European Journal of Accounting Auditing and Finance Research

Vol.5, No.6, Pp.51-76, June 2017

Published by European Centre for Research Training and Development UK (www.eajournals.org)

THE TENUOUS RELATIONSHIP BETWEEN OIL REVENUE AND NIGERIA'S ECONOMIC GROWTH

Wilson E. Herbert[1], Innocent Augustine Nwaorgu[2] & Johnson Nwaiwu[3]

1. Department of Banking and Finance, Federal University, Otuoke, Bayelsa State, Nigeria. Email: weherbert12@gmail.com

2. Department of Accounting, Michael Okpara University of Agriculture, Umudike, Umuahia, Abia State, Nigeria.

3. Department of Accounting, University of Port Harcourt, Rivers State, Nigeria.

Correspondence: Wilson E. Herbert, Department of Banking & Finance, Faculty of Management Sciences, Federal University, Otuoke, Bayelsa State, Nigeria.

ABSTRACT: *This study examined the relationship between revenue generation and economic growth in Nigeria during the 45-year period, 1971 to 2015. This period heralded the sweet side of global energy crisis that precipitated the petrodollar windfall following steep rise in crude oil prices and the sour side that saw the economy shrink as a result of downward spiral of or crash in global energy prices and/or decline in oil production (slump non-oil boom). Using the ANCOVA model, the study expressed the change in growth rate of GDP as a function of various dimensions of tax, chiefly, change in period lag values of value added tax, personal income tax, company income tax, petroleum profit tax and custom and excise duties with a dummy variable that captures the contribution of oil revenue windfall. The results showed no significant difference in average changes in economic growth between the oil boom and oil slump periods. This suggests that Nigeria's petrodollar windfall had no significantly stimulating effect on the country's growth and development trajectory during the 45 years. The findings of this study adumbrate the anecdotal evidence of poor resource governance architecture that has characterized not just Nigeria's petroleum industry but also the country's macroeconomic management. The resonance with, and the attendant lesson from, the Dutch Disease Syndrome sequel to the country's historicity of mismanagement of resources including the petro-dollar windfalls, is the major policy implication of this study.*

KEYWORDS: economic growth, Dutch disease, oil revenue windfall, oil boom and slump, resource course, Nigeria

INTRODUCTION

The notion that revenues from extraction of natural resources, especially crude oil, potentially raise national savings and hence facilitate investment, capital accumulation, and

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

sustained growth has been amply canvassed by Toto Same (2008, 2009), although the evidence in Sub-Saharan African (SSA) countries has been a disappointing reality. From the days of Adam Smith and David Ricardo to the present time, the general belief has been that natural resources are a blessing. The presumption is that countries that are richly endowed with natural resources have a comparative advantage over countries that are not. There is no doubt that natural resource endowments have helped many countries, such as the Scandinavian countries (Norway and Finland), Malaysia, Botswana, and Indonesia, to grow and diversify their economies, in part by providing a basis for developing associated technologies and capital goods industries (Toto Same, 2008).

Just as there is a link between taxation (and tax revenues) and the economic development) of a country so is there a large literature on the nature and trajectories of this relationship (See, Nwaorgu, Herbert and Onyilo, 2016). Almost four decades earlier, Toye (1978) asserted that the link between taxation and economic development is a link between a universal desire and a form of government action that is putatively a means to that end. One of such means to an end is the classification of government revenue into oil and non-oil revenue in Nigeria. Prior to the discovery of oil, bulk, if not all, of the revenue generated by the Federal Government of Nigeria came from non-oil sources, contributed by the then Regional Governments. These were mainly from taxes on exportation of agricultural produce, such as cocoa, leather, timber, rubber, groundnut, palm oil, and cashew nuts, to mention a few. After about fifty years of unproductive exploration, oil was finally discovered in commercial quantity by Shell-BP in 1956 in Oloibiri (in Bayelsa State). Two years after, in 1958, the Oloibiri oil field came on stream with the production of 5,100 bpd (barrels per day) and with it Nigeria joined the comity of oil producing nations.

The dominance of oil revenue occasioned adverse consequences by attenuating the other (nonoil) sources of public revenue. In effect, rather than being a blessing for even or diversified development of the country, the newfound crude oil-based revenue not only eclipsed the development of the agricultural sector, but also rendered other sectors and sources of revenue generation under-developed or outrightly neglected. For instance, oil revenue as a percentage of total government revenue in 1971 was about 26% but in 1972, with the rise in the world oil price, that percentage spiked to 52%. Thereafter, it rose consistently to the peak of 88.6% in 2006 and it has never gone below 65% ever since (see Appendix 1). The current effort by the Federal Government to diversify the economy away from oil dependence is a late but painful realisation of the historical futility of putting all the country's eggs in one basket. This is more so when the country has no control over the demand and price of crude oil as these are exogenously determined by the international oil market. Further, the late realization that crude oil is a finite wasting asset has forced government to return to the golden era of agriculture as a more enduring source of revenue.

In addition, Nigeria has amassed significant wealth as a result of oil discovery which was expected to have fast-tracked the development process of the economy. For instance, Gillies (2009) reported that the Nigerian government earned over US$ 400 billion in oil revenues since 1970, an amount that is substantial to turn the growth potentials of the economy into a concrete reality. Instead, Nigeria progressively regressed into a rentier state, which begs the empirical question: Are there significant differences in economic growth between oil boom and slump (non-oil boom) eras? Put differently, has Nigeria's oil wealth

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

been a blessing or a curse? This astonishing observation compels the need to examine the effect of oil revenue in the equation of Nigeria's economic growth. First, it is apropos to sketch Nigeria's tortuous journey in windfall management of its petro-dollars.

The Tortuous Journey of Nigeria's Petro-dollar Revenue Mismanagement

That Nigeria has witnessed periods of excess crude oil revenue, characterized as oil boom cum windfall era, as well as episodes of downward spiral or crash in global energy prices and/or decline in oil production is indubitable. The oil boom era witnessed tremendous oil shocks occasioned by dramatic increases in oil price following the interventions of the Organization of Petroleum Exporting Countries (OPEC), especially between 1973 – 1974 and 1978-1979. From the early beginnings of independence in 1960 to 1998, Nigeria witnessed five military interregnums through five coups d'état: January 15, 1966; July 29 1966; July 29, 1975; December 31, 1983, and August 27, 1985. Of the almost 40-year history of Nigeria (1960-1999), the military held sway for 21 years through coups d'état. The interregnum witnessed enormous petrodollars that the Head of State up to 1975 (Gen. Gowon) reportedly said that the country did not know what to do with the petrodollars. The petrodollars ushered in widespread corruption and prebendalism as a natural corollary of bounded rationality challenges in investment in socioeconomic development. The country made little or negligible progress in socioeconomic development respects. In effect, there was not much investment in infrastructure or social development during the many years of Nigeria's huge oil windfall earnings.

Table 1. Oil output, exports and revenue in Nigeria, 1960-2009

Year	Production (million barrels)	Oil Revenue	Oil/Total Revenue %	Oil/GDP (%)	Oil Export (Nm)	Oil Export/ Total Export (%)
1961	16.80	N/A	N/A	0.9	23.1	6.65
1965	150.3	Nil	Nil	3.43	136.2	25.37
1970	395.7	166.4	26.3	9.27	509.6	57.54
1975	660.1	4,271.5	77.5	19.37	4,563.1	92.64
1980	760.1	12,353.2	81.1	28.48	13,632.1	96.09
1985	507.5	10,923.7	72.6	16.75	11,223.7	95.76
1990	660.6	71,887.1	73.3	37.46	106,623.5	97.03
1995	712.3	324,547.6	70.6	39.65	927,565.3	97.57
2000	797.9	1,591,675.8	83.5	47.72	1,920,900.4	98.72
2005	919.3	4,762,400	85.8	38.87	7,140,578.9	98.53
2009	759.2	3,191,938	78.7	37.44	8,543,261.2	96.73

Source: Central Bank of Nigeria (CBN) Statistical Bulletin (Various Years)

That Nigeria has been overly dependent on crude oil export revenues since the discovery of crude oil in large commercial quantity in the early 1960s till date is hardly contestable. In fact, Table 1 gives a historical trajectory of oil revenue nexus with Nigeria's GDP profile. The corollary effect of the yearly increases in oil exports, in both quantity and monetary terms, was the upward trend in the value of oil export. Equally, the ratio of oil export to total exports rose astronomically from about 7% in 1961 to over 95% in the 1980s and 1990s and to about 99% in the decade of 2000. The high numbers of crude oil production

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

as well as percentage of crude oil exports not only made government to be overly dependent on crude oil exports as its main source of revenue, but also constructively crowded out export production of other viable sectors, such as agriculture, manufacturing and tourism. This corridor of government revenue generation and dependence explicitly characterizes the Nigerian economy as mono-cultural. Since the ground on which government expenditure profile is planted is one rotovated by crude oil export revenues, the country is correspondingly exposed to the cyclicality and vagaries of the international market prices of oil. Not only are the exogenous forces (of demand for crude oil and international prices) outwith the circle of control and influence of most oil producing and exporting countries (OPEC) but also these market forces are largely responsible for the boom and slump (non-oil boom) conditions being experienced. For a non-diversified mono-cultural economy like Nigeria, such a cyclicality tends to alleviate economic conditions through increased productivity and GDP (in boom times) or exacerbate the production and GDP through the ripples of oil shocks (oil slump).

