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Natural resources in Africa; a gift or curse: The case of Nigeria

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This paper examines the link between natural resources wealth, agriculture, oil and economic growth in Nigeria. We use co-integration method to examine the relationship between the economic growth and economic indicators in control in this study. The result shows a significant relationship between economics growth and economic indicators in the long-run. However, the relationship between economics growth and economics indicators does not exist in the short-run. The policy makers in Nigeria should take this result into consideration when they implement a policy. They have to ensure that the policy closes the gap in order to have a positive effect on the economic growth in the short-run and long-run.

Key words: Economic growth, co-integration, natural resources.

INTRODUCTION

Achieving sustainable economic growth in Nigeria has been a long-standing concern over the past decades (Economic Commission for Africa, 2011). Furthermore, Nigeria is an African country that has been struggling with its challenges mainly poverty and unemployment. However, Nigeria has 37 billion barrels of oil as reserve and has an oil and natural gas revenue estimated to be 50 billion US dollar in 2015 (U.S. Energy Information Administration, 2015). This reliance on petroleum as the main source of the country's wealth has contributed greatly to economic instability since the late 1970s. The fluctuations in the petroleum prices, high levels of

corruption and mismanagement among government officials have made sustainable development unachievable. Furthermore, this deception brought extreme poverty to the majority of Nigeria's citizens (Iyoha and Oriakhi, 2002). Industrial and manufacturing have been an important contributor to gross domestic product. Manufacturing's share of export revenues is estimated at 2.1% of exports in 2017 (World Bank Database, 2017). This share rate of exports is relatively low. The policy makers hoped to surge through retreating capital outflows and eliminating impediments to private-sector activity. On the other hand, the services sector

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estimated the GDP at 65%. The most important branch of the services sector is banking and finance. Non-oil exports remain minor in Nigeria at 5% of all exports. Trade and agriculture account for 75% of the non-oil economy. The strong registered growth rates in those sectors have been important for explaining the non-oil economic expansion. The rapidly growing sector of telecommunications has been significant. Furthermore, real estate and housing construction have also witnessed double-digit growth in recent years; although the shares of these sectors in GDP remain modest.

Historically, Nigeria has relied on exports of primary products to support the economy. In recent years, the Nigerian economy has witnessed an increase in the GDP growth rate due to the petroleum industry that played a key role in this growth especially in the time of oil price escalation¹. In the last ten years, Nigeria's economy grew by an average of 5.16% primarily driven by the oil sector. Furthermore, the oil sector accounts for more than 30% of GDP and 70% of all exports. In addition, in 2011, the mining and quarrying including oil accounted for 33.5 % of total GDP². The oil sector accounts for a significant part of the state's revenues and represents a source of employment. Also, oil revenue has an effect over domestic development prissily in the infrastructure development. On the other hand, negative growth of the oil sector has dragged down GDP growth. The oil robbery, illegal oil bunkering and pipeline vandalism slowed down the performance of the oil sector³. Also, the non-passage of the Oil Industry Bill appears to be contributing to the little investment in exploration and exploitation of oil and gas that resulted in lack of new finds during 2013. As a result, the crude oil production dropped to an average of 2.21 million barrels per day in 2013 from 2.31 million barrels per day in 2012 (The World Bank Annual Report, 2013).⁴ The statistics of Nigari have an interesting economy used to express whether the natural resources are gift or curse to Nigerian economy. This paper tries to highlight the roots of the failure for natural resource to have positive impact on economic development. The paper primarily investigates the paradox of economic growth in Nigeria with a key focus on natural resources. The focus is mainly on agriculture and crude oil sectors.

LITERATURE REVIEW

Evidence from mainstream literature claims that countries should produce and export based on their comparative advantage (Kowalski, 2011)⁵. This was the theory that

propelled mainstream economists' belief in specialization, international division of labour and free trade. In addition, for other nations to manufacture industrial goods, others fabricate agricultural and mineral goods to satisfy local consumption (O'Toole, 2007)⁶. Based on the Heckscher-Ohlin (HO) theory, nations produce and export the commodities that require the use of its abundant productive factors intensely. This can ensure the efficient use of resources leading to additional gains from trade (World Trade Organization, 2010)⁷. Leontief (1953) has proved the principle of comparative advantage. He studies the U.S economy using U.S. economy data on input-output accounts and U.S. trade data from 1947. The U.S. economy was capital abundant in 1947 and Leontief's findings appear to contradict the HO theory as his study translated into what is known as the Leontief Paradox Feenstra (2003).

