifying the Nigerian economy.

LITERATURE REVIEW

Barbier, E. B. (2004) examines among other issues concerning arable agricultural land expansion, resource booms and economic growth in Latin America. Structurally, agricultural development covered a

total land area for arable agricultural export as a share of total exports. Long-run agricultural land expansion is correlated with a 'boom and bust pattern of economic development. In which case the Arable land in Nigeria can suffice for the Contributing factors and policies to improve the efficient and sustainable management of agricultural and natural resources.

Bawa S and Mohammed J. A. (2007) recommended that the government should encourage economic diversification aimed to ascertain the spread of the cultivation of each of the exportable crops across industries and sectors, by introducing a formal and structured programme that provides incentives, infrastructure and institutional support.

Fikret Dülgeret al (2015) paper studies "Dutch Disease" in Russia by investigating the real change in the Russian ruble and the relative de-industrialization in the post Soviet Union-era. UNDP Reported in(2009) that Russian economy has indeed exhibited symptoms of "Dutch Disease" in recent years as upward movements in oil prices are accompanied by a reduction in the share of manufacturing output and an increase in service prices. Furthermore, they claimed that these developments may trigger a recession in Russia in the future. Russian economy exhibits some typical symptoms of "Dutch Disease". Even though the diagnosis is not certain, the risk is evident. Hence, policies that would make the Russian economy more robust to shocks in the oil price need to be carefully designed and implemented.

John Christensen et al (2016), opined that the Global Financial Crisis placed the utility of financial services in question. The crash, great recession, wealth transfers from public to private, austerity and growing inequality cast doubt on the idea that finance is a boon to the host economy. This article systematizes these doubts to highlight the perils of an oversized financial sector. States failing to harness natural resources for development led to the concept of the Resource Curse. In many countries, resource dependence generated slower growth, crowding out, reduced economic diversity, lost entrepreneurialism, unemployment, economic instability, inequality, conflict, rent-seeking and corruption. The Finance Curse produces similar effects, often for similar reasons. Beyond a point, a growing financial sector can do more harm than good. Unlike the Resource Curse, these harms transcend borders. The concept of a Finance Curse starkly illuminates the condition of Britain's political economy and the character of its relations with the rest of the world.

Alberto Botta (2009). In his paper presented a structuralist two-sector model on economic development, structural change and natural resource booms. He described a multiple equilibria scenario, in which manufacturing development is the main source of economic progress. Natural resource booms, by modifying the productive structure of the economy, may set destabilizing forces. De-industrialization processes may take place, confining developing countries in poverty traps. Public intervention in the economic sphere, both through short-run macro policies and through long-run development strategies, may help to free the economy from poverty traps and to foster the development process.

Uwafiokun Idemudia (2012) portrayed Nigeria as a poster child for countries experiencing the resource curse phenomenon. The pertinent question that confronts policy makers in Nigeria today is no longer whether or not Nigeria is suffering from the resource curse; rather, it is what to do about it. Since the 1980s, various policy initiatives have been adopted by the Nigerian Government to address different aspects of the resource curse but with limited success. It is therefore not surprising that regional governments within the Niger Delta have in recent years turned to Oil Producing Area Development Commissions as a means of reducing the poverty and conflict that is endemic in the region. He argues that the Oil Producing Area Development Commissions have been unable to improve the lives of the people in oil producing communities. It is suggested that this is due largely to their inability to alter the opportunities and incentives for rent seekers and concludes by considering the implications for the resource curse and the way forward for these commissions.

Gbadebo O. O. (2007) Examines in the past three decades, that crude oil has been a major source of revenue, energy and foreign exchange for the Nigerian economy. The paper analyses the correlation between the crude oil sector and the Nigerian economic performance. Using the Ordinary Least Square regression method, the study reveals that crude oil consumption and export have contributed to the improvement of the Nigerian economy. However, recommendations to implement policies that would encourage the private sector participation in the crude oil sector is actively proffered.