Further evidence of over-dependence on crude oil revenues

The evidence about the undue dependence of Nigeria, as a macrocosm of the federating units, on crude oil export revenue is further validated by the report in Table 2. The Annual States Viability Index (ASVI) (Table 2) depicts at least two things: first, the level of solvency or insolvency of the federating states of the Federation based on their Internally Generated Revenues (IGR), and second, the level of dependency of many states on the handout from the monthly Federation Account Allocation (FAA). Table 2 (2016) is the latest index and illustrates that 14 of the 36 States were insolvent with IGRs far below 10% of their FAA in 2016. In the main, the report provides a shocking revelation that without the monthly disbursement from the FAA, many states are unviable and cannot survive based on their IGRs. The sources of IGRs by states are Pay-As-You-Earn (PAYE) Tax, direct assessments, business licenses, road taxes, revenues from ministries, departments and agencies (MDAs) of State, and other state-legislated sources of revenue generation.

Table 2 further highlights that only 6 states - Lagos, Ogun, Rivers, Edo, Kwara and Delta – are competent, viable and able to sustain themselves without dependence on FAA disbursements. These 6 states have IGRs in excess of 30% each. Another salient point is that the IGR of Lagos State of N302bn is higher than the IGRs of 30 States put together. The combined IGRs of the 30 states totalled N258bn. It is equally instructive that only 2 states, Lagos and Ogun, have capacity to generate more internal revenue than their FAA by 169% and 127%, respectively. While the socio-political crises occasioned by insurgency, militancy and herdsmen attacks may be held responsible for the low IGR generation in some states, the report alludes that in the others with very poor internal revenue generation, it is due to outright “lack of foresight in revenue generation drive coupled with arm-chair governance” (Economic Confidential Magazine). The implication of poor internal revenue generation and/or overdependence on crude oil revenue is that states like Borno, Ebonyi, Ekiti, Gombe, Kebbi, Jigawa, Katsina, Sokoto and Yobe are not able to survive without the monthly Federation Account Allocation. What the foregoing depicts is that oil revenue has blighted the vision of Nigerian leaders and governments at all levels to look beyond crude oil export to other viable sources of revenue.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Table 2. Viability Index of the Federating States of Nigeria by State

Economic Confidential Annual State Viability Index (ASVI) 2016 Ranking of State by Internally Generated Revenue (IGR) Compare To Federation Account Allocation of 2016					
S/n	Beneficiaries	Local Govt	Federation Account Allocation (FAA) 2016	Internally Generated Revenue (IGR) 2016	Percentage
			=N=		
1	LAGOS	20	178,606,493,854.14	302,425,091,964.78	169%
2	OGUN	20	57,362,408,575.36	72,983,120,003.85	127%
3	RIVERS	23	134,870,667,278.36	85,287,038,971.02	63%
4	EDO	18	59,278,008,837.96	23,041,425,599.71	38%
5	KWARA	16	49,222,542,289.48	17,253,829,559.51	35%
6	DELTA	25	126,621,398,438.93	44,057,915,472.72	34%
7	KANO	44	111,380,002,329.61	30,959,027,531.92	27%
8	CROSS RIVER	18	55,771,945,495.55	14,776,808,331.83	26%
9	ENUGU	17	56,123,326,156.66	14,235,512,227.00	25%
10	OYO	33	80,349,610,722.30	18,879,084,132.00	23.4%
11	ABIA	17	54,400,939,511.55	12,694,839,539.40	23.3%
12	KADUNA	23	78,554,203,037.18	17,051,864,537.13	22%
13	PLATEAU	17	57,794,404,593.55	9,191,372,277.87	16%
14	AKWA IBOM	31	150,238,498,696.05	23,269,750,752.08	15.48%
15	KOGI	21	63,998,636,681.55	9,569,124,487.16	14.95%
16	OSUN	30	62,985,226,855.55	8,884,756,040.35	14%
17	BENUE	23	69,928,787,692.35	9,556,495,064.33	13%
18	BAUCHI	20	68,136,764,933.47	8,677,265,878.00	12.73%
19	ONDO	18	70,343,574,708.16	8,684,406,578.63	12.34%
20	TARABA	16	52,769,573,806.68	5,895,538,974.32	11%
21	ADAMAWA	21	58,489,518,680.81	5,788,979,592.34	10%
22	ZAMFARA	14	53,119,877,025.68	4,777,169,537.80	9%
23	IMO	27	67,717,778,855.94	5,871,026,976.75	8.66%
24	NIGER	25	70,831,185,155.64	5,881,584,409.47	8.30%
25	BAYELSA	8	99,291,071,848.36	7,905,458,280.30	7.96%
26	NASSARAWA	13	47,554,540,407.21	3,402,616,062.14	7.15%
27	SOKOTO	23	65,979,243,303.62	4,545,765,527.76	6.88%
28	KATSINA	34	83,279,473,947.46	5,545,900,833.33	6.65%
29	EKITI	16	47,564,063,908.13	2,991,041,855.48	6.28%
30	GOMBE	11	46,952,352,244.00	2,941,438,110.63	6.26%
31	YOBE	17	53,936,297,357.10	3,240,867,567.79	6.0%
32	JIGAWA	27	68,522,798,932.74	3,535,349,908.61	5.15%
33	KEBBI	21	60,886,882,102.18	3,132,343,261.58	5.14%
34	EBONYI	13	46,665,951,480.45	2,342,092,225.07	5.01%
35	BORNO	27	73,800,935,256.90	2,675,723,063.89	4%
36	ANAMBRA	21	60,100,365,047.16	-	-
37	FCT (LGCs)		19,272,644,365.47		-
	Total (States & LGCs) A		2,662,701,994,413.30	801,951,625,136.55	30%
Table computed and designed by the Economic Confidential Magazine www.EconomicConfidential.com					

In essence, Nigeria's huge oil revenue began its tortuous journey of corrupt and inept resource governance (abuse, mismanagement, and opportunism) under the military interregnums of 1966 - 1979, and 1983 – 1998. By the time the democratic dispensation was ushered in 1999, the density and audacity of corruption and mismanagement of public resources from the oil boom had already gained root and momentum. To be sure, the long reign of military governance and associated command use of public resources not only acculturated the democratic mores of good governance but also altered the ethical values of transparency and accountability in the new democracy. As Herbert, Tsegba, Ene & Onyilo (2017) aver, the ground that fosters corruption is equally the one that promotes the syndrome of strong individuals and weak institutions; it is also the one that harbours entrenched systems of political and economic patronage. Implicit in societies with corrupt susceptibilities with impunity is the prevalent atmosphere of prebendalism, opportunism and/or lack of candour or honesty in governance. Such resource-rich countries are bound to experience the Dutch disease syndrome or resource curse.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Nigeria's Oil wealth and the Dutch disease syndrome

The Dutch disease syndrome is a macroeconomic condition in which the apparent increase in the economic development and wealth of one specific sector, such as natural resources (like crude oil) leads to a decline in the development and growth of other sectors (for example manufacturing and/or agriculture). Put differently, it is the causal relationship between the increase in the economic development of a specific sector and a decline in other economic sectors. Broadly speaking, the Dutch disease characterizes the negative impact on the economy of any economic policy or activity that gives rise to a sharp inflow of foreign currency, such as the discovery of large oil reserves or increase in oil prices. The currency inflows lead to (a) currency appreciation, (b) diversion of revenue-earning attention away from other foreign exchange earning sectors, and thus (c) making the country's other productive sectors (or products) less price-competitive in the export market. If a resource-endowed country experiences an increase in wealth as a result of an upsurge in exploration or price of a commodity, the optimal investment trajectory of an astute government is to allow a significant spillover effect from that resource to other sectors. An astute government is one that has the political will and commitment to use a sudden wealth to (a) bridge the country's physical and social infrastructure gap, and (b) diversify the economy by promoting the development of other foreign exchange earning sectors.