Kemp and Long (1984) came up with a three scenario test. First, the good has been produced only by using exhaustible resources. Second, the good has been produced by one exhaustible and one non-exhaustible resource. Third, the good has been produced by two non-exhaustible resources and an exhaustible resource. They observed that nations well-endowed in exhaustible resources will specialize in that resource sector and produce goods related to the resource. This result presumed that trade is driven by comparative advantage and disparity in factor endowments. East Asian countries have progressed in manufacturing while African countries performed poorly despite being rich in natural resources (Wood and Berge, 1997). They argue that the difference across the two groups stems mainly from the availability of human capital. Their findings support HO assumptions to a certain extent. Furthermore, country development is conditioned on the continuity to produce and export goods it has an advantage in. Nonetheless, numerous issues are raised regarding comparative advantage. One reason is the asymmetric of the information in the markets that depressed competitiveness thus the market efficiency will not be achieved⁸.

People do not have perfect information that laid an ambiguity among their decisions. Thus, formal and informal institutions are required to guide the society and reduce ambiguity (Ménard and Du Marais, 2008). Furthermore, Sachs and Warner (1997) provide evidence from 1965-1990 to elucidate the slow growth in sub-Saharan Africa. Their theory explains that factors such as economic policy, geography and demography explain growth in Africa in recent decades. They used a number of variables as determinants of growth where they find that natural resource endowments are highly associated with slow growth rate. In addition, they confirm that the

¹ IMF Economic outlook database.

² OECD report 2011.

³Nigeria deploys satellite tech to track oil smugglers, REUETRS, WORLD NEWS APRIL 30, 2019.

⁴ World Bank Annual Report 2013.

⁵ Kowalski (2011)

⁶ Gavin O'Toole "Politics Latin America" (Pearson Longman, 2007), 599.

⁷ World Trade Report, Trade in Natural Resources (2010).

⁸ Guliyeva and Rzayeva (2018).

quality of institutions is significant to economic growth⁹. In conclusion, the poor quality of policies and institution in Africa explains the slow growth in the majority of these countries.

Mehlum et al. (2006) posit that the natural resource curse applies to nations with weak institutions. Using data from 87 resource abundant countries with more than 10% of their GDP from natural resource exports, they suggest that natural resources do not contribute to economic growth in countries with grabber friendly institutions. Furthermore, these institutions have competing production and rent-seeking activities. On the other hand, the producers in friendly institutions have complementary production and rent-seeking activities. However, Robinson et al. (2006) contend that the impact of resource abundance is largely dependent on the political motivation generated from the resource endowments. The results show that the presence of permanent resource abundance makes it further expensive for the politicians to remain in power in the future. Thus, the increase in the natural resources prices will lead to an increase in the efficiency of the extraction of those resources to discount the future. Furthermore, Bhattacharyya and Holder (2010) examine the relationship between natural resources, corruption and the consequence of the quality of democratic institutions. They suggest that resource rents have a negative effect on national income due to high levels of corruption. Their result showed that resource rents lead to corruption in less democratic countries. In addition, Lane and Tornell (1996) contend that the combination of weak institutions and fractionalization leads to rent-seeking behavior and poor growth performance. According to Hodler (2006), aggressive activities like rent seeking between multiple rival groups result in an unproductive activities that slow growth.

Using a staple model and the hypothesis of rent cycling, Auty (2007) argues that natural resource rich countries witness economic growth only when resource rents are recycled into productive and efficient policies. Nevertheless, he affirms that government in resource poor countries focuses on wealth building activities due to low rent. On the other hand, government in resource rich countries centers on rent seeking. However, institutional economists have agreed that the role of institutions is authoritative. The lack of economic growth in developing countries is traced to the weak institutions governing the countries.

