

Research Article

Rent Seeking and Group Interest on Petroleum Revenue in the Nigerian Economy: a Causality Approach

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Abstract: The study examines rent seeking and group interest on petroleum income and the effect on the Nigerian economy. To achieve the objective of this paper, relevant secondary and primary data were obtained from published scholar works and questionnaires and relevant statistical models were used for analysis. The study reveals that rent seeking and group interest is a fundamental problem affecting the socio-economic and political development of Nigeria with impunity by the political class, the mafia, militants, Boko Haram and oil cabals in order to share in the resource pie as a result of the huge petroleum income accruable to the nation. It does not only penalize or disrupt productive activities, distorts the entire economy and hinders economic growth where significant percent of public funds and oil revenue are diverted into their personal accounts and private pockets. On the basis of this result, the paper concludes that for the huge amount of petroleum income in Nigeria to improve the living standards of the people, the citizens must show a high level of ethical behavior of integrity, honesty and accountability for the level of massive corruption in the country to be minimized for the citizens to benefit from the huge petroleum income in Nigeria.

Keywords: Economy, ethics, group interest, Nigeria, petroleum revenue, rent seeking

INTRODUCTION

Nigeria is endowed with abundant oil wealth with many interest groups and it is the largest oil producer in Africa, 6th in Organization of the Petroleum Exporting Countries (2006), 5th largest supplier to USA and 11th in the world (Egbogah, 2006). For the past four decades, the oil and gas industry have been playing vital and dominant role to the economic growth of Nigeria, both in foreign exchange earnings and domestic income generation (Azaike and Shagari, 2007). Irrespective of this rare abundant natural resources Nigeria is endowed with and the role oil and gas have been playing in the economy, there is little or no commensurate economic development to show for it. The majority of Nigerians, especially the Niger Delta people in particular have been impoverished as the oil-sector has been facing declining contribution to GDP and per capita income despite the phenomenal increase in prices of oil and gas in international market over the years. According to Nafziger (2006), there has been poor performance of national institutions such as power, energy, road, transportation, politics, financial systems and investment environment have been deteriorating. The GDP has consistently declined from 67% in 1960 to

24.6% in 2000 CBN (2009) and Yakub (2008). The economy is fraught with high rate of unemployment and poor standard of living in spite of government's effort to mitigate it Nwezeaku (2010).

Nigeria as a significantly mono-product economy depends largely on crude oil as its main source of energy, domestic and foreign exchange earner (Central Bank of Nigeria Statistical Bulletin, 2000). The country is an oil-rich country located in West African sub-region with land mass of 923,768 sq km and a population that is at present more than 123 million people (Agbogun, 2004). What led to the economic problems and poor standard of living in Nigeria according to Ogbonna (2009) started during the oil boom in 1972 when income from oil revenue consistently exceeded that of non-oil. Nigerian government failed to maximize the benefits from oil boom revenue. Instead of investing the abundant oil revenue in productive sectors of the economy, the successive governments continued to mismanage it, abandoned other viable sources of revenue such as agriculture which used to be the main stay of the economy and depended excessively on oil revenue. The global perception of Nigeria according to Yakub (2008)

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is that of a richly blessed oil producing nation but with a growing poverty index.

The Niger Delta in Nigeria has unfortunately emerged as one of the most environmentally degraded region in the world, according to a World Wild Fund Report released in 2006. The report described the Niger Delta Region as one of the most polluted places, and the worst oil impacted in the world. According to a British engineer in the Niger Delta, Watts (2008), "I have explored for oil in Venezuela and ...Kuwait but I have never seen an oil-rich town as impoverished as Oloibiri" the community where oil was first discovered in Bayelsa State in the Niger Delta region of Nigeria. Therefore, the objective of this paper is to examine rent seeking and group interest on petroleum income on the Nigerian economy.

LITERATURE REVIEW

Theoretical framework: According to dominant theories of economic growth, significant relationship does exist between national income and economic growth. This means that when income is invested in an economy, it results in the growth of that economy. For instance, Harrod-Domar (1957) and others as quoted by Yakub (2008) have suggested that growth is directly related to savings (i.e., unspent income). Harrod and Domar (1957) assigned a key role to investment in the process of economic development and the productive use of savings. They posit that investment increase income and augment the productive capacity of the economy. Also, Yakub (2008) further stated that income from a nation's natural resources (e.g., petroleum) has a positive influence on economic growth and development. Contrary to this opinion expressed above, other studies on this subject matter, found that natural resources income influences growth negatively. This means that, an increase in income from natural resources does not necessarily result in an increase in economic growth. For example, Sachs and Warner (1995) using a sample of 95 developing countries that included Indonesia, Venezuela, Malaysia, Ivory Coast and Nigeria, found that countries that have a high ratio of natural resource exports to GDP appears to have shown slower economic growth than countries with low ratio of natural resource export to GDP. In a similar vein, (Collier and Hoeffler, 2002) are of the view that increase in natural resources income does not result in increase in economic growth. This has been so because they found that 23.0% of countries that are dependent on oil exports are likely to experience civil war in any five-year period compared to 0.6% for countries without natural resources. During each of these periods of civil war, there was no economic growth. This opinion is supported by Yakub (2008) that increase in income arising from natural resources does not necessarily result in increases in economic growth but result in vicious development cycle (i.e., violent and adverse development). He maintains that increase in natural resources income encourages rent-seeking in the