While there is much evidence to support the resource curse hypothesis for resource-abundant countries, some studies have found that oil booms raise the economic growth of oil-exporting countries.
Mohsen Mehrara (2007). Examines the issue of the existence of the threshold effects in the relationship between oil revenues and output grow thin oil-exporting countries, using panel data. Empirically, results strongly suggest the existence of a threshold beyond which oil revenues growth exerts a negative effect on output. In contrast, linear estimation without any allowance for threshold effects would misleadingly imply that an increase in the oil revenues increase the economic growth rate. Failure to account for non-linearity conceals the resource curse in these countries particularly during extreme oil booms as suggested in previous studies.
Torben K.M (2013), discovered the economic impact of natural resource endowment using quantitative comparative–case–study. Centering on the Norwegian economy, the paper examines the impact of petroleum endowment. Although the result suggests that the annual GDP per capital increase is due to the endowment of petroleum resources such as oil, natural gas, natural gas liquids, and condensate. Examinations based on sensitivity test, robustness test, dose-response test, and various falsification tests suggest that the finding is robust to alternative explanations.
E. K. Ogunleye (2008).Came up with strategies upon which an economy would attain sustainable economic development depending on its historical background and resource endowment. Nigeria is super abundantly rich in crude oil and has reaped billions of petrodollars. However, the country seems to be facing the problem of successfully translating this huge oil wealth into sustainable development. This paper employs the vector error-correction methodology in examining the long-run impact of the huge oil wealth accruing to Nigeria on its economic development. Indicators such as per capital (PGDP), household consumption, infrastructural development (electricity), and agricultural and manufacturing output growth rates are examined. The results suggest a significant positive long-run impact of per capita oil revenue on per capita household consumption and electricity generation, while a negative relationship is established for GDP, agriculture and manufacturing. Even for those variables with negative relationship at current period, there exist positive relationships at subsequent lags. Thus, oil revenue, if properly managed and invested, could be effectively used to induce oil-led development in Nigeria provided the current inhibitions of corruption, lack of transparency, accountability and fairness in its use and distribution are removed.

METHODOLOGY

The Autoregressive-Distributed Lag model ARDL(p,q) regression model is of the form:

$$y_t = \beta_0 + \beta_1 y_{t-1} + \ldots + \beta_k y_{t-p} \_ \alpha_0 X_t + \alpha_1 X_{t-1} + \alpha_2 X_{t-2} + \ldots + \alpha_q X_{t-q} + \varepsilon_t \qquad (1)$$

Where ε_t is a random "distance" term. The model is "autoregressive in the sense that y_t is explained (in part) by lagged values of itself. It also has a "distributed lag" component, in the form of successive lags of the "x" explanatory variable. Sometimes, the current value of x_t itself is excluded from the distributed lag part of the model's structure.

The ARDL Cointegration Test

The ARDL and Bound testing methodology of Pesaran and Shin (1999) and Pesaran et al (2001) with uniform lag length (p,p,p) is:

$$\Delta y_t = \beta_0 + \sum_{i-1}^{p} \beta_1 \Delta y_{t-i} + \sum_{j-0}^{p} \gamma_j \Delta x_{t-j} + \sum_{k=0}^{p} \delta_k \Delta W_{t-k} + \theta_0 y_{t-1} + \theta_2 W_{t-1} + \varepsilon_t \qquad (2)$$

The maximum lags in equation (2) are determined by using an information criteria –AIC or BIC.

We have to make sure that the errors of the model in equation (2) are serially independent.

This requirement will generally decide on our final choice of the maximum lags for the variables in the model. The moment a suitable choice of equation (2) has been estimated, the test of serial correlation would be deployed using the LM test:

H_0 :The errors are serially independent (no autocorrelation)

H_A :The errors are serial correlated (autocorrelation).

And then CUSUM stability test is conducted to make sure that the model is dynamically stable.