The Dutch disease syndrome presumes that the sudden huge inflows of petrodollars accompanying the large discovery of crude oil, rather than being optimally utilised for development, was squandered to the neglect and decline of the once burgeoning agricultural and agro-allied industries, manufacturing and tourism sectors. It is conceded that the consequences of the Dutch disease syndrome vary from country to country, depending on the country's economic structure and stage of development (Zafar, 2004; Toto Same, 2008, 2009). However, in Nigeria (and other mineral resource-rich SSA countries), the broad spectrum of the development trajectory suffered gross neglect, the manifest consequences of which include the rentier capitalism, indurate level of political and economic dysfunctionality, prebendalism and corruption, and the paradox of affluence and underdevelopment – the resource course phenomenon. Also known as the paradox of plenty, the resource curse phenomenon refers to development absurdity or contradiction in which countries with abundant natural resources tend to have less or weak economic growth or worse development outcomes, weak democratic governments, and tend to be more corrupt than countries that are not so endowed.

As exemplified by Indonesia and Norway, a country's capacity for coordinated policy formulation and execution together with sound windfall management mechanisms and institutions can make a huge difference in the development curve and hence render the resource paradox (or resource curse) argument redundant. The benign but critical question turns out as follows: Should abundance be a curse, rather than a blessing for an oil and mineral exporting country? Indeed, had the huge oil revenues been properly managed, there would have been little to argue about whether the oil boom (of the 1970s, 1980s and much of 2000 to 2014) was a blessing because their beneficial impact would have been felt in the country's overall economic development and poverty reduction. In reality, country context and political economy are significant but should not be the main impetus for windfall management, avoiding excessive rent-seeking activities, inefficiency, and wasteful spending (Toto Same, 2008, 2009). The author suggests that to promote good governance

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

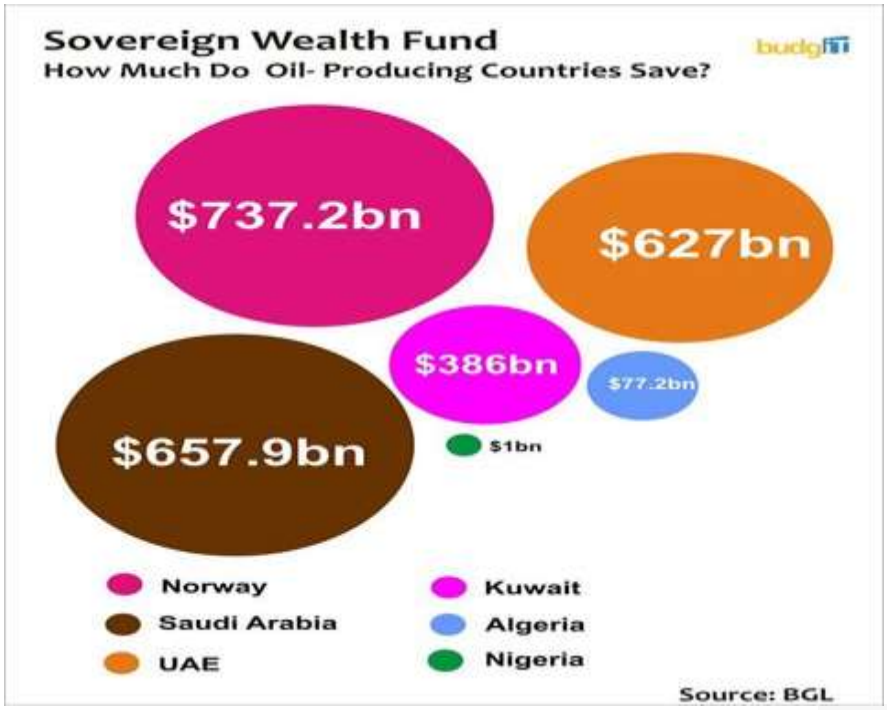
in the management of a country's oil wealth, government should adhere to the standards of accountability and transparency, as enunciated by the Extractive Industries Transparency Initiative (EITI).

In combination, these factors conduce to the fundamental flaws in the Nigerian politics, economy and society (Joseph, 2013). The flaws are indexed on weak, unstable and insecure democratic institutions that undermine economic growth. The institutions include: weak legal system and rule of law, inchoate property rights, feeble civil society, anaemic physical and social infrastructure, and endemic corruption. These wasteful years in national development have raised the consciousness of academic research and civil society organizations about the tortuous relationship between Nigeria's huge oil revenue and its developmental pathway. Paraphrasing Vietor's (2007) classical pointer, an informed observer who understands Nigeria's trajectory can make reasonable deductions about the country's near-term future: about savings, investment and growth; about exchange rates and interest rates; about fiscal balances and debt; and about the sustainability of the country's political and economic institutions. Not only do these pathways affect us all, but the organizational failure of the relationship between Nigeria's resource endowment and concomitant wealth on the one hand and socioeconomic development on the other hand remains a source of empirical trepidation.

Nigeria's Petro-dollar Windfall Mismanagement

Structurally, revenue/income can be dichotomized into: permanent component, which is anticipated and planned, and windfall or unexpected component, which is transitory. The interest of this paper is on the latter, the effect of oil revenue windfall on Nigeria's economic growth. Nigeria, like other major oil producing and exporting countries (OPEC), received a huge petrodollar windfall from steep rise in oil prices (especially in 1973-74, 2005-2008, 2010-2013) as against slump years of 1987, 2004 and 2009. Most of the funds from the 1973 revenue windfall were deposited in major American and European banks. The expectation was that such temporary oil revenue windfall would have had a stimulating effect on economic growth and development, rather, successive Nigerian Governments frittered the money away and resorted to huge borrowing. Hitherto, Nigeria's external debt was relatively small, primarily official, and often based on concessional terms. For Nigeria, the bitter side of the global energy crisis that fuelled the epoch of petrodollar windfall was the combination of opportunistic distortions and systemic corruption, lack of transparency and accountability in public expenditure, entrenched systems of political and economic patronage and prebendalism.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327



Source: Asobie, A. (2013). "A New Petro-Dollar Windfall", Available on nigerianrc org

The schematic above is the comparative wealth trajectory of oil producing and exporting countries. It shows how much each country has been able to save from its oil revenue windfall. Nigeria's $1 billion Sovereign Wealth Fund is not only abysmal, but also a reflection of the country's poor resource governance architecture. The failure to invest windfall revenues to achieve optimal and equitable outcomes redounds to resource governance failure. To be sure, resource governance or management is central to Nigeria's development drive. It requires that decision policymakers are accountable for the resources under their control and management. Lack of accountability panders to bounded rationality on the part of the the Nigerian public in general and the civil society organizations (CSOs) in particular. Bounded rationality challenges of two kinds are special: compromise by the elites and/or uninformed public. For example, it is claimed that from 2002-2011, Nigeria lost $22 billion (6.71 trillion Naira at today's official exchange rate) to trade misinvoicing and weak cost regulation in the oil sector (See http://www.gfintegrity.org/issues/data-by-country/). This characterization is merely a euphemism for corruption.

Although a more complete statement of the inconclusiveness, incomprehensiveness (limits) and incomplete coverage of extant research - on the relationship between oil revenue and economic growth of Nigeria - is deferred to the next section, a sketch of the basic approach is set out here to not only provide an overview of the lacuna in extant research but also to permit immediate understanding of the purpose of this paper or the gap which this study seeks to bridge. In the main, the focus of most extant Nigerian-based research on the related phenomenon of interest has been on three key areas. One strand of the research focus is on the impact of non-oil revenue on economic growth (See for example, Opara, 2010; Olurankise & Bayo, 2012; Ude & Agodi, 2014; Ayuba, 2014; and Abogan, Akinola & Baruwa, 2014). The second strand is on the relationship between oil revenue and economic growth (See for example, Success, Success & Ifurueze, 2012; Riman, Akpan, Offiong &

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Ojong, 2013; Ijirshar, 2015; and Asogwa & Okpongette, 2015). The third focus, which has been the dominant domain of academic research, is the relationship between taxation and Nigeria's economic growth (See for example, Bonu & Pedro, 2009; Adegbie & Fakile, 2011; Ekeocha, Ekeocha, Malaolu & Oduh, 2012; Ogbonna & Appah, 2012; Edame & Okoi, 2014; Confidence & Ebipanipre, 2014; Garba, 2014; Nwaorgu, Herbert & Onyilo, 2016; and Onakoya & Afintinmi, 2016). However, these studies and others have ignored one important track: the historical role of oil revenue in Nigeria's quest for economic growth and development. Precisely, has the relationship between oil revenue and economic growth of Nigeria been conclusively proved to be positive? Or, is there empirical research consensus on the relationship between oil revenue and Nigeria's economic growth?