economy. Rent-seeking and special interest group effects are public choice theories which arise due to public failure or inefficiency. According to McConnell and Bruce (1990) the pursuit through government of a transfer of wealth at someone else's or society's expense is called rent-seeking behavior. The term "rent" as it is used here means any payment to a resource supplier, business, individual politicians, or other organizations above that which would accrue under competitive market conditions. Corporations, trade associations, labor unions, professional organizations and the like employ a vast amount of resources in their attempt to secure "rent" directly or indirectly dispensed by government. Government provides this "rent" through legislation, special patronage and policies which increase payments to some special groups, leaving other people or society at large less well off. Arnold (2001) sees rent-seeking as actions of individuals and groups who spend resources to influence public policy in the hope of redistributing (transferring) income to themselves from others.

McNutt (2002) traced the history of rent-seeking by stating that originally rent-seeking was introduced by Tullock, Krueger and Posner. According to him, this has come to represent and characterize many different interpretations of the original idea. No longer exclusively introduced in the context of public sector decisions, it is more than likely to persist in most transactions where individuals attempt to avoid a cost or reap some benefit. Rent-seeking according to him is an intriguing concept. The conventional wisdom across the public choice literature, which he labels the classic view, has two hallmarks, namely the rent-seeking is unequivocally socially undesirable and that rent-seeking activities are not confined to public sector decision making. McNutt (2002) argues that this classic view of rent-seeking is a special case of the rent-seeking insight, one which is essentially unresponsive to the contemporary development in the political economy of property rights. He posits that rent-seeking occurs in private markets as with advertising and patents and in political markets as witnessed by lobbying and campaign contributions. However, these contributions per se are not examples of social waste (Buchanan, 1980).

McNutt (2002) therefore inquired: so what is the rent-seeking insight? According to him, rent-seeking mirrors the implicit or hidden costs attributable to the creation of artificial scarcity initiated in many instances by government issued monopoly rights and include the subsequent expenditure of real resources by aspiring monopolists and citizens alike through bribery and the lobbying of government.

McNutt (2002) states that in many respects one could argue that the public choice school of thought has acquired a dominance in the treatment and analysis of competitive rent-seeking, as an activity occurring primarily, although not exclusively, through the political process. This is not surprising according to

him as an allocation of resources through the political process generates a social waste while an allocation through the market generates a social surplus. He however do agree that to treat rent-seeking activities as characteristics of public sector economics is to ignore the fact that similar phenomena are to be found elsewhere.

Within the past twenty years according to McNutt (2002) the rent-seeking insight has developed into a significant research programme which impinges upon the treatment of monopolies, externalities, public goods and trade restrictions. It proffers an analytical perspective on politician behavior, the role of interest groups, on bureaucrats and on the size and growth of government. The domain of rent-seeking essentially looks at the cost, in terms of real resources expended, incurred by individuals in attempting to either avoid or cost or secure a benefit. More specifically it is the opportunity cost of resources devoted to rent-seeking that best represents social waste.

Tullock-Krueger Axis in McNutt (2002) illustrates the demand curve for a monopolized product with a monopoly price at P_m which is in excess of the long-run competitive price P_c . It explains that if the monopolist charges the price P_m , rents of an amount R accrue in addition to the net consumer surplus loss of an amount L . In the traditional theory of monopoly, L is treated as a measure of the efficiency loss due to monopoly with producers securing a transfer of resources from the consumers who pay the higher monopoly price for a fixed supply. Tullock's initial insight was that a monopolist would be prepared to expend resources of an amount R in order to secure the monopoly franchise. There is no dispute about the analytical content of the competitive model. Albeit the resulting dead-weight loss, the Harberger triangle L was deemed to be insignificant, Mundell (1962) also noted complacency among economists on monopoly that the monopoly positions in the economy. The insights of both Tullock and Krueger according to McNutt (2002) indicated that the monopoly producers may have to expend real resources in order to secure the monopoly rent. This is the most useful way to think of rent-seeking in terms of the opportunity costs of the resources used to acquire the monopoly position. Additional resources are spent but no additional output is produced; indeed the consumer is further denied the output of the alternative use of the resources.