Bounds test to see if there is evidence of a long relationship between the variables in equation (2) is performed. The bounds test is an F-test of the hypothesis:

$\mathrm{H}_0 : \theta_0 = \theta_1 = \theta_2 = 0$ (not cointegrated)

$\mathrm{H}_A : \mathrm{H}_0$ is not true (cointegrated)

Here we are testing for the absence of a long-run equilibrium relationship between the variables. The absence of the long-run equilibrium relationship is exactly the same as zero co-efficients for $y_{t-1}, X_{t-1},$ and W_{t-1} in equation (2). The rejection of the null hypothesis shows that there is a long-run relationship.

If there exist a long-run relationship, estimate a long-run levels model as well as a separate restricted Error Correction Model (ECM) as specified by Pesaran et al (2001) which supplies the upper and lower bounds on the critical values for different numbers of variables using the asymptotic distribution of the F-statistic. The lower bound is based on the assumption all of the variables are I(0), and the upper bound is based on the assumption all of the variables are I(1). However, the truth may be somewhere in between these two polar extremes.

If the bound test leads to the decision of cointegration, then the long-run equilibrium relationship between the variables is estimated.

$$Y_t = \alpha_0 + \alpha_1 x_t + \alpha_2 w_t + \varepsilon_t$$

And if the long-run equilibrium relationship exists we as well estimate the ECM:

$$\Delta y_t = \beta_0 + \sum_{i-1}^{p} \beta_1 \Delta y_{t-i} + \sum_{j-0}^{p} \gamma_j \Delta x_{t-j} + \sum_{k=0}^{r} \delta_k \Delta W_{t-k} + \phi z_{t-1} + \varepsilon_t$$

Where

$z_{t-1} = (y_{t-1} - a_0 - a_1 x_{t-1} - a_2 w_{t-1})$, and the a's are the OLS estimates of the α's in equation (2). And φ is the speed of adjustment of the short-run to long-run.

The result of the estimated model is therefore used to measure the long-run equilibrium relationship and the short-run dynamic effects among the variables.

EMPIRICAL RESULTS

Data

The data used in this paper are obtained from the world development indicators of the World Bank for 31 years.

Unit Root test

	Augmented Dickey Fuller Test		Philips Perron Test	
	Intercept Without Trend	Intercept With Trend	Intercept Without Trend	Intercept With Trend
Level				
ln GDP	1.03	2.16	1.08	-3.62
ln Oil	-2.52	-2.97	-2.55	-3.04
ln Agric	-2.11	-2.85	-2.16	-2.76
ln FDI	-0.50	-4.65*	-1.08	-4.70
ln MAN	-1.53	-0.57	-1.65	-0.61
First Difference (No Trend or Intercept)				
ln GDP	-4.91*	-4.93*		
ln Oil	-5.95*	-7.18*		
ln Agric	-5.84*	-6.54*		
ln FDI	-10.71*	-10.26*		
ln MAN	-5.58*	-5.59*		

The * (star) indicates significance of the p-value at 10% alpha probability value.

We therefore conclude that all the variables are I(1). Meaning that they are integrated of order one. Because the null hypothesis of presence of unit root of ADF and PP test indicates that the series have unit root, which however becomes stationary after the first order differencing.

Dependent Variable: D(LGDP)
Method: Least Squares
Date: 02/16/17 Time: 23:52
Sample (adjusted): 1983 2013
Included observations: 31 after adjustments: Table 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.661421	4.227131	-0.629605	0.5361
LGDP(-1)	-0.076214	0.090271	-0.844276	0.4085
LOIL(-1)	-0.828029	0.613380	-1.349944	0.1921
LAGRIC(-1)	0.719450	0.402629	1.786878	0.0891
LFDI(-1)	0.214127	0.130961	1.635040	0.1177
LMAN(-1)	0.036163	0.177205	0.204073	0.8404
D(LGDP(-1))	-0.272660	0.228556	-1.192967	0.2468
D(LOIL(-1))	-0.358437	0.761807	-0.470509	0.6431
D(LAGRIC(-1))	-0.445795	0.363257	-1.227215	0.2340
D(LFDI(-1))	-0.077948	0.106792	-0.729909	0.4739
D(LMAN(-1))	0.054673	0.233890	0.233754	0.8176