Given that Nigeria derives about 90% of its public revenues from crude oil exports and given that opportunistic proclivity and lack of accountability and transparency have eroded public trust and respect for political leaders and management of the Nigerian National Petroleum Corporation (NNPC), an ex post analysis of the ramifications of oil revenues have important policy implications for prospective fiscal management of the oil and extractive industry. This omission or gap in extant research is a serious lacuna which this study seeks to bridge. The historicity of corruption, macroeconomic mismanagement and prebendalism particularly in Nigeria's oil industry (as in many Sub-Sharan African (SSA) countries) provides the anecdotal evidence of a tenuous relationship between oil revenue and Nigeria's economic growth. Against this background, this study examines the tenuous relationship between oil revenue and Nigeria's economic development. This is the raison d'être of this study and the analysis is viewed from a 45-year long-lens (1971-2015), during which the country witnessed both oil boom and oil slump. The modifiers 'boom' and 'slump' respectively, refer to: a period of prosperity in oil production and/or oil price that putatively ushers in economic benefits in terms of high returns to oil marketers/investors and increase in GDP and; and a period in which the economy shrinks as a result of downward spiral of or crash in global energy prices and/or decline in oil production. As the converse of boom, a slump in oil prices leads to loss of jobs, income and investment, and contraction or general decline in economic activity, competitiveness and GDP, especially for economies that are largely dependent on oil revenues.

The oil industry is cyclical which makes it naturally sensitive to the business cycle, such that revenues are generally higher in boom seasons (periods of economic prosperity and expansion) and lower during economic slump (periods of downturn and contraction).Given the empirical relationship between revenue generation and economic growth as sketched in the next section, the current paper examines the effects of shifts in the revenue generation curve (in terms of steep rise in, and downward spiral of, crude oil price on the economic growth of Nigeria, a major oil-producing country. In other words, the study explores whether or not windfall oil revenue had a significant impact on the growth and development trajectory of Nigeria. The remainder of this paper is organized as follows: Section 2 reviews relevant literature on the phenomenon of interest. Section 3 presents the methodology. Section 4 discusses the result, and Section 5 summarises and concludes the paper.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

RELAITED EMPIRICAL LITERATURE

Since the early 1960s, a primary focus of world economic attention has been on ways of accelerating the growth rate of national incomes. In the words of Todaro (1989), "*economists and politicians from all nations, rich and poor, capitalist, socialist, and mixed, have worshipped at the shrine of economic growth. At the end of every year, statistics are compiled for all countries of the world showing their relative rates of GNP growth. 'Growthmanship has become a way of life. Governments can rise or fall if their economic economic growth performance ranks high or low on this global scorecard*" (p. 114). Studies about the relationship between national revenue (qua national income) and economic growth are properly situated within the positivist praxis of GDP. Economic growth signifies an increase in real national income/national output. Because GDP is a measure of the national income/national output and national expenditure, it is commonly used worldwide as an index of assessing national economic performance. This study echoes that line of thought as it explores Nigeria's tortuous economic growth and development through the connective lens of oil revenue.

There is a large literature on the potential impact of taxation on economic growth. Over half a century ago, Kaldor (1964) argued that the role of government revenue in accelerating economic development was of utmost importance in every economy irrespective of the prevailing ideology or political situation of the country. That postulation remains valid today. The affirmative belief is that government uses public revenues to provide a host of public good (non-revenue yielding, non-excludable and non-rivalrous) services such as education, health, infrastructure, and social security. This perspective has been corroborated by later literature such as Toye (1978), Wilford & Wilford (1978), Ekeocha, Ekeocha, Malaolu & Oduh (2012), and Nwaorgu, Herbert & Onyilo (2016). This section is not about a broad evaluative review of published works related to the phenomenon of interest. Instead, its focus is on the evaluative summary of extant published Nigerian studies or investigations which are germane to or have some bearing or similarity with the present study.

Over the past decade, an extensive body of empirical research about the nexus between taxation and economic growth/development has provided affirmative evidence (Ogbonnah & Appah, 2012; Success, Success & Ifurueze, 2012; Osundina & Olanrewaju, 2013; Yaya, 2013; Akwe, 2014; and Huňady & Orviská, 2015), contradicting evidence (Gareth, 2000; Bonu & Pedro, 2009; Saima, Tariq, Muhammad & Amir, 2014; Saibu, 2015; and Huňady & Orviská, 2015), and no significant evidence (Essoh, 2011). In this respect, the search to empirically validate one way or the other the relationship between variants (or sources) of tax revenue and Nigeria's economic growth/development has been amply documented in Alalade (2004), Garba (2014), Asogwa & Okpongette (2015), Ijirshar (2015), Onakoya & Afintinni (2016), and Nwaorgu, Herbert & Onyilo, 2016). The disparate and conflicting results from these studies attest to the absence of consensual validation or unanimous conclusion about the relationship or its nature. The conclusive upshot is that the connection between public revenue and economic growth and development remains a matter of empirical interest. This study seeks to provide evidence about the tenuous relationship between oil revenue and Nigeria's economic growth, over the past 45 years (1971 to 2015).

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Exploring the impact of tax policies (statutory and corporate tax rates) on economic growth, Huňady & Orviská (2015) reported a non-linear effect, implying that any increase in the tax rate will have a positive impact on economic growth in the case of relatively low tax rates. On the other hand, when the tax rate exceeds a certain threshold, the effect on growth becomes negative. Their findings are consistent with the theoretical postulations of Chao and Grubel (1998) regarding the optimal level of taxation or the optimal size of the public sector. In examining the effect of tax policies on the economic performance of international oil companies in Nigeria, Alalade (2014) found that taxation policy, while critical to economic performance, could not be the only factor affecting petroleum exploitation in Nigeria. Akinlo (2012) examined the importance of oil revenue in Nigeria's economic growth and found that oil has an adverse effect on the manufacturing sector. In their study, Ekeocha et al. (2012) found a strong relationship between government revenue and economic growth, noting that tax policy is a key source of instability in the country's budget. Other studies like Garba (2014) Asogwa & Okpongette (2015) interrogated the impact of oil revenue on the macroeconomic performance of the Nigerian economy. While some the tax variables were reported to have a positive impact on the economic growth, Asogwa & Okpongette (ibid.) found the impact of custom excise and duties to be negative.

Igberaes (2013) examined the effect of oil revenue dependency on Nigeria's economic growth. The result showed a significant relationship between oil dependency and economic growth. Specifically, the high global oil prices in the short run led to increasing but volatile growth, while in the long run exhibited negative effect due to the lack of diversification and vagaries of oil prices. The conclusions are largely consistent with Odusola (2006) and Taiwo (2008). Nwaorgu, Herbert & Onyilo (2016) assessed the longitudinal impact of changes in Nigeria's tax structure on national income over a 44-year period (1971 -2014). Specifically, their study sought to determine the nature of the relationship among and the impact of value added tax, personal income tax, company income tax, custom and excise duties, petroleum profit tax and total tax revenue on national income. From their findings, the authors concluded that strategic tax reforms significantly influence the behaviour of national income and GDP; and that tax policy significantly fosters the growth of national income. The critical role of tax revenue in socioeconomic growth and development of a nation is never in doubt. However, for Nigeria, a major oil producing and exporting country in the world, the overdependence on crude oil export and revenue therefrom has raised accountability concern about the relationship between resource abundance and the country's economic growth and development. This concern has both empirical and policy implications about which this study explores.