Structural economists support the concept of industrialization and less dependence on primary product production. They considered that the economy is influenced by politics and power. Furthermore, they believe that free trade between developing and developed countries mainly benefits the last. In addition, they encourage trade among developing countries to reduce

dependence on developed countries. Prebisch (1962) and Singer (1950) argue that agricultural and mineral good prices have a downward movement in the long-run in contrast to manufactured goods. The increase in income will raise the demand for manufactured goods. The demand on manufacturing is more elastic than the demand for primary goods. Thus, the primary goods demand as a share of GDP declines. Therefore, countries depending on primary goods grow slower than countries that rely on manufactured goods. Hence, the diversification is a key factor to economic growth. The fast growth in East Asian countries has been linked with the change from a primary goods exporter to industrial sector exports. On the other hand, countries in Latin America and sub-Saharan Africa are yet to advance towards manufacturing. Hesse (2008) examines the relationship between export diversification and GDP per capita growth. The results show that East Asian with low levels of export concentration is enjoying high level of economic growth. On the other hand, countries with high level of export concentration perform poorly in terms of economic growth. Lederman and Maloney (2007) identify that GDP per capita grows slower in natural resource exporting countries than in natural resource importing countries. This implies that it becomes more complicated for countries specializing in natural resources such as crude oil to diversify into other products due to lack of connectivity in peripheral products. On the other hand, countries that produce core products have the ability to diversify due to the connectivity among the products. Furthermore, peripheral products have no adding value for those countries whose natural resources are abundant like the core products of producing countries.

METHODOLOGY

The aim of this study is to examine the impact of oil and agricultural over the GDP growth in Nigeria. To assess this target we proceed with the cointegration test to sense the relationship among the variables. Furthermore, cointegration technique will ensure whether long-run relationship exists or not. In the early stage of cointegration technique, Engle and Granger (1987), Granger (1986) and Hendry (1986) have made a distinguished contribution to the long-run relationship as well as the causality among time series variables. These techniques have been heavily used in the theoretical and empirical frameworks (Perron and Campbell, 1994). In the simplistic framework, the two variables or more to be said that they are cointegrated when they exhibit long-run equilibrium relationship. Also, if these two variables are sharing common trend it will be considered as cointegrated time series. However, the cointegrated series are required to have error-correction representation to indicate the changes in the dependent variable that functioned to the level of the disequilibrium in the cointegration relationship along with the changes in the other explanatory variables (Engle and Granger, 1987). The importance of the estimation method aspect is the maximum likelihood that is based on finite VAR Gaussian system developed by Johansen (1991). These tests use trace statistics test and maximum eigenvalue test. Also, these tests consider all variables are endogenous to avoid any arbitrary choice of dependent variable. Furthermore, the technique has a unified framework for testing and estimating the

⁹ Bureaucratic quality, risk of expropriation index, rule of law, corruption in government and government repudiation of contract

Table 1. Data information.

Symbol	Variable	Description of the variable
OILRENT	Oil rents (% of GDP)	The difference between the value of crude oil production at world prices and total costs of production
AGR	Agriculture value added (% of GDP)	Includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production.
MANF	Manufacturing value added (% of GDP)	Industries defined as the physical or chemical transformation of materials of components into new products.
SERV	Services value added (% of GDP)	Correspond value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services.
GCF	Gross Capital Formation.	Outlays on additions to the fixed assets of the economy plus net changes in the level of inventories

relationship along the Vector Error Correction Mode (VECM) Enders (2008). Using this technique will rule out the possibility of the estimated relationship being spurious. Once the variables have common trend, the Granger intellect is that causality mostly exists in at least one direction whether unidirectional or bidirectional (Granger, 1986).

This study focuses on the relationship between GDP per Capita, Oil rents, Agriculture (value added), Manufacturing (value added), Services, (value added) and Gross Capital Formation. Also, in evaluating the causal linkage among the variables, we use Johansen Cointegration Test Johanson (1991) to confirm the existence of the long-run relationship. Also, we perform Vector Error Correction Mode (VECM) to ensure the model is convergence to its equilibrium over time.