R-squared	0.551602	Mean dependent var	0.074339
Adjusted R-squared	0.327403	S.D. dependent var	0.259603
S.E. of regression	0.212906	Akaike info criterion	0.015487
Sum squared resid	0.906576	Schwarz criterion	0.524321
Log likelihood	10.75995	Hannan-Quinn criter.	0.181354
F-statistic	2.460323	Durbin-Watson stat	2.033235
Prob(F-statistic)	0.041521		

The table 1 above shows the result of the unrestricted error correction model (UECM)

Breusch-Godfrey Serial Correlation LM Test: Table 2

F-statistic	0.273733	Prob. F(2,18)	0.7636
Obs*R-squared	0.915029	Prob. Chi-Square(2)	0.6329

The null hypothesis of no remaining serial correction is not rejected (accepted) in table 2.

Heteroskedasticity Test: Breusch-Pagan-Godfrey: Table 3

F-statistic	0.691145	Prob. F(10,20)	0.7212
Obs*R-squared	7.961480	Prob. Chi-Square(10)	0.6326
Scaled explained SS	4.902343	Prob. Chi-Square(10)	0.8976

In Table 3, the null hypothesis of no remaining heteroscedasticity in the residuals of the model is also not rejected.

Dependent Variable: D(LGDP)
Method: Least Squares
Date: 02/17/17 Time: 00:18
Sample (adjusted): 1984 2013
Included observations: 30 after adjustments: Table 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.387089	6.891219	-1.217069	0.2437
LGDP(-1)	-0.134995	0.109939	-1.227909	0.2397
LOIL(-1)	-0.601596	0.783624	-0.767710	0.4554
LAGRIC(-1)	1.503988	0.708498	2.122784	0.0521
LFDI(-1)	0.377352	0.214158	1.762026	0.0999
LMAN(-1)	0.232490	0.265674	0.875096	0.3963
D(LGDP(-1))	-0.160029	0.284101	-0.563284	0.5822
D(LGDP(-2))	-0.042867	0.332689	-0.128851	0.8993
D(LOIL(-1))	-0.474252	1.082339	-0.438173	0.6679
D(LOIL(-2))	0.539884	0.833731	0.647551	0.5278
D(LAGRIC(-1))	-0.844994	0.491852	-1.717985	0.1078
D(LAGRIC(-2))	-0.584946	0.509197	-1.148760	0.2699
D(LFDI(-1))	-0.256485	0.205742	-1.246633	0.2330
D(LFDI(-2))	-0.158683	0.136398	-1.163380	0.2641
D(LMAN(-1))	-0.042429	0.327798	-0.129438	0.8989
D(LMAN(-2))	-0.080290	0.277837	-0.288983	0.7768

R-squared	0.598442	Mean dependent var	0.089198
Adjusted R-squared	0.168200	S.D. dependent var	0.250275
S.E. of regression	0.228258	Akaike info criterion	0.187847
Sum squared resid	0.729425	Schwarz criterion	0.935153
Log likelihood	13.18229	Hannan-Quinn criter.	0.426917
F-statistic	1.390945	Durbin-Watson stat	1.996325
Prob(F-statistic)	0.271410		

Table 4 gives the results of the estimated ARDL with two lags.

Breusch-Godfrey Serial Correlation LM Test: Table 5

F-statistic	0.333323	Prob. F(2,12)	0.7230
Obs*R-squared	1.578900	Prob. Chi-Square(2)	0.4541

The result of the serial correlation test for the model obtained in Table 4 shows that there is no remaining serial correlation in the residuals of the model. This is showed in Table 5.