The implication of the rent-seeking insight on the neoclassical analysis of monopoly was obvious; the traditional measure of the social cost of monopoly was inaccurate, the measure was at best an underestimate of the true social cost of monopoly (McNutt, 2002). Special interest issue according to McConnell and Bruce (1990) is an issue, a programme, or policy from which a small number of people individually will

receive large gains at the expense of vastly larger number of persons who individually suffer small losses. The small group potential beneficiaries will be well informed and highly vocal on this issue, pressing politicians for approval. The large numbers who face very small losses will generally be uninformed and indifferent on this issue; after all, they have little at stake. The evil of special interest legislation according to Arnold (2001) is that special interest legislation usually isn't called by that name by the special interest group lobbying for it. Instead, it is referred to as "legislation in the best interest of the general public". They present their argument forcefully and persuasively as if it is truly equitable and in the best interest of the general public when in actual fact it is for special interest group. The foregoing is underscored by Nafziger (2006) who posits that rent seeking, which ranges from lobbying to coercion, is unproductive activity to obtain private benefit from public action and resources. Pervasive rent seeking occurs where the state is weak, decaying and lacking rule of law, a phenomenon widespread among the less developed countries. Political power backed by military coercion is usually a key resource for rent seeking. This is the evil of rent seeking and special interest group in our society in Nigeria.

McNutt (2002) argued that small rather than large groups are more likely to solve collective action problems co-operatively. Unfortunately, the opposite is the case in Nigerian situation. It is the small groups that constitute themselves as "Niger Delta Militants", "Boko-haram", OPC Group, MASSOB (Movement for the Actualization for the Sovereign State of Biafra), and oil cabal. These small groups wreck havoc in Nigeria in order to have political power, or compel government to grant them undeserved power or gain benefit illegally from oil revenue at the detriment of the majority. The objectives of these small interest groups which cut across the south, the north, the west and the east of Nigeria are more often than not parochial as they always advance their courses or grievances with arms and weapons or political maneuvering that favor them alone. The consequences of their actions have caused destruction of properties, lost of lives, untold hardship and left Nigerian investment environment risky as no rational investor would like to invest where there is social and political unrest. Consequently, the Nigerian economy is worst off by the activities of these small interest groups.

Politics according to McNutt (2002) is about the distribution of benefits and burdens and metric politicians are faced with a re-election constraint that can be relaxed by currying favor with interest groups. Contrary to this opinion, Nigerian politics is essentially based on selection by small interest groups called the political god-fathers who dominate the Nigerian political landscape.

The practice of rent-seeking and/or special interest issue is quite unfair to the society as they benefit only the wealthy and few privilege ones. As stated earlier, they are more pronounced and highly practiced in Nigeria with impunity by the political class, the mafia, militants, Boko Haram, and oil cabals. All these groups are rent-seeking in nature but they use different strategies to advance their course. Some spend their resources to influence public policy with the hope of recovering more than what they spent while others take up arms against the government and the people in the name of Boko-Haram who have been terrorizing and bombing the Northern States in Nigeria. The cabals are group of people who make secret oil profit or benefit illegally from petroleum subsidy at the detriment of Nigerian populace who are increasingly being exploited and impoverished. Hence, there was a recent petroleum subsidy strike and demonstration in Nigeria never witnessed before which paralyzed virtually all economic activities and shook the very foundation of Nigerian democracy with its attendant huge loss to the economy. The President, Dr Good-luck Jonathan saved the situation by reducing the pump price of petrol to N97. Initially, the pump price was increased from N65 to N242 on average. This high increase attracted public outcry and mass demonstration.

From the foregoing therefore, it becomes increasingly necessary to expand on this critical issue of rent seeking in Nigeria which does not only lead to a situation "whereby all economic units, whether public and private, domestic and foreign have overwhelming incentives to seek links with the state in order to share in the resource pie". Also, it does not only penalize or disrupt productive activities, distorts the entire economy and hinders economic growth as stated by Yakub (2008), but politicians are really involved in rent seeking and corrupt practices that divert significant percent of public funds and oil revenue, especially excess crude oil revenue into their personal accounts and private pockets. Excess crude oil revenue is revenue in excess of the budgeted revenue in a year due to the actual petroleum price being greater than the budgeted. In order to conserve excess crude oil revenue, the present administration under President Good-luck Jonathan introduced Sovereign National Wealth Fund (SNWF) for developmental purposes but this noble idea and innovation was vehemently resisted initially by all the governors who preferred the usual way they have been sharing and spending the money amongst them without proper accountability. However, the establishment of the Sovereign National Wealth Fund was most reluctantly accepted by the state governors.