Cointegration procedure

We set Z_t as a vector including integrated series that has the same order with at least one cointegrating vector in the system. We assume both long-run and short-run stricture of vector Z_t . Johansen Maximum Likelihood will be incorporated in the estimation and identification of the cointegration relationships among the variables counting in vector Z_t . Also, Z_t is vector autoregressive process of order k .

$$Z_t = A_0 + \sum_{i=1}^k A_i Z_{t-i} + u_t \quad (1)$$

$$\Delta Z_t = A_0 + \Pi Z_{t-1} + \sum_{i=1}^k \Gamma_i \Delta Z_{t-i} + u_t \quad (2)$$

$$\Delta Z_t = A_0 + \alpha \beta' Z_{t-1} + \sum_{i=1}^p \Gamma_i \Delta Z_{t-i} + u_t, \quad u_t \text{ is } iid \sim N(0, \Sigma) \quad (3)$$

Where Z_t is denoted (6×1) vector including GDP per Capita, Oil

rent, Agriculture value added, Manufacturing value added, Services value added and Gross Capital Formation (that is, $Z_t = (GDPC_t, OilR_t, AGR_t, MANF_t, SERV_t, GCF_t)$). The six variables are measured in their natural logarithm thus their first difference approximates their growth rates. However, if there is an existence of long-run relationship(s) it will be captured by the (6×6) matrix Π indicated in Equation 2. Nevertheless, Equation 2 can be decomposed as specified in Equation 3 to have an understanding of the system where β is the $(6 \times r)$ matrix of the cointegrating vector; α has denoted the $(6 \times r)$ matrix of the speed of adjustment to last period equilibrium error. Also, Γ_i denotes (6×6) matrix that guides short-run dynamics of the system.

DATA DESCRIPTION AND STATIONARITY TEST

The data used are the annual data from 1980 to 2013. The data source is World Bank data base. The variables that will be used in this study are GDP per Capita, Oil rent, Agriculture value added, Manufacturing value added, Services value added and Gross Capital Formation. Table 1 shows the description of the data information. Table 2 describes the statistics of the data. All variables are in the same level with transformation to logarithm form. Also, the Oil rent, Agriculture value added, Manufacturing value added and Services value added are percentage share from the GDP.

We can emphasize from Table 2 that all variables are normally distributed based on JB test where we fail to reject the null hypotheses except the oil rent variable. Most variables are negatively skewed except GDP per capita which means there is a decrease in the income over time. This gives an indication to what extent the economy has dark view in terms of growth. Furthermore, all variables' mean is within its median. To avoid spurious regression, we examine the data with formal tests to be consistent with the literature (Clarke and Mirza, 2006). We investigated the order of integration of each variable.

The widely used test to be applied is augmented Dickey-

Table 2. Data statistics descriptive.

	Log (GDPC)	Log (GCF)	Log (AGR)	Log (MANF)	Log (SERV)	Log (OILRENT)
Mean	2.95	1.55	1.35	1.15	1.65	1.05
Median	2.87	1.58	1.37	1.25	1.65	1.14
Maximum	3.48	1.95	1.57	1.32	1.72	1.42
Minimum	2.43	1.15	1.09	0.82	1.55	0.18
Std. Dev.	0.30	0.21	0.10	0.17	0.05	0.27
Skewness	0.33	-0.15	-0.69	-0.67	-0.49	-1.50
Kurtosis	-1.21	-0.54	1.39	-1.14	-0.60	2.60
Jarque-Bera	2.17	0.44	3.32	2.40	0.83	12.34
Probability	0.34	0.80	0.19	0.30	0.66	0.00
Observations	33	33	33	33	33	33

Table 3. Results of the Augmented Dickey Fuller test.

Variable	Test statistics - levels	Test statistics – First difference
Ln GDPC	-0.030	-3.445
Ln GCF	-3.11	-5.52
Ln AGR	-2.25	-5.83
Ln MANF	-1.59	-3.60
Ln SERV	-0.60	-4.51
Ln OILRENT	-1.47	-5.80

Table 4. ADF unit root test result of the error term (u) at first difference.