THEORETICAL FRAMEWORK AND METHODOLOGY

The econometric model of this study is designed to capture the effect of oil windfall on the relationship between economic growth and oil revenue between 1971 and 2015. The model is anchored on that developed and employed in an earlier study of Nwaorgu, Herbert & Onyilo (2016) in which changes in growth rate of national income [aggregate demand/supply proxy with change in growth rate of Gross Domestic Output (GDP)] were expressed as a function of change in the one period lag value of Value Added Tax (VAT), Personal Income Tax (PIT) and Company Income Tax (CIT). Specifically, the model is expressed as:

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

$$\Delta \text{grGDP} = \propto_0 + \propto_2 \Delta \text{VAT}_{-1} + \propto_3 \Delta \text{PIT}_{-1} + \propto_4 \Delta \text{CIT}_{-1} + \varepsilon \quad (1)$$

Give the importance and magnitude of petroleum profit tax (PPT) and custom and excise duties (CED) in Nigeria, both are included in equation (1), such that equation (1) now becomes:

$$\Delta \text{grGDP} = \propto_0 + \propto_2 \Delta \text{VAT}_{-1} + \propto_3 \Delta \text{PIT}_{-1} + \propto_4 \Delta \text{CIT}_{-1} + \propto_5 \Delta \text{PPT}_{-1} + \propto_6 \Delta \text{CED}_{-1} + \varepsilon \quad (2)$$

To account for the effect of government oil revenue in the model, a dummy variable capturing the dominance of oil revenue over the non-oil revenue is introduced to the model specified in 2 above. The control variable in this instance is dummy variable for the non-oil revenue. Thus, equation (2) turn out to be:

$$\Delta \text{grGDP} = \propto_0 + \propto_1 \text{OBM} + \propto_2 \Delta \text{VAT}_{-1} + \propto_3 \Delta \text{PIT}_{-1} + \propto_4 \Delta \text{CIT}_{-1} + \propto_5 \Delta \text{PPT}_{-1} + \propto_6 \Delta \text{CED}_{-1} + \varepsilon \quad (3)$$

where OBM denotes dummy variable capturing the dominance of oil revenue, and $\propto_1$ is coefficient of the dummy variable that represents the differential intercept of the oil revenue on economic growth.

The differential intercept coefficient ($\propto_1$) indicates the magnitude (that is, the value) by which the intercept that receives the value of 1 differs from the intercept coefficient of the benchmark category, that is, the benchmark for oil revenue which is non-oil boom period (NOBM). The model in equation (3) represents the Analysis of Covariance (ANCOVA). The independent variables of this model not only present sources of extraneous variability but also are 'covariates', whose inclusion statistically mandates the use of analysis of covariance (ANCOVA). Conceptually, the ANCOVA is a general linear model that includes both ANOVA (categorical) predictors and Regression (continuous) predictors. The ANCOVA model captures the significance of a series of observations over a period of time, in this case, whether there is a significant difference in the effect of oil revenue on the relationship between tax revenue and economic growth. If the estimated differential intercept coefficient turns positive and statistically significant, it denotes positive significant effect on the relationship as a result of boom in oil revenue; if the coefficient is negative and statistically significant, it denotes negative significant effect on the relationship; and, if otherwise, the oil boom makes no significant difference on the relationship.

In order to explore the aggregate effect of the major (or all the) components of Nigeria's tax revenue, to wit, value added tax, personal income tax, company income tax, petroleum profit tax and custom and excise duties, these are combined as total tax revenue (TTR). This consideration transforms equation (3) into:

$$\Delta \text{grGDP} = \propto_0 + \propto_1 \text{OBM} + \propto_2 \Delta \text{TTR}_{-1} + \varepsilon \quad (4)$$

$$\Delta \text{grGDP} = \propto_0 + \propto_1 \text{OBM} + \propto_2 \Delta \text{TTR}_{-1} + \propto_3 (\text{OBM} * \Delta \text{TTR}_{-1}) + \varepsilon \quad (5)$$

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

In equation 5, $\propto_0$represents average value of growth rate during no-oil boom, $\propto_1$is the differential slope coefficient (also known as the slope drifter) that indicates by how much the slope coefficient of the oil boom period differs from non-oil boom the period. Significance of the drifter coefficient suggests significant difference of national income in both periods. The multiplicative parameter ($\propto_3$) allows differentiation of the average value of the national income as $(\propto_0+\propto_2)$ and $(\propto_0+\propto_1)+(\propto_2+\propto_3)$, representing average nature of the relationship between growth and lag value of tax revenue in no-oil boom period and the extent of the effect of oil boom on the relationship between economic growth and lag value of tax revenue in oil boom period, respectively. The growth rate of GDP and changes in the lag values of CIT, PIT, VAT, PPT, CED and TTR were derived from the annual data. OBM dummy is generated from ratio of the actual data of total government revenue (TGR) and total oil revenue (TOR), if total oil revenue contributed more than 65% of the total government revenue in a given year it assumes value of 1 and 0 otherwise. See Appendix 1 for data used for the study analysis, which were derived from various issues of the Central Bank of Nigeria (CBN) Statistical Bulletin.

ECONOMETRIC RESULTS AND DISCUSSION

Summary Descriptive Statistics

The characteristics of the time series data used in the regression analysis are presented in Table 3. The table reports the summary descriptive statistics used in the analysis. The growth rate of GDP averaged -0.36 with a negative median of 0.56, implying a steady decline in income over the study period. The minimum and maximum values of the growth rate of GDP stood at -104.01 and 98.02, with standard deviation of 35.70. Similarly, the mean and median of change in total tax revenue stood at 982,681.6 and 54,531.2. The standard deviation of change in total tax revenue within the period considered was 2,326,027; it ranged between 11,925,662 and -4,425,449. The table shows that the mean values of all the variables employed were conspicuously different from their respective median values, which is an indication that the employed data have high standard deviations. The evidence of large variances of the variables is supported by the skewness and kurtosis statistics. The growth rate of GDP and other variables are positively skewed, implying right tail. Equally, as table 3 depicts, all the variables have excess kurtosis, suggesting higher peak than that of normal distribution.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Table 3. Summary of Statistical properties of the Study variables

	GRGDP	ΔCIT	ΔVAT	ΔPIT	ΔPPT	ΔCED	ΔTTR
Mean	-0.361127	14411.43	23691.98	891740.8	24185.34	28652.01	982681.6
Median	-0.562222	3675.869	5384.74	28130.7	6702.21	8961.64	54531.2
Maximum	98.02324	182925.1	304219.1	1076697 0	309512.7	362035.5	1192566 2
Minimum	-104.0102	-65587.06	-108022	-4011121	-110353.1	-130366.5	-4425449
Std. Dev.	35.7036	36526.86	57074.65	2131087	57935.35	69140.65	2326027
Skewness	0.129663	2.590547	2.70973	2.360025	2.728963	2.683078	2.439403
Kurtosis	4.687317	12.55698	14.75324	12.04716	14.86318	14.01719	12.71298
Jarque-Bera	5.464292	221.5868	314.0799	195.2439	319.7325	281.5765	221.5212
Probability	0.065079	0	0	0	0	0	0
Sum	-16.2507	648514.5	1066139	4012833 8	1088340	1289340	4422067 2
Sum Sq. Dev.	56088.87	5.87E+10	1.43E+11	2.00E+14	1.48E+11	2.10E+11	2.38E+14
Observations	45	45	45	45	45	45	45

Stationarity Test Result

In order to establish whether the variables in the analysis were stationary series or unit roots, they (the variables) were tested for two types of unit roots. Non-stationary variables can yield spurious results in regression analysis (Nwaorgu, Herbert and Onyilo, 2016). So, it is important to distinguish deterministic and stochastic trends because OLS regressions will show spurious relationships between time series with deterministic or stochastic trends (Hamilton, 1994). The null hypothesis is that there is Unit root, implying that the variables are not stationary. The results of the Augmented Dickey-Fuller (ADF) unit root test

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

(constant and trend) for the time series models are presented in Table 4. The ADF statistic in the test is a negative number. The more negative the t-statistic is, the stronger the the rejection of the null hypothesis of unit root at some level of confidence (Hamilton, 1994). Thus, the null hypothesis is rejected in favour of the alternative hypothesis that there is no Unit root, confirming that all the variables were stationary and significant at the 5% level.

Table 4. Result of the Augmented Dickey Fuller Unit Root Test (Constant and Trend)

Variables	Test	t-Statistic	Conclusion
GRGDP	Level	-5.9425*	I(0)
ΔCIT	Level	-6.6476*	I(0)
ΔVAT	Level	-7.2003*	I(0)
ΔPIT	Level	-7.4329*	I(0)
ΔPPT	Level	-7.0897*	I(0)
ΔCED	Level	-6.8955*	I(0)
ΔTTR	Level	-7.5105*	I(0)

Note: The critical value is -2.95 at 5% significance level. The Null hypothesis is the presence of unit root. The model includes a constant and a linear trend. See Appendix 2 for details of results of the Unit Root Test.