Heteroskedasticity Test: Breusch-Pagan-Godfrey: Table 6

F-statistic	0.677438	Prob. F(15,14)	0.7685
Obs*R-squared	12.61702	Prob. Chi-Square(15)	0.6319
Scaled explained SS	2.790677	Prob. Chi-Square(15)	0.9997

Table 6 shows the result of the test of heteroskedasticity for the model obtained in Table 4 shows that the residuals of the model are homoskedastic. After the residuals diagnostic checking of the two models, it is important to decide on the best parsimonious model using information criteria. Table 7 shows the both the AIC and BIC values of the respective two models with 1 lag and 2 lags respectively.

Table 7: Optimal lag-length selection

P	AIC	BIC
1	0.01549	0.52432
2	0.18785	0.93515

Both the AIC and BIC selected the lag 1 model. Therefore, for the dynamic stability of the selected model, the CUSUM of Squares test is given in figure 1.

d(lgdp) c lgdp(-1) loil(-1) lagric(-1) lfdi(-1) lman(-1) d(lgdp(-1)) d(lgdp(-2)) d(loil(-1)) d(loil(-2)) d(lagric(-1)) d(lagric(-2)) d(lfdi(-1)) d(lfdi(-2)) d(lman(-1)) d(lman(-2))

d(lgdp) c lgdp(-1) loil(-1) lagric(-1) lfdi(-1) lman(-1) d(lgdp(-1)) d(loil(-1)) d(lagric(-1)) d(lfdi(-1)) d(lman(-1))

Wald Test:
Equation: Untitled: Table8

Test Statistic	Value	df	Probability
F-statistic	5.313191	(4, 26)	0.0622
Chi-square	10.67237	4	0.0305

The F-statistic compared with Narayan critical values shows that there is an evidence of long run relationship among the variables. Because the F-statistic value is greater than the upper bound Narayan critical values of (3.354; 4.774) at 5% alpha significant level. This means that in the long run Agriculture; FDI; Oil and Manufacturing as a group contributed to the Nigerian GDP.

However, in the short run, we would like to see how much is the contribution of each of these components to the Nigerian GDP. The general to specific approach by dropping the least significant variable is considered in Table 10.

Table 9: The different lag structures based on AIC and BIC

1	ARDL	Eviews Regression	AIC	BIC
2	1,0,0,0,0			
3	1,1,0,0,0			
4	1,1,1,0,0			
5	1,1,1,1,0			
6	1,1,1,1,1			
7	2,1,1,1,1			
8	2,2,1,1,1			
9	2,2,2,1,1			
10	2,2,2,2,1			
11	2,2,2,2,2			
12	1,0,0,0,1			
13	1,0,0,1,1			
14	1,0,1,1,1			
15	2,0,0,0,0			
16	2,0,0,0,1			
17	2,0,0,1,1			
18	2,0,1,1,1			
19	**2,1,0,1,1**	**LGDP C LGDP(-1) LGDP(-2) LOIL LOIL(-1) LAGRIC LFDI LFDI(-1) LMAN LMAN(-1)**	**4.034**	**-3.02**
20	2,1,0,0,1			
22	2,1,1,0,1			
23	2,1,1,1,0			
24	2,0,1,1,0			
25	2,0,1,0,1			
26	2,1,0,1,0			
27	2,1,0,0,0			
28	2,1,1,0,0			
29	2,0,1,0,0			
30	2,0,0,1,0			

Dependent Variable: LGDP
Method: Least Squares
Date: 02/17/17 Time: 12:41
Sample (adjusted): 1983 2013
Included observations: 31 after adjustments: Table 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.900412	3.571955	0.252078	0.8034
LGDP(-1)	0.408064	0.188892	2.160306	0.0425
LGDP(-2)	0.465255	0.184780	2.517893	0.0200
LOIL	1.650909	0.754485	2.188128	0.0401
LOIL(-1)	-2.327739	0.673727	-3.455018	0.0024
LAGRIC	-0.106546	0.304462	-0.349948	0.7299
LFDI	0.056630	0.078993	0.716904	0.4813
LFDI(-1)	0.172124	0.094618	1.819155	0.0832
LMAN	-0.241399	0.193900	-1.244967	0.2269
LMAN(-1)	0.180279	0.221072	0.815476	0.4240