Variable	ADF test statistic	5% Critical value	Order of integration	Meaning
U=Residuals	-5.68	-2.9627	I(1)	Stationary

Fuller (1979). Also, there are more tests to be applied (Phillips and Perron 1988) and stationary test by Kwiatkowski et al. 1992), but we will focus only on ADF test since the goal is to ensure lags requirement. Augmented Dickey-Fuller (ADF) is conducted as a test of stationarity, where the test equation is specified as follows:

$$\Delta X_t = \alpha_0 + \theta X_{t-1} + \alpha_1 \Delta X_{t-1} + \alpha_2 \Delta X_{t-2} + \dots + \alpha_p \Delta X_{t-p} + U_t \quad (4)$$

From Equation 4, Δ is the first difference operator, α is the constant term, X is the log of the variable being tested and U is a stationary random error term. The numbers of augmented lag p are determined by minimizing the Akaike information criterion. The results in Table 3 indicate that the variables are not stationary at levels but stationary at first difference. For further confirmation of the stationarity of the data, the error term u was generated which is equated to the residuals. The error term (u) of the regression estimates was tested for unit

root at first difference. The result showed that the data are stationary at first difference at 5% critical values (Table 4). As the order of integration of the variable is stationary, thus it is feasible to apply the Johansen co-integration methodology.

Empirical result

It is necessary to conduct Co-integration test for the model to determine if there are long run associations among the variables; it is observed that the unit root tests of the variables are stationary at their First and Second difference. Using the Johansen (1991) frameworks, the trace statistic (likelihood ratio) is compared with the critical value at 5% level of significance to determine the number of co-integrating vector(s) in the model. If this test establishes at least one co-integrating vector among the variables under investigation, thus a long run equilibrium relationship exists in the model. All the variables have lags by one-year period. Table 5 states

Table 5. Unrestricted cointegration test results.

Hypothesized no. of CE(s)	Trace			Maximum Eigen Values		
	Eigenvalue	Trace statistics	Prob.**	Eigenvalue	Max Eigen value statistics	Prob.**
None *	0.7418	117.92	0.0007	0.7418	41.980	0.0302
At most 1	0.6803	75.949	0.0149	0.6803	35.360	0.0330
At most 2	0.4954	40.588	0.2021	0.4954	21.209	0.2637
At most 3	0.3255	19.379	0.4659	0.3255	12.211	0.5269
At most 4	0.1968	7.1678	0.5582	0.1968	6.7954	0.5136
At most 5	0.0119	0.3723	0.5417	0.0119	0.3723	0.5417

Table 6. Estimates of error correction model.

Variable	Coefficient	(Std. error)	[t – Statistic]
C	0.006435	0.012498	0.514911
D (ln GCF)	0.047864	0.055800	0.857768
D (ln AGR)	-0.109157	0.075051	-1.454439
D (ln MANF)	-0.156793	0.114807	-1.365706
D (ln SERV)	0.294558	0.161147	1.827884
D (ln OILRENT)	0.023292	0.053975	0.431523
ECM (-1)	-0.302974	0.172497	-1.756405

the estimation of equation 2.

The result shows the presence of co-integration vectors that indicate there is an existence of long-run relationships among the indicators of economic growth and the other variables in the study. Furthermore, we test the null hypotheses for equation 2 which is there is no long-run relationship among the variables in 5%. From the probability of 3.02% we have insufficient information to accept the null thus we reject the null hypotheses and accept the alternative hypotheses to conclude there is a long relationship. In the At most 1, the probability is 3.30% thus we reject again the null hypotheses to conclude there is more than one cointegrated equation among the variables. Maximum eigenvalue has the same result to support the test. However, this result concludes that an increase in natural resource wealth activities could have an impact on other sectors of the economy. Since there is long-run relationship among the variables, Engle and Granger (1987) argue that it is necessary to use the Error Correction Mechanism (ECM model). This is the estimation of equation 3 that has shown the speed of convergence to the equilibrium when there is long-run relationship. This is an evidence of co-integration found in any model. The error correction representation relating to that model may also be found. This indicates all variations within the dependent variables in the model are result of the co-integrating vectors attempting to return to equilibrium and the error correction term that captures these variations. In conjunction to this, error correction models are estimated to obtain the short-run dynamics.

