OIL EMBEZZLEMENT AND PIPELINE VANDALISM IN NIGER DELTA AND NIGERIA'S ECONOMIC DEVELOPMENT FROM 2000 TO 2017.

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Abstract

The aim of this study was to examine oil embezzlement and pipeline vandalism in Niger Delta and Nigeria's Economic Development from 2000 to 2017.The specific objectives were to: examine the loss oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has affected economic development in Nigeria from 2000 to 2017 and highlight the quantity of barrels of oil lost from the Niger Delta region and its relationship to development of the economy in Nigeria from 2000 to 2017. The analytical tools used were descriptive statistics, mean and Z - test. The study found out that lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has significantly affected the development of economy in Nigeria from 2000 to 2017 and the quantity of barrels of oil lost from the Niger Delta region has also affected the economic development in Nigeria from 2000 to 2017. The following recommendations were made for the study: integrate the communities into the oil economy, so that they will have proprietary interest in the protection of oil installations, the oil pipelines should be buried deeper while communities should be contracted to protect oil pipelines and there should be better protection of oil pipelines.

Keywords: Oil Embezzlement, Pipeline Vandalism, Niger Delta, Nigeria, Economic development.

Introduction

Oil is the lifeblood of modern economy and it has now became the most vitalproduct in the world. Hence, no nation today can live without oil; that is why Smil (2008) describes it as the "lifeblood of modern world", adding that, "without oil, there would be no globalization, no plastic, little transport, and a worldwide landscape that few would recognize". Yergin (2008) also calls it "the world's most significant resource".

Nigeria, being a mono-economy nation, mainlybe contingent on the oil sector for its economic existence. The Nigerian economy is dependent on the misuse of crude oil and the state's future is very much tied to the commodity (Okere, 2013).).

Indeed, oil and gas resources from Niger Delta region accounts for over 90% of Nigerian export and foreign exchange earnings, and over 70% of total Nigerian revenue (Ekuerhare, 2002). This informs Wilson (2012) to state that the increase or otherwise in crude oil production affects directly the revenue base and developmental programs of Nigerian state. Oil is now the mainstay of Nigeria's economy. It is the country's major export, fetching millions of petrodollars to the

country each day. Sadly, that same resource is being violently stolen in abundant quantities on daily basis (Adeboye, 2013).

The surge of oil embezzlement in the Niger Delta in recent times is alarming. Presently, Nigeria is trailing over 300,000 barrels of crude oil per day to oil theft, pipeline vandalism and related criminal vices in the country's oil sector (Akpan 2013 Thus, oil embezzlement and illegal bunkering activities in the Niger Delta pose challenge that threatens the very foundation of the oil industry, and by extension, the Nigerian economy (Garuba, 2012).The period between 2000 and 2017 was characterized by redoubled efforts at combating threats perpetrated within, or facilitated through, Nigeria's territorial waters, especially the upsurge in vandalisation of oil infrastructure, smuggling of crude or refined oil as sound as the disruption of operations of river transport and oil service companies by some aggrieved community youths in the Niger Delta (Shipping Position, 2011).

While the administration of President Olusegun Obasanjo in 2001 set up the Special Security Committee on Oil producing Areas to among others identify the causes of oil embezzlement and pipeline vandalism. This study therefore seeks to examine the political economy of oil embezzlement and pipeline Vandalism in Niger Delta and Nigeria's economic development between 2000 and 2017.

Statement of the Problem

Nwachukwu (2014), observes that unlawful oil bunkering in the Niger Delta region is one of the recurrent problems of Nigeria, which has grown in bounds and limits and that the only way to stem this terrible crime is to identify the real offenders and bring them to book. A recent report by the Nigerian Navy, showed that the country loses about $20 billion annually to crude oil embezzlement and that an estimated 55,210 barrels of oil per day or monthly average of 1,656,281 barrels was stolen by oil thieves in the year 2013 alone (Yergin, 2008).

A special bang by the United States Institute of Peace, a self-governing, nonpartisan institution in 2009 exposed that between 30,000 and 300,000 barrels of oil per day is lugged away by oil robs who operate in Niger Delta and that approximately US$100 billion was lost from unlawful oil bunkering between 2003 and 2008. A similar report by the UN's office for Drugs and crime in 2009 estimated as much as 150,000 butts of crude oil stolen daily from the Niger Delta, while the country losses about $6 billion to oil embezzlement annually (Wilson, 2014).