As a result of this demand for resource control and scramble for national cake, government and other economic units abandoned and/or neglected the former productive sources of national income such as

groundnut, cocoa, rubber, palm oil, just to mention but a few. The oil revenue which should have been used to improve economic growth, investment and basic infrastructure, has unfortunately been mismanaged by successive governments over the years and this has impacted negatively on the Nigerian economy. There is no reasonable development to show for the abundant oil revenue that has been generated since 1956 when the first commercial crude oil fifty six years ago at Oloibiri, in Bayelsa State in the Niger Delta was discovered (Egbogah, 2006).

To actualize this rent seeking or scramble for national cake, the political class and other stakeholders have adopted unwholesome practices that have unfortunately come to be known as "Nigerian factors", "Man-know-Man" struggle for political power, even outright corruption, killing of political opponents to grab power and other similar terms that are destructive to Nigerian economy and the society. These terms connote, among others, wrong practices of breaking conventional rules and regulations, protocol, procedures and due process of doing things. The aims of these practices are for personal enrichment which is detrimental to the economy. The problem with the fight against corruption in Nigeria is that there is no political will and the institutions established to fight it are not given free hand and appropriate legal power to act decisively and achieve the desired result. Sometimes government even fraternizes, patronizes and protects these special interest groups, political heavy weight and cabals at the detriment of the people and the economy. This confirms the theory that abundant natural resources do not necessarily lead to increase in the economic growth. It all depends on how efficiently and effectively the resources are managed, invested and the extent corruption has been mitigated. This brings us to the effects of corruption on the petroleum income and the Nigerian economy.

Oil revenue: The major sources of oil revenue are from the sale of crude oil and Petroleum Profits Tax. The latter attracts 85% tax rate on export and 65.75% on domestic sale of oil and gas. Economists over the years opine that crude oil is the dominant source of government revenue, accounting for about 90% of total exports and this approximates to 80% of total government revenues in most of the oil producing countries. They are of the view that since the oil discoveries in the early 1970s, oil has become the dominant factor even in Nigeria's economy. A critical review of unfolding events show that the problem of low economic performance of Nigeria cannot be attributed solely to instability of earnings from the oil sector, but as a result of failure by successive governments to utilize productively the financial windfall from the export of crude oil from the mid-1970s to develop other sectors of the economy.

Consequently, the oil boom of the 1970s has led to the neglect of non-oil tax revenues, expansion of the public sector, and deterioration in financial discipline and accountability. In turn, according to Yakub (2008), oil-dependence exposed Nigeria to oil price volatility which threw the country's public finance into disarray.

The Nigerian economy has the potentialities of becoming one of the twenty leading economies of the world before the year 2020 if their abundant crude oil wealth, human and natural resources are properly managed and corruption mitigated (Nafziger, 2006; Ibaba, 2005).

Petroleum profits tax in Nigeria: The Petroleum Profits Tax in Nigeria focuses on the upstream sector of the petroleum industry which deals with oil prospecting, mining and production. In Nigeria, crude oil production is taxed at the rate of 85% on export and 65.75% on domestic sale of oil within the periods under review. The power and authority to assess, administer and collect all taxes from corporate entities have been vested by the tax laws on the Federal Inland Revenue Services. Taxes administered at the Federal level include the Petroleum Profits Tax, Companies Income Tax and the Value Added Tax as well as the Capital Gain Tax, especially when such capital gains are generated by corporate entities. The administration of taxes in Nigeria has also been focused on revenue generation to the detriment of stimulating economic development.

Investigation in the course of this study and experience have shown that tax payers both individuals and corporate bodies are well disposed to perform their civic responsibilities willingly when they see practical evidence of public expenditure which they can identify with or benefit directly from. Unfortunately, this has not been the case in Nigeria. Macdonald (1980) opines the fact that the retention of a corporation tax under an expenditure tax regime is justified in the Meade Report of 1978 on Tax Reform on the ground that it can raise revenue while not distorting the rate of return to saving. The administration of Petroleum Profits Tax in Nigeria has mainly been focused on revenue generation to the detriment of stimulating economic growth and development (Ogbonna, 2009).

Licensing fee: Licensing fee, according to the Nigeria Constitution (2011), means a permission given by a competent authority to do an act, which without such grant would be illegal or would amount to a trespass or tort. A license therefore confers certain rights on the licensee. Such a license is usually issued under terms whose objectives range from the raising of revenue, to the establishment of controls and the maintenance of standards. In essence, the goals of a license granted in accordance with the relevant provisions of the Petroleum Act, either for the exploration or prospecting

for petroleum are basically not different from the foregoing objectives.