R-squared	0.975468	Mean dependent var	24.79155
Adjusted R-squared	0.964954	S.D. dependent var	1.041495
S.E. of regression	0.194974	Akaike info criterion	-0.176202
Sum squared resid	0.798314	Schwarz criterion	0.286374
Log likelihood	12.73114	Hannan-Quinn criter.	-0.025414
F-statistic	92.77939	Durbin-Watson stat	1.717425
Prob(F-statistic)	0.000000		

Table 11 shows that there is no remaining serial correlation in the residuals of the estimated chosen long run equation.

Breusch-Godfrey Serial Correlation LM Test: Table 11

F-statistic	0.721551	Prob. F(2,19)	0.4988
Obs*R-squared	2.188326	Prob. Chi-Square(2)	0.3348

The result of test of heteroscedasticity in Table 12 shows that there is no remaining heteroscedasticity in the residuals of the chosen model

Heteroskedasticity Test: Breusch-Pagan-Godfrey: Table 12

F-statistic	0.775711	Prob. F(9,21)	0.6402
Obs*R-squared	7.734541	Prob. Chi-Square(9)	0.5611
Scaled explained SS	5.179267	Prob. Chi-Square(9)	0.8184

The CUSUM sum of squares graph in graph 3 shows that the model is dynamically stable. Therefore, Table 10, the most insignificant model is being dropped and finally, the elasticities of all the independent variables

Oil elasticity: (c(4)+c(5))/(1-c(2)-c(3))=0
Agric elasticity: (c(5))/(1-c(2)-c(3))=0 =
FDI elasticity: (c(7)+c(8))/(1-c(2)-c(3))=0
MAN elasticity: (c(9)+c(10))/(1-c(2)-c(3))=0

OIL:

Wald Test:
Equation: ARDL: Table 13

Test Statistic	Value	df	Probability
t-statistic	-0.911199	21	0.3725
F-statistic	0.830283	(1, 21)	0.3725
Chi-square	0.830283	1	0.3622

Null Hypothesis: (C(4) + C(5))/(1 - C(2)- C(3))=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
(C(4) + C(5)) / (1 - C(2) - C(3))	-5.342780	5.863464

Delta method computed using analytic derivatives.

AGRIC:

Wald Test:
Equation: ARDL: Table 14

Test Statistic	Value	df	Probability
t-statistic	-1.480864	21	0.1535
F-statistic	2.192959	(1, 21)	0.1535
Chi-square	2.192959	1	0.1386

Null Hypothesis: (C(5))/(1-C(2)-C(3))=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(5) / (1 - C(2) - C(3))	-18.37479	12.40815

Delta method computed using analytic derivatives.

FDI

Wald Test:
Equation: ARDL: Table 15

Test Statistic	Value	df	Probability
t-statistic	2.154247	21	0.0430
F-statistic	4.640780	(1, 21)	0.0430
Chi-square	4.640780	1	0.0312

Null Hypothesis: (C(7)+C(8))/(1-C(2)-C(3))=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
(C(7) + C(8)) / (1 - C(2) - C(3))	1.805748	0.838227

Delta method computed using analytic derivatives.

MAN:

Wald Test:
Equation: ARDL: Table 16

Test Statistic	Value	df	Probability
t-statistic	-0.352529	21	0.7280
F-statistic	0.124277	(1, 21)	0.7280
Chi-square	0.124277	1	0.7244

Null Hypothesis: (C(9)+C(10))/(1-C(2)-C(3))=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
(C(9) + C(10)) / (1 - C(2) - C(3))	-0.482473	1.368606

Delta method computed using analytic derivatives.

Therefore, the elasticities of the independent variables are:

Wald Test:
Equation: ARDL: Table 17

Test Statistic	Value	df	Probability
t-statistic	0.248525	21	0.8061
F-statistic	0.061765	(1, 21)	0.8061
Chi-square	0.061765	1	0.8037

Null Hypothesis: (C(1))/(1-C(2)-C(3))=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1) / (1 - C(2) - C(3))	7.107704	28.59950

Delta method computed using analytic derivatives.