Worst still is that the military is involved in escorting illegally bunkered crude; the foot soldiers are not the only ones who profit; the commissioner of police, the director of the State Security Service (Wakeford, 2006). Unfortunately, those involved or slightly infested by this bug of (oil stealing), due to selfish motives and the get rich quick Nigerian syndrome are rather myopic not really ascertaining the effects and backwardness their intransigent actions have cost the national economy. In the words of Salau, 2016) for example, while economies of countries where Nigeria's illegally bunkered oil are sold embellishment on this cheap and illicit oil, that of Nigeria, biggest oil producer in Africa has continued to decrease. From the previous, the study is therefore being set up to examine the oil embezzlement and pipeline vandalism in Niger Delta and Nigeria's Economic Development from 2000 to 2017.

Objectives of the Study

Thegeneral objective of the study is to examine political economy of oil embezzlement and pipeline vandalism in Niger Delta and Nigeria's Economic Development from 2000 to 2017. Specifically, the study is set to;

Examine how lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has affected economic progress in Nigeria from 2000 to 2017.

Highlight the quantity of barrels of oil lost from the Niger Delta region and its relationship to economic development in Nigeria from 2000 to 2017.

Research Questions

The following questions are stated for the study:

How has lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta affected economic development in Nigeria from 2000 to 2017?

What is quantity of barrels of oil lost from the Niger Delta region and its relationship to economic development in Nigeria from 2000 to 2017?

Research Hypotheses

The following null hypotheses are formulated for the study

Lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has not significantly affected economic development in Nigeria from 2000 to 2017?

The quantity of barrels of oil lost from the Niger Delta region does not have a significant relationship to economic development in Nigeria from 2000 to 2017?

Significance of the Study

The ideas and insights generated in this study would add to the body of knowledge on the broad subject of oil resources management, and would spur further debate and research on the subject of oil embezzlement and vandalism its serious ramifications for Nigeria's budget, safety, equality and environment.

In policy terms, this study promises to provide valuable insights and strategy for policy makers, especially with through Federal and state Governments(particularly of the Niger Delta region), in formulating and implementing practical measures that would address the problem of oil-based leakages, including oil embezzlement in the Niger Delta region.

The study will also benefit the local people of the oil-host communities as it will highlight the immediate and long-term impacts of illegal bunkering activities, especially artisanal refining of stolen crude oil, on environmental sustainability of host communities where these activities are rife.

Scope of the Study

The scope as revealed by the topic of research will encompass the oil embezzlement and pipeline `vandalism in Niger Delta and Nigeria's economic development from 2000-2017

REVIEW OF RELATED LITERATURE

Concept of Oil Embezzlement and Pipeline Vandalism
The Nigerian petroleum industry has been challenged by two sapping trials over the years. The tests relates to the prevalence of oil embezzlement and oil pipeline vandalism in the Niger Delta. While the former has knowingly attenuated in the aftermath of the Amnesty deal in 2009, the latter appears to have escalated both in existence and impact (Okoli, 2013). Oil embezzlement, also known as criminal bunkering, is the act of chopping into pipelines to steal crude which is later refined or sold abroad (Ugwuanyi, 2013).

It is an illicit trade that involves the stealing of crude oil and its derivative products through a variety of mechanisms. Asuni (2009) refers to oil embezzlement as oil taken from pipelines or flow stations, as well as extra crude oil added to genuine cargo that is not accounted for. Causes and Appearances of Oil Tube Insecurity in Nigeria Thereasons and manifestations of oil pipeline insecurity in Nigeria discussed in this study include; Vandalism of Oil Pipelines Vandalism affects adversely the oil companies, government, and even the environment. Vandalism is an action involving deliberate destruction of public or private property (Alley, Ayodele and Yinka, 2015). The 2013 Annual Report of the Nigerian Extractive Industry Transparency Initiative (NEITI) reported that Nigeria lost US$10.9 billion to oil embezzlement between 2009 and 2011. In the 1990s, criminals, mostly unemployed youths active in remote areas and communities through which oil pipeline pass, punctured the pipes or took advantage of ruptured or leaking pipes to siphon fuel or other petroleum products into drums, plastic containers or storage cans for sale on the black market (Anashasy, Bradly and Joutz, 2005).