According to Etikerentse (2004), licensing fee constitutes part of petroleum income. The origin of this source of income is from the 1999 Nigerian Constitution, Section 44 (3) which provides, among other things, the transfer of:

"The entire property in and control of all minerals, mineral oils and natural gas in, under or upon any land in Nigeria or in, under or upon the territorial waters and the Exclusive Economic Zone of Nigeria shall vest in the government of the federation and shall be managed in such manner as may be prescribed by the National Assembly"

Sections 1 and 2 of Petroleum Act, 1969, as amended to date, provide that "the entire ownership and control of all petroleum in, under or upon any lands to which this section applies shall be vested in the country". By these legal provisions, it therefore means that, the Federal government of Nigeria is entitled to assign oil prospecting license and oil mining lease and receive fees from oil companies operating in Nigeria before they could be allowed to prospect and explore for oil. Thus, licensing fee become part of petroleum income and therefore the Central Bank of Nigeria (CBN, 2009) have used it in presenting the summary of the Nigerian Federal Government Finances.

GROSS DOMESTIC PRODUCT (GDP)

World Bank (2011) Report states that:

"GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products, It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources".

GDP has been defined by the Central Bank of Nigeria (2008) as the money value of goods and services produced in an economy during a period of time irrespective of the nationality of the people who produced the goods and services. This is usually calculated without making any allowance for capital consumption (or deductions for depreciation).

On a critical review of effect of GDP, Schiller (2003) used GDP and per capita income to assess the growth rate in selected countries from 1990 to 2000, (Table 2, 7, 1). The relationship between GDP growth and population growth is very different in rich and poor countries. According to him, the populations in rich countries are growing very slowly and gains in per capita income and GDP are easily achieved. This means that, while rich countries' population growth grows

slowly, their per capita income and Gross Domestic Products (GDP) are high and easily achieved. Conversely, in the poorest countries, population is still increasing rapidly, making it difficult to raise standard of living. A typical example is how per capita incomes are declining in many poor countries such as Nigeria, Kenya, Venezuela and Haiti. In line with Schiller (2003), Nigeria has an average economic growth rate from 1990 to 2000 as follows: GDP of 2.4, National Income of 1.12, population of 2.8, and per capita income of -0.4.

This opinion that abundant natural resources do not necessarily translate into economic growth is supported by Yakub (2008). According to him increase in income arising from natural resources does not necessarily result in increases in economic growth but result in vicious development cycle (i.e., violent and adverse development). He maintains that increase in natural resources income encourages rent-seeking in the economy whereby all economic units, whether public and private, domestic and foreign have overwhelming incentives to seek links with the state in order to share in the resource pie. This incentive for rent-seeking penalizes productive activities, distorts the entire economy and hinders economic growth.

What causes economic growth or better still what are the determinants of economic growth? Do abundant natural resources guarantee increase in economic growth? Arnold (2008) shades more light on this issue by stating that people often think that countries with a plentiful supply of natural resources experience economic growth, whereas countries short of natural resources have experienced rapid growth in the past. He gave example that United States, and other countries have experienced no growth or only slow growth. Also, some countries that are short of natural resources, such as Singapore, have grown very fast. It appears that natural resources are neither a sufficient nor a necessary factor for growth. Countries rich in natural resources are not guaranteed economic growth and countries poor in natural resources may grow economically. Having said all this, it is still more likely for a nation rich in natural resources to experience growth, *ceteris paribus*.

Empirical evidence: Contrary to the usual expectations and popular belief that natural resource abundance would help the backward states to overcome their capital shortfalls and provide revenues for their governments to produce public goods and lift their citizens out of the doldrums of poverty, (Yakub, 2008; Gravin and Hausmann, 1998; Ross, 2004; Sachs and Warner, 1995) have found in different studies that natural resource abundance has been associated with slow economic growth. Therefore, there is an established link between resource motivated conflict and economic collapse. Collier *et al.* (2003) went further to state that of all natural resources, oil has been found to have the highest risk of civil conflict because

of the large rents it offers and the shocks to which the government and the national economy are exposed to due to the scramble for oil. Collier and Hoeffler (2002) state that 23.0% of states dependent on oil exports have experienced civil war in any 5 year period, a figure that obviously dwarfs the 0.6% for countries without natural resources (Yakub, 2008). Nigeria's situation seems to be more precarious. As a country that is beset with high rate of corruption challenges, pronounced civil/religious conflicts and an economy that excessively depends largely on petroleum, a mono-product, is exposed to a high socio-economic risk. In view of the foregoing, Nigerian government needs to maximize the benefits of its crude oil resources on development and try to be more cautious on how it manages its petroleum income.