Estimation Results

Table 5 presents the estimated results of the ANCOVA expressed in equation (3) above. Specifically, change in value added tax (ΔVAT) and change in personal income tax (ΔPIT) were found to be significant determinants of change in growth of GDP (ΔgrGDP) in Nigeria, with ΔVAT having a significant positive impact in ΔgrGDP. On the other hand, ΔPIT has a significant negative impact on ΔgrGDP. The analysis did not exhibit any significant difference between ΔgrGDP during the non-oil boom and oil boom periods (PO_OLBM) in Nigeria. Both ΔCIT and ΔPIT tend to have a negative influence on ΔgrGDP. The effect of ΔCED on ΔgrGDP was positive but not significant.

Table 5. Analysis of Structural Differences in the Relationship between Economic Growth and Tax Revenue during Oil Boom Period in Nigeria

Variables	Coefficient	Std. Error	t-Statistic
C	30.93685	19.19791	1.611470
PO_OLBM	-30.27685	20.01244	-1.512901
ΔCIT_{-1}	-0.001853	0.001487	-1.246170
ΔVAT_{-1}	0.001234*	0.000479	2.577146
ΔPIT_{-1}	-1.52E-05*	6.76E-06	-2.247443
ΔPPT_{-1}	-0.000316	0.001161	-0.272591
ΔCED_{-1}	0.000534	0.001488	0.358911
R^2	0.2707		
Adj R^2	0.1525		
F-statistic	2.2892**		

Note: (*) and (**) denote statistical significance at 5% and 10% levels. See Appendices 3 and 4 for Details of Results of ANCOVA.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Table 6 below presents the ANCOVA result of the structural differences in the relationship between economic growth and total tax revenue during oil boom and non-oil boom periods in Nigeria over the 45-year period (1971 and 2015). The insignificance of the estimated differential slope ($\propto_1 = 17.55$) in the model implied that there was no significant difference in the relationship between economic growth and total tax revenue during the oil boom and non-oil boom eras in Nigeria. Similarly, the estimated differential slope ($\propto_3 = -0.0232$), depicting by how much the slope coefficient of oil boom period varied from that of the non-oil boom era, was found to be insignificant. This suggests insignificant differential in the slope of the relationship between economic growth and total tax revenue in Nigeria during the oil boom and non-oil boom periods.

Table 6. Structural Differences in the Relationship between Economic Growth and Total Tax Revenue during Oil Boom and Non-Oil Boom (TTR) Periods in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
$\propto_0$	-16.37758	52.42877	-0.312378	0.7564
$\propto_1$	17.54719	52.75838	0.332595	0.7412
$\propto_2$	0.02315	0.023808	0.972561	0.3366
$\propto_3$	-0.02316	0.023808	-0.972725	0.3365
OLB	1.16961			
NOLB	-16.35440			

Note: (*) and (**) denote statistical significance at 5% and 10% levels.

Specifically, the average nature of the relationship between change in economic growth and lag value of change in total tax revenue without oil boom was -16.35, while its effect during oil boom was 1.16961. The analysis showed no significant difference in the relationship between economic growth and revenue generation in Nigeria during the oil-boom and non-oil boom periods. The major research implication of this study is that it empirically questions the justification of the claims of previous studies about the significant positive relationship between oil revenue (whether from taxation or crude oil exports) and Nigeria's economic growth. The evidence of this study not only shows little substance or strength for the cause and effect relationship argument of oil revenue and economic growth of Nigeria, but also adumbrates the strong anecdotal evidence of weak resource governance architecture in Nigeria's oil industry. This ipso facto underlies the topical claim of tenuous relationship of this paper.

SUMMARY AND CONCLUSIONS

Although there is a burgeoning literature on the nexus between tax revenues and national economic growth and development, however, extant research paints a picture of contrasting empirical results. The purpose of this study was to examine the relationship between revenue generation and economic growth over a 45-year period (1971-2015), during which Nigeria witnessed both oil boom and oil slump (non-oil boom). The econometric model that captures the effect of oil windfall on the relationship between economic growth and oil revenue was anchored on the model specified in an earlier study by Nwaorgu, Herbert & Onyilo (2016) that expressed changes in growth rate of national income as a function of changes in a period lag values of value added tax, personal income tax and company income tax. The model was modified to include change in a period lag value of petroleum profit

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

tax and custom and excise duties as well as the dummy variable to capture the contribution of oil revenue. Also, another model was specified to capture the overall effect of total tax revenue on economic growth, incorporating oil boom and non-oil boom periods.

The study finds changes in value added tax and personal income tax to have significant positive and negative impact, respectively, on GDP growth. This is consistent with prior studies as earlier identified. Further, the study did not find any significant difference in GDP growth between oil boom and oil slump periods. This suggests that Nigeria's petrodollar windfalls had no significantly stimulating effect on the country's growth and development trajectory over the past 50 years. The results of the model that captured the overall effect of changes in total tax revenue on GDP growth was not at variance with the earlier model, implying no significant difference between the oil-boom and slump periods on Nigeria's economic growth. It was expected that increased oil revenue, including the significant windfall, during the oil boom periods would be associated with increased productive public expenditure in a bid to bridge the large social and physical infrastructure deficits and thus catalyse economic growth in the slump (non-oil boom) period. The findings of this study adumbrate the anecdotal evidence of poor resource governance architecture that has for so long characterized Nigeria's oil and extractive industry as well as its macroeconomic policies and management.

The policy implication of this study is chiefly this: the overdependence on, and the significant influence of, crude oil revenues for the country's economic growth and development not only calls for better resource management but compels prudence and transactional economy, and transparency and accountability in resource appropriation. Further, the non-oil and other mineral resources possess enormous potentials which must be appropriately harnessed to advance the course of Nigeria's socioeconomic development. Above all, Nigeria needs a remapped development trajectory because the path to its growth and development has been tortuous and historically strewn with inept political and economic governance, inappropriate macroeconomic policies, corruption, and prebendalistic private and public sectors mired in rentier capitalism. The attendant lesson from the Dutch disease syndrome sequel to the country's long history of mismanagement of the enormous petro-dollar revenues and windfall is another major policy implication of this study. While these are among the many factors contributing to Nigeria's socioeconomic and political travails, one underlying challenge is pivotal: the failure of leadership.

REFERENCES

Abogan, O. P., Akinola, E. B. and Baruwa, O. I. (2014). Non-oil export and Economic growth in Nigeria (1980-2011). *Journal of Research in Economics and International Finance*, 3(1): 1-11. DOI: 10.14303/jrief.2013.045.

Adegbie, F.F. and Fakile, A. S. (2011). Company income tax and Nigeria economic development, *European Journal of Social Sciences*, 22(2): 309-319.

Adeyemi, O. T. (2004). Economic integration of Non-oil exports on Nigerian economic development

Akinlo, A. (2012). How Important is Oil in Nigeria's Economic Growth? *Journal of Sustainable Development*, 5(4): 165-179.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Alalade, C. (2004). The Economic Performance of International Oil Companies in Nigeria: The effect of Fiscal Taxation and the Separation of Ownership and Control. (Unpublished doctoral dissertation), University of Bournemouth, England, UK.

Asobie, A. (2013). A New Petro-Dollar Windfall, Posted September 11, 2013 on *Nigeria NRC* (http://nigerianrc.org)

Asogwa, F. and Okpongette, L. (2015). Oil Revenue and Nigeria Macroeconomic Performance: An Econometric Analysis, *International Journal of Science and Research,* 3(1): 1760-1764.

Ayuba, J. A. (2014). Impact of non-oil tax revenue on economic growth: The Nigerian perspective, *International Journal of Finance and Accounting*, 3(5): 303-309.

Bonu, N. S. and Pedro, M. P. (2009). The impact of income tax rates (ITR) on the economic development of Botswana. *Journal of Accounting and Taxation*, 1(1): 8-22.

Chao, J. C. P. and Grubel, H. (1998). Optimal Levels of Spending and Taxation in Canada. In H. Grubel (Ed.), *How to use the fiscal surplus* (53-68). Vancouver: The Fraser Institute.

Confidence, J.I. and Ebipanipre, G. M. (2014). Taxation as an instrument of economic growth (The Nigerian Perspective). Information and Knowledge Management, 12(4): 45-54.