Pipeline Ruptures
This is another important challenge that affects the security of oil pipelines. It is a major contributor to oil spill incidents. Corrosion of tubes and tanks includes the rupturing or holey of production organization that is very old and lack regular inspection and maintenance. Corrosion plays a major role in oil spills because of the small size of the oil fields in the Niger Delta (Alohan, 2013). **Pipeline Damages and Sabotage**
Environmental contamination caused by oil pipeline spills could result from human factors to material defects: pipe corrosion, ground erosion, tectonic activities on the bottom, and meeting ship anchors and bottom trawls. Indeed pipeline defects could be the source of small but gradual to long-term leakage or leakage that might lead to an abrupt explosion (Akpan, 2016)

Illegal Oil Bunkering
Nigeria's most profitable illegal private business in the petroleum industry is illegal oil bunkering. Bunkering is the procedure of filling a ship with oil (or coal). Illegal oil bunkering, therefore, is a synonym for oil embezzlement (Adegbite, 2013)

Theoretical Framework

This study adopts the political economy approach.
As noted by Momoh and Hundeyin (2000:38) political economy is "a technical and yet quite useful tool of scientific analysis. It provides for a holistic study of issues, phenomena and

policies in any society". There are different political economy models of analysis.

However, this study takes the greatest popular element of political economy, which is the Marxist perspective. Its keydispute is summarized by the famous statement by Karl Marx in the Preface to anInfluence to the Analysis of Political Economy. According to Marx (1970: 20-21):

In the communalmanufacture of their being, men inevitably enter into certain relations, which are self-governing of their will, namely relations of production fitting to a given phase in their development of substantial forces of production.

The whole of these relatives of makingfounds the economic assembly of society, the real basis, on which arises a legal and political building and to which agree definite forms of social awareness. The mode of manufacture of physical life situations the overallcourse of societal, dogmatic and intelligent life.

Marx toughly argued that the economic edifice of culture significantly influences the atmosphere of the construction which includes the dogmatic, legal, cultural and religious families and institutions of society. But this does not infer a unidirectional model The Operational Mechanisms of Oil Thefts, Illegal Bunkering and Pipeline Vandalism in the Niger Delta There are various methods in which the operations of oil thefts, illegal bunkering and pipeline vandalism are carried out in the Niger Delta.

The utmost popular method for stealing the crude oil is to perforation the pipeline assigning the product from one point to the other and tap it at the point where it had been punctured or ruptured (Adegbite, 2013). Asuni (2009) notes that there are four effective methods of illegal operation in the Niger Delta. They are: A minor and small-scale larceny of condensate and petroleum product meant local market; Directchopping into pipelines or beating with a hose from wellhead; and Spare lifting of crude oil elsewhere the licensed amount, using forged fliers of lading.

The fourth to add is the piece of blasting the Crude oil pipeline with explosives like (dynamite or bomb) to interrupt supply process to refineries or loading stations. Insecurity in the Niger Delta Region-A Threat to Nigeria National Security: The gravitation of damage caused by vandalism and illegal bunkering often force oil companies to shut pipelines down. As a result of this, Nigeria is producing oil at minimal volume of 1.4million barrels per day or less.

This post a serious threat to national security particularly as Nigeria depends heavily on oil exports for survival (Mono-economy) (Okafor and Olaniyan, 2017 .

Empirical Review
Kadafa, Zakaria, M. P. & Othman, F. (2012) studied oil leakage and effluence in Nigeria. The study sought to highlight some of the existing laws applicable to oil smog in Nigeria, discussing the current legislations and system suggesting areas where improvement is essential.

The study found out that human deeds and those of oil consideration and corruption raise a number of concerns such as reduction of biodiversity, coast and riverbank erosion, flooding, oil spillage, gas flaring, noise pollution, sewage and wastewater pollution, land degradation and soil fertility loss and deforestation, which are all mainecologicalmatters.

Anyio (2015) studied illicit oil bunkering and oil embezzlement in Nigeria.
The study adopted a content research method using secondary bases like government publications, journals, newspapers, magazines, live TV broadcast and the internet. The findings revealed that the nation has incurred massive loses of oil proceeds estimated at N1.29 trillion to industrial scale stealing yearly, withdrawal of foreign investors and companies, degradation of the local environment, increased acquisition of light arms and ammunition, high incidents of school dropouts among primary and secondary schools pupils and students, while the Government has not done enough to fight the negative drifts.