We rewrite equation 3 to reflect the estimated model by the variables.

$$\begin{aligned} d(\ln GDPC)_t = & \beta_1 + \beta_2 * d(\ln GCF) + \beta_3 * d(\ln AGR) + \beta_4 * d(\ln MANF) \\ & + \beta_5 * d(\ln SERV) + \beta_6 * d(\ln OILRENT) + \beta_7 * U_{t-1} + V \end{aligned} \quad (5)$$

This mechanism works on correcting the disequilibrium in a co-integrating relationship. Equation 4 is estimated at first difference since the variables and residual were stationary at first difference. Furthermore, β_1 is the intercept, β_2 to β_6 are the short run coefficient, β_7 is the coefficient of the error correction term U_{t-1} . This term is aka equilibrium error term which is one period lag residual of the model and is used in explaining the long run relationship or speed of adjustment towards long-run equilibrium. V is the white noise error term. The error correction terms within the ECM model contain significant important information about the equilibrium of the system equation model. It captures the short-run dynamics and provides a measure to resolve the behavior of an economic variable in the short run with its performance in the long-run.

Table 6 indicates that the short run coefficients of the model are not significant, meaning that these variables do not influence economic growth in Nigeria in the short run. The error correction estimates presented above reveal that the error correction term ECM (-1) or speed of adjustment towards long run equilibrium has the expected

negative sign. This means there is a tendency by the model to correct and move towards the equilibrium path following disequilibrium in each period. Therefore, in each short-term period economic growth is adjusted by taking into account the previous period difference between the independent variables and per capita real GDP growth. The ECM term, however, accounts for the correction of about 30.29% of the error generated in the last period. Furthermore, the speed of adjustment is 30.29% annually. The speed of the adjustment implies that by computation it will take between 6 to 7 years for the economy to close the gap between its current state (short run period) and the long run equilibrium. Consistent with Oyinbo et al. (2013), their result indicates that the expected negative sign of the error correction term implies about 68% of disequilibria from the previous year's shock converge back to the long run equilibrium in the current year as stated in the their study. The result of the ECM also keeps the validity that there is an existence of long-run equilibrium relationship between GDPC and other variables of interest.

However, in the short-run natural resource wealth of agriculture and oil revenue are not significant to growth. This is combined with Oyinbo et al. (2013) and Ujah and Okoro (2009)'s findings. In fact, agriculture in Nigeria suffers from many problems that hinder its productivity and contribution to the GDP. The infertile soil across many farmlands in the country has caused a "below average" productivity of these lands mainly due to wind erosion as well as improper management. In addition, improper management leads to a food-processing problem in which 20 to 40 % of the annual harvest is lost during processing. Furthermore, irrigation problem such as the lack of "water management systems" is another challenge. Most importantly, lack of investment and poor budgetary allocation to agriculture-to-agriculture sector relative to the other sectors of the economy hinders growth of the agriculture sector (Nchuchuwe and Adejuwon, 2012)¹⁰.

Ujah and Okoro (2009), based on the current supervision and assessment of reports of 2007 and 2008, said that agricultural budget was far below 25 and 10% recommendation from the Food and Agricultural Organization and the African Union respectively. Moreover, the insignificance of the agricultural sector in influencing the Nigerian economic growth in the short-run period is essentially attributed to a number of problems and challenges faced by the sector over the past decades. In addition, international market opportunities for some exportable commodities have been low on account of the sector's inability to be competitive (UNDP, 2012). Oni (2013) identified numerous challenges such as marketing problem, storage and processing problems infrastructural inadequacies, unstable input and output prices, seasonal labor shortages due to the migration of