Other important findings are evidenced by the ten year's average crude oil and condensates production of 832,866,752.1 barrels from 2000 to 2009. Total oil revenue generated into the Federation Account from 2000 to 2009 amounted to ₦3.42 trillion while non-oil was ₦732.2 billion, which represents 82.36 and 17.64% respectively (Central Bank of Nigeria Statistical Bulletin, 2000). For the past decade, petroleum industry constitutes the main source of energy and has contributed on average 81.2 and 18.9% of the Federal Government finances from 2000 to 2009 (CBN, 2009) as shown in Table 2.

The unfolding events in Nigeria point to the fact that the Niger Delta situation is set to remain precarious in the foreseeable future, as long as government continues to pay lip service to the basic demands of oil producing Niger Delta people. Hopes were raised by a government amnesty to militants groups from the Niger Delta Area in 2009. Most of the militants warmed embraced the amnesty with optimism. But the administration has been struggling to live up to its promises of transforming the economy, creating jobs and improving infrastructure in the region, yet the situation seems not to be getting better. This is because government has even started renegeing on some of its promises such delay and at times non-payment of the stipends to these militants group. Economic variables such as GDP and per capita income etc., are not getting better. Persistent inflation and environmental degradation, have led to deprivation of means of livelihood to the people of Niger Delta and Nigerians in general.

Civil conflicts and religious fundamentalists are unleashing terrorist activities in many parts of the country presently. Incessant bombing are on the increase and life, private and public properties are not safe. There is tension all over the place.

Despite the fact that crude oil has been the mainstay of Nigerian economy and shapes the socio-cultural, political, technological and economic destiny of Nigeria, the economy is fraught with high rate of unemployment and poor standard of living (Nwezeaku,

Table 1: Oil revenue and gross domestic product

Variable	Coefficient	S.E.	t-statistic	Prob.
C	833969.5	751709.4	1.109431	0.2995
OIR	0.186113	0.047752	3.897492	0.0046
R-squared	0.655030	Mean dependent var		3419466
Adjusted R ²	0.611909	S.D. dependent var		1794696
S.E. of regression	1118041	Akaike info criterion		30.86891
Sum squared residual	1.00E+13	Schwarz criterion		30.92943
Log likelihood	-152.3446	F-statistic		15.19044
Durbin-Watson stat	2.153201	Prob. (F-statistic)		0.004561

Dependent variable: GDP; Method: Least squares; Date: 06/2/12; Time: 10:23; Sample: 1980 2009; Included observations: 30; E-view output

2010). Petroleum as the black gold has become a source of power in international politics and should be productively utilized in the economic development of Nigeria.

- α = Constant
- β = Regression coefficient
- ϵ = Stochastic term

MATERIALS AND METHODS

The study used survey research design. Primary and secondary data were used for the study. The secondary data was culled from the Central Bank of Nigeria Statistical Bulletin for the period 1980 to 2009. The primary data for the study were generated through the administration of questionnaire on 240 respondents and 172 accountants, financial managers/controllers, management staff, chief executive who are knowledgeable to provide relevant answers to the questionnaire in the oil and gas industry in Rivers State and Bayelsa State. The questionnaire has three sections. The first section is related to demographic (name of organization, position, number of years worked, classification of your industry, the second section comprises research issues and the third section examines qualitative data. Using a five points scale of 1-5 (5-strongly agree, 4-agree, 3-neutral, 2-disagree and 1-strongly disagree). The Cronbach’s alpha test of 0.85 shows a reliable measurement of the instrument on the effect of rent seeking and group interest on petroleum income in Nigerian economy (Baridam, 2008; Ndiyo, 2005; Osuala, 2005; Kothari, 2004; Krishnaswamy *et al.*, 2004). The results obtained from the ratings were analyzed using descriptive statistics and ordinary least square regression. The excel software helped us to transform the data into a format suitable for analysis after which the e-view was utilized for the purpose of data analysis. The ordinary least square was guided by the following linear model:

$$Y = f(X1) \tag{1}$$

$$GDP = \alpha + \beta 1OIR + \epsilon \tag{2}$$

$$GDP = \alpha + \beta 1PPT + \epsilon \tag{3}$$

$$GDP = \alpha + \beta 1LF + \epsilon \tag{4}$$

where,

- GDP = Gross domestic product
- PPT = Petroleum profit tax
- LF = license fee
- OIR = Oil revenue