Okoli and Orinya (2013) carried out a study on oil pipeline vandalism and Nigeria's national security. The objective of the study was to establish the implications of oil tube vandalism for Nigeria's national security. The study adopted descriptive statistics and found out that oil pipeline vandalism is a risk to Nigeria's national security.

Okafor and Olaniyan (2017) studied legal and institutional framework for promoting oil pipeline security in Nigeria. The objectives of the study were; highpoints the flaws of the current regulatory preparation, and suggests lawfulimprovements to make oil transportation through pipelines efficient, actual and secure in Nigeria. The study found out that there is need to review relevant legislation providing for the security of oil pipelines in Nigeria; proper funding of the security agencies saddled with the overall accountability for managing as well as protecting the pipelines to safeguard their productivity; and repairing the entire security device put in place to protect oil pipelines in Nigeria by having a sustainable and strategic method to dealing with oil pipeline self-doubt.

RESEARCH METHODOLOGY

Research Design

The researcher adopted *ex-post facto*. The choice of the *ex-post facto* design is because the research relied on already recorded events, and researchers do not have control over the relevant dependent and independent variables they are studying with a view to manipulating them (Onwumere, 2009). **Sources of Data**

This study made use of secondary data covering a period of 18 years i.e. 2000 – 2017 obtained from Central Bank of Nigeria Statistical Bulletin.

Model Specification

The model of the study is based on the classical linear regression model of Brooks (2014).

The model is shown as follows;

$$Y = \beta_O + \beta_1 X_1 + \beta_2 X_2 \ - - - - - - \beta_n X_n + \mu_t \ \text{-----------} \qquad 3.1$$

Where;

Y = dependent variable

X_1, X_2, ---Xn = Explanatory or independent variable

β_1, β_2, ---- β_n = the slope of coefficient of the parameter estimate

μ = Error or disturbance term

$_t$ = time

In relating this to the study

GDP = F(LOR and QBOL) -------------------------------------

Relating it in econometric form and the variable

$log\text{GDP} = \beta_O + \beta_1 log\text{LOR} + \beta_2 log\text{QBOL} + \mu_t$ -----------------

Where

GDP = Gross Domestic Product

LOR = Lost Oil Revenue

QBOL = Quantity of Barrels of Oil Lost

β_O = Constant/intercept term

β_1 & β_2 = Coefficient of the parameter estimated or the slope

μ = Error or disturbance term

t = time period

Apriori Expectation: It is expected that β_1, $\beta_2 > 0$

Techniques of Estimation

Annual Time series data covering a period of 18 years was estimated using Ordinary Least Square

DATA PRESENTATION AND ANALYSIS

Data Presentation

The presentation of data used in the analysis of the study is illustrated below.

Table 1: Raw Data used for the Study

Yr	LOR (N' 000)	QBOL (Br, 000)	GDP
2000	35328845	97321	3989.45
2001	30881436	362419	4679.21
2002	31946315	109508	6713.57
2003	33228725	526777	6895.20
2004	36566708	408742	7795.76
2005	36265956	25935	9913.52
2006	36306239	639932	11411.07
2007	38608504	999698	14610.88
2008	69172852	549223	18564.59
2009	89148207	464600	20657.32
2010	109366975	78928	24296.33
2011	123663125	101725	24794.34
2012	116461882	924692	54612.26
2013	122463538	1064332	62980.40
2014	109202120	754523	71713.94
2015	118495882	507140	80092.56
2016	101973030	530389	89043.62
2017	125919817	517562	94144.96

Source: Central Bank of Nigeria Statistical Bulleting

NB:

LOR: Lost Oil Revenue
QBOL: Quantity of Barrels of Oil Lost
GDP: Gross Domestic Product

Test of Hypotheses
Test of Hypothesis one
Step 1:   Restatement of the hypothesis.
Lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has not significantly affected economic development in Nigeria from 2000 to 2017.