able-bodied youths from the rural to urban areas, technical constraint, inadequacies in past policies and programmers as well as impute supply problems. In addition, resources from the agricultural sector are underutilized for the growth of the Nigerian economy. On the other hand, there is little or no effort to add value to the sector from the returns of economic growth. Although, land has been heavily regulated by the Nigerian Government through the establishment of the Land Tenure Law of Northern Nigeria of 1962 and Land Use Act No. 6 of 1978. The implementation of the Act in the past decades has increasingly become an obstruction in the wheel of economic growth and development as the Act is anti-people and oppressive (Namnso et al., 2014). The Land Use Act has resulted in multiple forms of tenure system leading to unwarranted bureaucracy in getting consent and approval for land transactions and certificate and insecurity of right of occupancy granted under the Act. In terms of ease of registration of property, Nigeria is ranked among the lowest (The World Bank Annual Report, 2014). According to the provision of Section 1 of the Act, individuals cannot own freehold interest in land in Nigeria. This implies that all land in the territory of each state government holds the absolute interest in land.

The oil sector that has the bulk of the Nigerian federally collected revenue has insignificant impact on the growth of the Nigerian economy. This is consistent with Akinlo (2012) who claims that the oil sector has very little linkage with other sectors of the economy since the sector does not offer much opportunity for employment. Nigeria is a country whose relationship with oil over the decades has been volatile and plagued by corruption and mismanagement. Volatility in oil price makes the exchange rate volatile thereby encouraging excessive short-term capital flow. Thus, the efficiency of macroeconomic policy is being constrained. The oil rich Niger Delta region has become the site of an intense and controversial struggle between the state and the indigenous population (Omeje, 2006).

Furthermore, foreign oil corporation reaping the rewards of this resource has incense local people. This is due to lack of improvement in their standard of living. The effects of oil extraction for the environment and the Niger Delta communities have been devastating. Omeje (2006), report that according to Nigerian Federal Government figures, there were more than 7,000 oil spills between 1970 and 2000. This has led to serious ecological damage in the fragile region. Lane and Tornell (1998) note that oil-rich Venezuela's terms of trade rose to 13.7% per year during 1970-1990, while per capita output lowered at a rate of 1.4% annually. They also point out that Saudi Arabia's real per capita GDP actually declined between 1970 and 1999. In addition, Gylfason (2001) points out that per capita GNP in OPEC countries fell to 1.3% every year from 1965-1998.

In general, the bulk of the reasons why agriculture and oil has been insignificant to the growth of the Nigerian economy is chiefly due to gravity of corruption and

¹⁰ The Challenges of Agriculture and Rural Development in Africa: The Case of Nigeria, Nchuchuwe and Adejuwon (2012).

mismanagement entirely different from the rest of the world. Transparency International (2014) report ranked Nigeria among the 38 most corrupt countries in the world out of 175 countries examined. In addition, Global Corruption Barometer reports that the population's perception of corruption has increased significantly between 2011 and 2013. When Nigeria gained her independence, public funds amounting to about US\$400 billion vanished due to corruption. Furthermore, about US\$6.8 billion was missing due to corruption in the subsidy program Berne Declaration (2013). In addition, between 2001 and 2008 about 300,000 barrels of oil were stolen per day and a total of 15 fuel importers collected more than US\$300 million in fuel subsidy funds without importing any fuel (Nwaroh, 2012).

Conclusion

This paper investigates the link between economic growth and the natural resource wealth, notably agriculture and oil revenue in Nigeria. We try to answer the question which is a resource based growth strategy that leads to a sustained economic growth or the curse of natural resources. This study uses Johanson (1991)'s test to confirm the existence of long-run relationship among the variables with an error correction model (ECM) over the period from 1980 to 2013. While the results indicate the existence of long-run relationship between resource wealth and economic growth, this relation is absent in the short run mainly due to poor institutions represented in the improper management of the Nigerian Government of the country's natural resources.

The findings highlight an important policy implication that the natural resource based growth strategy might not lead to sustained economic growth. Thus, Nigeria should aim at pursuing industrial growth strategy with a vibrant real sector that would result in the diversification of the economy. Moreover, it is critically imperative for Nigerian government to tackle the issue of wide spread corruption and mismanagement of public funds in over respective areas along sectors of its economy to improve the quality of the country's institutions.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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