RESULTS AND DISCUSSION

The Table 1 shows the regression result for oil revenue and gross domestic product. The table reveals that the p-value of 0.0046 (0.46%) is less than the critical value of 0.05 (5%). This implies that we fail to accept the null Hypothesis (HO), hence we accept the Alternative Hypothesis (HA) that there is a significant relationship between oil revenue and gross domestic product of Nigeria. The R² (coefficient of determination) of 0.655030 shows that the variables combined determines about 66% of the GDP of Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are statistically significant (F-Statistics = 15.19044; F-statistics Prob. = 0.004561). Using the coefficients as elasticity, the variable is positively signed meaning that there is a positive relationship between oil revenue and gross domestic product. It is thus telling us that if there is a unit increase in oil revenue there is going to be about 19% increase in Gross Domestic Product (GDP). The D-W result of 2.153201 shows that there is no autocorrelation in the residuals.

The Table 2 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.728796 and 0.606277 is

Table 2: Breusch-Godfrey serial correlation LM test

F-statistic	0.333644	Probability	0.728796
Obs*R-squared	1.000838	Probability	0.606277

E-view output

Table 3: White Heteroskedasticity test

F-statistic	3.420083	Probability	0.092013
Obs*R-squared	4.942257	Probability	0.084489

E-view output

Table 4: Ramsey RESET test

F-statistic	1.471444	Probability	0.302009
Log likelihood ratio	3.990991	Probability	0.135946

E-view output

Table 5: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
OIR does not granger cause GDP	29	0.08183	0.92341
GDP does not granger cause OIR		3.20302	0.02662

Date: 06/2/12; Time: 10:32; Sample: 1980 2009; Lags: 1; E-view output

Table 6: Oil revenue and per capita income

Variable	Coefficient	S.E.	t-statistic	Prob.
C	1936879	1808072	1.071240	0.3153
OIR	0.359935	0.112858	3.189274	0.0160
R-squared	0.536278	Mean dependent var		3419466
Adjusted squared	0.478313	S.D. dependent var		1794696
S.E. of regression	1296272	Akaike info criterion		31.16474
Sum squared residual	1.34E+13	Schwarz criterion		31.22526
Log likelihood	-153.8237	F-statistic		21.51717
Durbin-Watson stat	2.152530	Prob. (F-statistic)		0.002023

Dependent variable: PCI; Method: Least squares; Date: 06/2/12; Time: 10:46; Sample: 1980 2009; Included observations: 30; E-view output

Table 7: Breusch-Godfrey serial correlation LM test

F-statistic	0.368060	Probability	0.706682
Obs*R-squared	1.092796	Probability	0.579032

E-view output

Table 8: Ramsey RESET test

F-statistic	2.65262	Probability	0.064583
Log likelihood ratio	5.86007	Probability	0.070360

E-views

Table 9: White Heteroskedasticity test

F-statistic	5.91802	Probability	0.067048
Obs*R-squared	4.572483	Probability	0.062681

E-view

Table 10: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
PCI does not granger cause OIR	29	4.32457	0.01409
OIR does not granger cause PCI		2.34289	0.61432

Date: 06/2/12; Time: 10:57; Sample: 1980 2009; Lags: 1; E-view output

greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 73% is greater than the c-value of 5%.

The Table 3 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.092013 and 0.084489 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 4 shows the Ramsey RESET test. The result reveals that the p-values of 0.302009 and 0.135946 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 5 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.92341 (92%) is greater than the critical value of 0.05 (5%), this implies that we reject the null hypothesis of oil revenue does not granger cause gross domestic product and accept the alternative hypothesis that oil revenue granger cause gross domestic product.

The Table 6 shows the regression result for oil revenue and per capita income. The table reveals that the p-value of 0.0160 (1.6%) is less than the critical value of 0.05 (5%). This implies that we fail to accept the null Hypothesis (HO), hence we accept the Alternative Hypothesis (HA) that there is a significant relationship between oil revenue and per capita income of Nigeria. The R^2 (coefficient of determination) of

0.536279 shows that the variables combined determines about 54% of the per capital income of Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are statistically significant (F-Statistics = 21.51717; F-statistics Prob. = 0.002023). Using the coefficients as elasticity, the variable is positively signed meaning that there is a positive relationship between oil revenue and per capital income. It is thus telling us that if there is a unit increase in oil revenue there is going to be about 36% increase in per capital income. The D-W result of 2.152530 above shows that there is no autocorrelation in the residuals.

The Table 7 and 8 shows the Ramsey RESET test. The result reveals that the p-values of 0.064583 and 0.070360 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 9 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.067048 and 0.062681 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 10 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.01409 (1.4%) is less than the critical value of 0.05 (5%), this implies that we accept the null hypothesis of per capital income does not granger cause oil revenue. The probability of 0.61432 (61%) is greater than 0.05(5%), this implies we reject the null hypothesis of oil revenue does not granger cause per capital income and accept the alternative hypothesis that oil revenue granger cause per capital income of Nigeria.