Dickson, E.O. and Presley, K.O. (2013). Tax incentives and revenue productivity of the Nigerian tax system. *International Journal of Development and Economic Sustainability*, 1(1): 33-44.

Economic Confidential Magazine (2016). *Economic Confidential Annual Viability Index* (ASVI), Available on https://economicconfidential.com/financial/facts-a-figures/asvi-lagos-igr-30-states/

Edame, G.E. and Okoi, W. W. (2014). The impact of taxation on investment and economic development in Nigeria, *Academic Journal of Interdisciplinary Studies*, 4(3): 209-218. DOI 10.5901/ajis.2014.v3n4p209.

Ekeocha, P.C; Ekeocha, C.S; Malaolu, V. and Oduh, M.O. (2012). Revenue Implications of Nigeria's Tax System, *Journal of Economics and Sustainable Development*, 3(8): 206-215.

Essoh, F. (2011). Effects of corporate taxes on economic growth: The case of Sweden. (Unpublished bachelor's thesis), Jönköping International Business School, Jönköping University, Sweden.

Garba, L. (2014). *Tax Revenue and Economic Growth in Nigeria*. (Unpublished master's thesis), Ahmadu Bello University, Zaria.

Gareth, D.M., 2000. Taxation and economic growth. *Fiscal Studies,* Institute for Fiscal Studies, 21(1): 141–168.

Gillies, A. (2009). Reforming corruption out of Nigerian oil? Part one: Mapping corruption risks in oil sector governance, U4Brief, Chr. Michelsen Institute, February 2009-No. 2, available at www.u4.no/themes/nrm

Hamilton, J. D. (1994). *Time Series Analysis*. Princeton: Princeton University Press.

Herbert, W. E., Tsegba, I. N., Ene, E. E. and Onyilo, F. (2017). The Rise of Fraud Examination and Forensic Accounting in Africa: The Nigerian Experience, *Archives of Business Research*, 5(4): 1-18. DOI: 10.14738/abr.54.3013.

Huňady, J. and Orviská, M. (2015). The non-linear effect of corporate taxes on economic growth, *Timisoara Journal of Economics and Business*, 8(1s): 14–31. DOI: 10.1515/tjeb-2015-0002.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Igberaes, T. (2013). The Effect of Oil Dependency on Nigeria's Economic Growth (Unpublished master's thesis). Development Studies, University of Ibadan, Nigeria.

Ijirshar, V. U. (2015). The empirical analysis of oil revenue and industrial growth in Nigeria, *African Journal of Business Management*, 9(16): 599-607.

Joseph, R. (2013), Prebendalism and Dysfunctionality in Nigeria, *AfricaPlus*, July 26.

Kaldor, N. (1964). "Will Underdeveloped Countries Learn How to Tax?" *Essays on Economic Policy*, 1(1) 253 - 268.

Nwaorgu, I. A., Herbert, W. E., & Onyilo, F. (2016). A Longitudinal Assessment of Tax Reforms and National Income in Nigeria: 1971-2014. *International Journal of Economics and Finance*; 8(8): 43-52. DOI: 10.5539/ijef.v8n8p43

Odusola, A. (2006). Tax policy Reforms in Nigeria, *World Institute for Development Economics Research Paper*. 3(2) 1-7.

Ogbonna, G. N. and Appah, E. (2012). Impact of Tax Reforms and Economic Growth of Nigeria: A Time Series Analysis. *Current Research Journal of Social Sciences, 4*(1),62-68.

Olurankise, F. & & Bayo, F. (2012). Analysis of the Impact of Non-oil sector on economic growth. *Canadian Social Science*, 8(4): 244-248. DOI: 10.3968/j.css.1923669720120804.1222.

Onakoya, A. B. and Afintinni, O. I. (2016). Taxation and Economic Growth in Nigeria, *Asian Journal of Economic Modelling*, 4(4): 199-210.

Opara, B. C. (2010). Nigerian firms' non-oil export involvement: An Economic transformation paradigm. *European Journal of Scientific Research*, 40(4): 547-556.

Osundina, C. K. and Olanrewaju, G. O. (2013). Welfare effects of taxation on the Nigerian economy. *International Journal of Humanities and Social Science Invention*, 8(2): 76-82.

Riman, H. B., Akpan, E. S., Offiong, A. I. & Ojong, C. M. (2013). Nexus between Oil revenue, Non-oil export and industrial output in Nigeria: An Application of the VAR Model. International Journal of Financial Economics, 1(2): 48-60.

Saima, S., A., Tariq, F. R., Muhammad, A. S. and Amir, A. (2014). Taxation effects on economic activity in Pakistan. *Journal of Finance and Economics*, 6(2): 215-219.

Saibu, O. M. (2015). Optimal tax rate and economic growth. Evidence from Nigeria and South Africa. *Euro Economica Issue*, 34(1): 41-50.

Success, M. J., Success, E. B. and Ifurueze, M. S. K. (2012). Impact of petroleum profit tax on economic development of Nigeria. *British Journal of Economics, Finance and Management Sciences*, 2(5): 60-71.

Taiwo, I.O. (2008). Performance of Government Revenue: Achieving an optimal Structure, Paper Presented at the National Assembly Retreat on Restructuring of the National Budget for members of Appropriations, Finance and public Accounts committee, Kaduna 10- 11 July 2008, cited in Ekeocha et al (2012).

Todaro, M. P. (1989). *Economic Development in the Third World*, 4th ed. Essex, England: Longman Group UK Ltd.

Toto Same, A. (2008). *Mineral-rich countries and Dutch disease: understanding the macroeconomic implications of windfalls and the development prospects-the case of Equatorial Guinea*. Policy Research working paper No. WPS 4595. Washington,

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

DC: World Bank. http://documents.worldbank.org/curated/en/454541468023098857.

Toto Same, A. (2009). *Transforming natural resource wealth into sustained growth and poverty reduction: A conceptual framework for Sub-Saharan African oil exporting countries*. Policy Research working paper No. WPS 4852. Washington, DC: World Bank. http://documents.worldbank.org/curated/en/418411468008747.

Toye, J. F. J. (1978). *Taxation and Economic Development*. London: Frank Cass & Co. Ltd.

Ude, D. K. and Agodi, J. E. (2014). Investigation of the impact of non-oil revenue on economic growth of Nigeria. *International Journal of Science and Research*, 3(11): 2571 2577.

Vietor, R. H. K. (2007). *How countries compete: Strategy, Structure, and Government in the Global Economy*. Boston, Mass. Harvard Business School Press.

Wilford, S. and Wilford, W. (1978). *Estimates of Revenue Elasticity and Buoyancy in Central America: 1955- 1974*, In Taxation and Economic Development. (Ed. Toye, J. F. J.), London: Frank Cass & Co. Ltd. pp. 83 - 100.

Wing, I.S. (2006). Computable General Equilibrium Models and Their Use in Economy-Wide Policy Analysis. MIT Joint Program on the Science and Policy of Global Change Technical Note No.6 September.

Yaya, K. (2013). The structure of taxes and economic growth in Cote D'Ivoire: An econometric investigation. *Journal of Research in Economics and International Finance*, 3(2): 39-48.

Zafar, A. (2004). *What happens when a country does not adjust to terms of trade shocks?: the case of oil-rich Gabon*, Washington, D.C.: World Bank Publications.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Appendix 1. Data for the Analysis