OIL = -5.343
AGRIC = -18.375
FDI = 1.806
MAN = -0.482
CONSTANT = 7.108

Dependent Variable: D(LGDP)
Method: Least Squares
Date: 02/17/17 Time: 14:40
Sample (adjusted): 1983 2013
Included observations: 31 after adjustments: Table 18

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.009105	0.059782	-0.152303	0.8802
ECT(-1)	-0.03456	1.11E-11	-1.742533	0.0442
D(LGDP(-1))	-0.155887	0.187022	-0.833522	0.4128
D(LOIL)	0.856032	0.729144	1.174024	0.2519
D(LAGRIC)	0.660098	0.284081	-2.323630	0.0289
D(LFDI)	-0.002857	0.072078	-0.039639	0.9687
D(LMAN)	-0.095549	0.219662	-0.434984	0.6675

R-squared	0.435756	Mean dependent var	0.074339
Adjusted R-squared	0.294694	S.D. dependent var	0.259603
S.E. of regression	0.218021	Akaike info criterion	-0.012771
Sum squared resid	1.140796	Schwarz criterion	0.311032
Log likelihood	7.197956	Hannan-Quinn criter.	0.092781
F-statistic	3.089126	Durbin-Watson stat	1.654403
Prob(F-statistic)	0.021910		

The value of the ECT coefficient is: -0.035

0.35% 1 year (annual data) = 35% adjustment per one year
Therefore, it will take about 3 years for full adjustment to take place in the event of any deviation from the system.

CONCLUSION:

Only Agriculture has a positive significance in the short run on the GDP of Nigeria.
FDI; OIL and MANUFACTURING have no impact on the countries' GDP in the short run.

POLICY RECOMMENDATION:

1. Diversify away from Oil
2. Attract FDI
3. Support Manufacturing especially across the Agricultural value chain.

REFERENCES

Barbier, E. B. (2004). Agricultural Expansion, Resource Booms and Growth in Latin America: Implications for Long-run Economic Development. *World Development*, Vol. 32, No. 1, pp. 137–157,.

Bawa, S. and Mohammed J. A. (2007) CBN Economic and Financial Review, Volume 45, Number 3,

Botta, A. (2010). Economic Development, Structural Change And Natural Resource Booms. *Metroeconomica 61:3 (2010)*, 510–539.

FikretDülger, KenanLopcu,n, Almýla Burgaç EsraBallý. (2013). Is Russia suffering from Dutch Disease?Cointegration with. *Resources Policy*, 38 (2013) 605–612.

Idemudia, U. (8 June 2012). The resource curse and the decentralization of oil revenue: the case of Nigeria. *Journal of Cleaner Production*, 183-193.

John Christensen, Nick Shaxson and Duncan Wigan. (2016). The Finance Curse: Britain and the World Economy. *The British Journal of Politics and International Relations 2016*, 2016, Vol. 18(1) 255–269.

K.Mideksa, T. (2013). The economic impact of natural resources. *Journal of Environmental Economics and Management 65(2013)277–289*, 277–289.

Kalu Idika Awa,Raphael Okechukwu Mbah. (Vol.7, No.20, 2016). An Empirical Analysis of the Effect of Government Expenditure on Economic Growth in Nigeria (1981-2013). *Research Journal of Finance and Accounting*, 60-72.

KehindeOgunleye, E. (2008). Natural resource abundance in Nigeria:From dependence to development. *Resources Policy 33 (2008) 168–174*, 168–174.

Mehrara, M. (2009). Reconsidering the resource curse in oil-exporting countries. *Energy Policy 37(2009) 1165–1169*, 1165–1169.

Odularu, G. (2007). Crude Oil And The Nigerian Economic Performance. *Oil and Gas Business, 2007*, 1-29.