Step 2:   Statement of Decision Criteria
Reject H_O if the t-statistics is >2.5 and the probability of the t-statistics is <0.05.
Step 3: Presentation of test result
Test of Hypothesis One
Dependent Variable: LGDP
Method: Least Squares
Date: 05/31/19   Time: 07:50
Sample (adjusted): 4 41
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.86157	1.793959	-6.054526	0.0000
LLOR	-0.673054	0.459769	-3.463897	0.0052
LBQOL	-0.011666	0.393500	-4.029646	0.0166
R-squared	0.952576	Mean dependent var		16.03989
Adjusted R-squared	0.945280	S.D. dependent var		2.344373
S.E. of regression	0.548403	Akaike info criterion		1.783077
Sum squared resid	7.819388	Schwarz criterion		2.014365
Log likelihood	-22.63769	Hannan-Quinn criter.		1.858471
F-statistic	130.5614	Durbin-Watson stat		0.612524
Prob(F-statistic)	0.000000			

Source: Author's Computation from E-View 9.0

Step 4: Decision
Given the decision criteria to reject H_O if the t-statistics is >2.5 and the probability of the t-statistics is < 0.05. Table 4.4.1 shows the t-statistics of LLOR as -3.463897<2.5 with a probability of the t-statistics of 0.0052 < 0.05. Since the coefficient of LLOR being -0.673054 is negative, it implies LLOR has a negative effect on GDP. Therefore, as LLOR increases, LGDP decreases. We reject the null hypothesis (H0) and conclude that LLOR has significant effect on LGDP.

Test of Hypothesis Two
Step 1: Restatement of the hypothesis.
The quantity of barrels of oil lost from the Niger Delta region does not have a significant relationship to economic development in Nigeria from 2000 to 2017.

Step 2: Statement of Decision Criteria
Reject H_O if the t-statistics is >2.5 and the probability of the t-statistics is <0.05.
Step 3: Presentation of test result
 Test of Hypothesis two
Dependent Variable: LGDP
Method: Least Squares
Date: 05/31/19   Time: 07:50
Sample (adjusted): 4 41
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.86157	1.793959	-6.054526	0.0000
LLOR	-0.673054	0.459769	-3.463897	0.0052
LBQOL	-0.011666	0.393500	-4.029646	0.0166
R-squared	0.952576	Mean dependent var	16.03989	
Adjusted R-squared	0.945280	S.D. dependent var	2.344373	
S.E. of regression	0.548403	Akaike info criterion	1.783077	
Sum squared resid	7.819388	Schwarz criterion	2.014365	
Log likelihood	-22.63769	Hannan-Quinn criter.	1.858471	
F-statistic	130.5614	Durbin-Watson stat	0.612524	
Prob(F-statistic)	0.000000			

Source: Author's Computation from E-View 9.0

Step 4: Decision

Given the decision criteria to reject H_O if the t-statistics is >2.5 and the probability of the t-statistics is < 0.05. Table 4.4.1 shows the t-statistics of LBQOL as -4.029646<2.5 with a probability of the t-statistics of 0.0166 < 0.05. Since the coefficient of LBQOL being -0.011666 is negative, it implies LBQOL has a negative effect on GDP. Therefore, as LBQOL increases, LGDP decreases. We reject the null hypothesis (H0) and conclude that LBQOL has significant effect on LGDP.

Discussion of Result

The following results were generated from the analysis of study;

The study discovered that lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has significantly affected economic development in Nigeria from 2000 to 2017. This is based on the premise that the probability value of LLOR being 0.0052 was less than 0.05. Also the relationship between LLOR and LGDP is negative as the coefficient being -0.673054 has a negative value.

The study also discovered that the quantity of barrels of oil lost from the Niger Delta region has a significant relationship to economic development in Nigeria from 2000 to 2017 as the probability value of LBQOL being 0.0166 is less than 0.05. Also the LBQOL has a negative effect on LGDP the value of the coefficient being -0.011666 is negative.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

The following findings are made for this study:

1. Lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has significantly affected economic development in Nigeria from 2000 to 2017.
2. The quantity of barrels of oil lost from the Niger Delta region has a significant relationship to economic development in Nigeria from 2000 to 2017.

Conclusion

The study finally concluded that lost oil revenue from oil embezzlement and pipeline vandalization in Niger Delta has significantly affected economic development in Nigeria from 2000 to 2017 and the quantity of barrels of oil lost from the Niger Delta region has a significant relationship to economic development in Nigeria from 2000 to 2017

Recommendations

The following recommendations are made for the study:

1. Integrate the communities into the oil economy, so that they will have proprietary interest in the protection of oil installations.
2. Oil pipelines should be buried deeper while communities, not individuals, should be contracted to protect oil pipelines.

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