Years	ΔCIT	ΔVAT	ΔPIT	ΔPPT	ΔCED	ΔTTR	ΔGRGDP	TGR	TOR	TOR/TGR	po_olbm*
1971	295.5	225.8	1275.5	282.5	405.5	2484.8	-0.56222	1.1688	0.61	52.199	0
1972	368.5	271.4	69.2	37.9	104.8	851.8	-17.8697	1.4051	0.764	54.395	0
1973	371.1	342.9	1376.4	303.2	372.1	2765.7	12.00844	1.6953	1.016	59.93	0
1974	6520.491	7067.621	8980.2	7516.443	9472.05	39556.8	98.02324	4.5374	3.724	82.073	1
1975	3675.869	5281.089	-550.9	8567.977	10887.12	27861.2	-104.01	5.5147	4.272	77.457	1
1976	2883.89	2487.22	3265.5	343.33	1346.19	10326.1	10.03404	6.7659	5.365	79.298	1
1977	1411.4	1539.66	3896.4	2049.07	1943.74	10840.3	-5.87433	8.0424	1.75	21.757	0
1978	-452.49	-1297.78	3842.6	-1089.54	-2193.03	-1190.3	-8.66882	7.371	4.556	61.807	0
1979	2086.82	2268.08	8026.9	-635.95	832.69	12578.6	11.94405	10.9124	8.881	81.383	1
1980	1138.27	1537.96	94.7	2370.46	1321.6	6463	-3.28118	15.2335	12.353	81.093	1
1981	111199	112277.2	1541.3	104194.5	167767.1	496979.1	-22.2984	13.2905	8.564	64.44	0
1982	-3814.59	-2805.31	939.1	2087.17	-3942.45	-7536.1	7.099139	11.4337	7.815	68.35	1
1983	-17470.1	-17336.4	6323.8	-7107.9	-12851.4	-48442.1	5.185263	10.5087	7.253	69.019	1
1984	1478.17	2165.55	6223	-8978.52	-856.35	31.9	4.0384	11.2533	8.269	73.482	1
1985	7521.35	10209.1	5171.6	13275.17	18354.06	54531.2	1.629824	15.0504	10.924	72.581	1
1986	-1955.33	-2131.34	-1945.2	7227.56	4878.12	6073.9	-12.074	12.5958	8.107	64.365	0
1987	379.43	1056.88	30279.8	467.66	-1348.85	30835	50.34899	25.3806	19.027	74.967	1
1988	7784.42	8066.03	28130.7	13119.23	14487.39	71587.7	-19.9909	27.5967	19.832	71.863	1
1989	13863.31	10504.07	64432.4	8242.31	16640.2	113682.3	23.69206	53.8704	39.131	72.638	1
1990	31033.69	23381.85	31511.6	9866.28	30900.7	126694.1	-32.4637	98.1024	71.887	73.278	1
1991	-4693.87	-4964.46	38272.5	6680.95	-2421.54	32873.6	-6.74416	100.9916	82.666	81.855	1
1992	2562.34	2049.34	194260.1	3644.7	5796.12	208312.6	53.96722	190.4532	164.078	86.151	1
1993	733.7	271.28	52823.5	3204.08	3205.11	60237.6	-42.2343	192.7694	162.102	84.091	1

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

1994	-1486	61890.62	246328.1	2996.95	538.94	310268.7	3.185181	201.9108	160.192	79.338	1
1995	2272.32	2733.94	945472.5	3754.36	5833.36	960066.4	83.24995	459.9873	324.548	70.556	1
1996	8331.07	9221.36	680857	5594	12309.05	716312.6	-75.0293	523.597	408.783	78.072	1
1997	3944.67	5384.74	8454.9	6702.21	7918.2	32404.6	-36.1323	582.8111	416.811	71.517	1
1998	2885.63	5058.65	-152440.9	6581.13	8961.64	-128954	-7.01078	463.6088	324.311	69.954	1
1999	-4922.06	-2871.35	25006.5	9010.81	1067.84	27291.7	21.26704	949.1879	724.423	76.32	1
2000	13866.03	15367.77	1634750.4	6227.84	16748.98	1686961	25.53118	1906.16	1591.676	83.502	1
2001	25874.48	40897.11	-173987.9	21664.47	27001.56	-58550.2	-40.3399	2231.6	1707.563	76.517	1
2002	11137.13	18831.68	2187112.7	82576.91	75892.94	2375551	43.1712	1731.838	1230.851	71.072	1
2003	27919.4	34342.3	1366839.1	18824.94	43659.09	1491585	-23.511	2575.096	2074.281	80.552	1
2004	19340.15	49913.15	2766022.6	45238.47	50564.8	2931079	11.67284	3920.5	3354.8	85.571	1
2005	13701.22	28540.35	2801971.2	33355.09	33393.7	2910962	-6.75029	5547.5	4762.4	85.848	1
2006	10221.32	28699.27	3892966.9	39662.86	32734.05	4004284	-0.30569	5965.102	5287.567	88.642	1
2007	13544.04	35065.58	1586716.7	43837.05	37118.5	1716282	-16.1243	5715.6	4462.91	78.083	1
2008	14733.06	38487.69	2909303.6	45079.21	36467.25	3044071	6.343433	7866.59	6530.6	83.017	1
2009	24078.56	48481.33	211946	45712.57	43174.71	373393.2	-15.9025	4844.592	3191.938	65.887	1
2010	-12039.3	-24240.7	-105973	-22856.3	-21587.4	-186697	-2.55596	7303.672	5396.091	73.882	1
2011	182925.1	304219.1	10766970.1	309512.7	362035.5	11925662	51.69188	11116.85	8878.97	79.869	1
2012	79423.2	127868.8	5277512.1	131900	159430.4	5776135	-34.5583	10654.75	8025.971	75.328	1
2013	-65587.1	-108022	-4011120.55	-110353	-130366	-4425449	-27.0401	9759.794	6809.231	69.768	1
2014	52200.13	87076.64	3034833.662	88478.96	103171.7	3365761	19.91708	13138.08	9880.905	75.208	1
2015	59230.53	96725.47	3740555.578	99170.56	118170.9	4113853	1.081083	11184.21	8238.702	73.6637	1

*Po_olbm represents the possible OBM dummy, with values of 0 and 1 for certain qualities as ascribed.

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

Appendix 2. Results of the Unit Root Test

Null Hypothesis: GRGDP has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.942451	0.0001
Test critical values:	1% level	-4.180911	
	5% level	-3.515523	
	10% level	-3.188259	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: _CIT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.647608	0.0000
Test critical values:	1% level	-4.186481	
	5% level	-3.518090	
	10% level	-3.189732	

Null Hypothesis: _VAT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.200275	0.0000
Test critical values:	1% level	-4.186481	
	5% level	-3.518090	
	10% level	-3.189732	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: _PIT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.432849	0.0000
Test critical values:	1% level	-4.186481	
	5% level	-3.518090	
	10% level	-3.189732	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: _PPT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.089675	0.0000
Test critical values:	1% level	-4.186481	
	5% level	-3.518090	
	10% level	-3.189732	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: _CED has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.895445	0.0000
Test critical values:	1% level	-4.186481	
	5% level	-3.518090	
	10% level	-3.189732	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: _TTR has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.510492	0.0000
Test critical values:	1% level	-4.186481	
	5% level	-3.518090	

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

10% level	-3.189732

*MacKinnon (1996) one-sided p-values.

Appendix 3. Results of Analysis of Covariance (ANCOVA) Model GRGDP (A)

Dependent Variable: _GRGDP
Method: Least Squares
Date: 04/20/17 Time: 16:10
Sample (adjusted): 1972 2015
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.93685	19.19791	1.611470	0.1156
PO_OLBM	-30.27685	20.01244	-1.512901	0.1388
_CIT(-1)	-0.001853	0.001487	-1.246170	0.2205
_VAT(-1)	0.001234	0.000479	2.577146	0.0141
_PIT(-1)	-1.52E-05	6.76E-06	-2.247443	0.0307
_PPT(-1)	-0.000316	0.001161	-0.272591	0.7867
_CED(-1)	0.000534	0.001488	0.358911	0.7217

R-squared	0.270727	Mean dependent var	-0.356557
Adjusted R-squared	0.152466	S.D. dependent var	36.11636
S.E. of regression	33.24930	Akaike info criterion	9.990854
Sum squared resid	40904.08	Schwarz criterion	10.27470
Log likelihood	-212.7988	Hannan-Quinn criter.	10.09612
F-statistic	2.289240	Durbin-Watson stat	2.635157
Prob(F-statistic)	0.055901		

Appendix 4. Results of Analysis of Covariance (ANCOVA) Model GRGDP

Dependent Variable: _GRGDP
Method: Least Squares
Date: 04/20/17 Time: 16:10
Sample (adjusted): 1972 2015
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-16.37758	52.42877	-0.312378	0.7564

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327

PO_OLBM	17.54719	52.75838	0.332595	0.7412
_TTR(-1)	0.023154	0.023808	0.972561	0.3366
PO_OLBM*_TTR(-1)	-0.023158	0.023808	-0.972725	0.3365

R-squared	0.136511	Mean dependent var	-0.356557
Adjusted R-squared	0.071750	S.D. dependent var	36.11636
S.E. of regression	34.79658	Akaike info criterion	10.02342
Sum squared resid	48432.07	Schwarz criterion	10.18562
Log likelihood	-216.5153	Hannan-Quinn criter.	10.08357
F-statistic	2.107903	Durbin-Watson stat	2.647217
Prob(F-statistic)	0.114431		

Print ISSN: ISSN 2054-6319, Online ISSN: ISSN 2054-6327