The Table 11 shows the regression result for oil revenue and inflation. The table reveals that the p-value of 0.7280 (73%) is greater than the critical value of 0.05 (5%). This implies that we accept the null Hypothesis (HO), hence we reject the Alternative Hypothesis (HA) that there is a no significant relationship between oil revenue and inflation in Nigeria. The R^2 (coefficient of determination) of 0.015958 shows that the variables combined determines about 1.6% of the inflation in Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are not statistically significant (F-Statistics = 0.129732;

Table 11: Oil revenue and inflation

Variable	Coefficient	S.E.	t-statistic	Prob.
C	4184371	2206011	1.896805	0.0944
OIR	-60371.42	167612.9	-0.360184	0.7280
R ²	0.015958	Mean dependent var		3419466
Adjusted R ²	-0.107048	S.D. dependent var		1794696
S.E. of regression	1888313	Akaike info criterion		31.91712
Sum squared residual	2.85E+13	Schwarz criterion		31.97764
Log likelihood	-157.5856	F-statistic		0.129732
Durbin-Watson stat	2.126910	Prob. (F-statistic)		0.728034

Dependent variable: INF; Method: Least squares; Date: 06/2/12; Time: 11:02; Sample: 1980 2009; Included observations: 30; E-view output

Table 12: Breusch-Godfrey serial correlation LM test

F-statistic	2.200691	Probability	0.191947
Obs*R-squared	4.231536	Probability	0.120541

E-view

Table 13: White Heteroskedasticity test

F-statistic	0.147268	Probability	0.865668
Obs*R-squared	0.403776	Probability	0.817186

E-view output

Table 14: Ramsey RESET test

F-statistic	0.297507	Probability	0.753020
Log likelihood ratio	0.945543	Probability	0.623272

E-view output

Table 15: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
OIR does not granger cause INF	9	6.06207	0.04100
INF does not granger cause OIR		5.99250	0.03293

Date: 04/27/12; Time: 11:06; Sample: 2000 2009; Lags: 1; E-view output

F-statistics Prob. = 0.728034). Using the coefficients as elasticity, the variable is negatively signed meaning that there is a negative relationship between oil revenue and inflation. The D-W result of 2.126910 shows that the null hypothesis will be accepted that there is no autocorrelation in the residuals.

The Table 12 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.191947 and 0.120541 is greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 19 and 12% is greater than the c-value of 5%.

The Table 13 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.865668 and 0.817186 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 14 shows the Ramsey RESET test. The result reveals that the p-values of 0.753020 and 0.623272 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 15 shows the Pairwise Granger Causality tests for cause and effect relationship. The

result reveals that the probability value of 0.04100 (4.1%) is less than the critical value of 0.05 (5%), this implies that we accept the null hypothesis of oil revenue does not granger cause inflation. The probability of 0.03293 (3.2%) is less than 0.05(5%), this implies we accept the null hypothesis of inflation does not granger cause oil revenue in Nigeria.

The Table 16 shows the regression result for oil revenue and gross domestic product. The table reveals that the p-value of 0.0060 (0.60%) is less than the critical value of 0.05 (5%). This implies that we fail to accept the null Hypothesis (HO), hence we accept the Alternative Hypothesis (HA) that there is a significant relationship between petroleum profit tax/royalty and gross domestic product of Nigeria. The R² (coefficient of determination) of 0.684584 shows that the variables combined determines about 68% of the GDP of Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are statistically significant (F-Statistics = 18.9271; F-statistics Prob. = 0.00427). Using the coefficients as elasticity, the variable is positively signed meaning that there is a positive relationship between petroleum profit tax/royalty and gross domestic product. It is thus telling us that if there is a unit increase in petroleum profit tax/royalty there is going to be about 39% increase in Gross Domestic Product (GDP). The Durbin-Watson result shows that the d value of 2.012531 which implies the acceptance of the null hypothesis of no autocorrelation in the residuals.

The Table 17 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.082758 and 0.065439 is greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 8% is greater than the c-value of 5%.

The Table 18 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.088014 and 0.081837 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 19 shows the Ramsey RESET test. The result reveals that the p-values of 0.345952 and

Table 16: Petroleum profit tax/royalty and gross domestic product

Variable	Coefficient	S.E.	t-statistic	Prob.
C	438898.5	678140.4	0.647209	0.5356
PPTR	0.387358	0.127454	3.039100	0.0060
R ²	0.684584	Mean dependent var		13892084
Adjusted R ²	0.468655	S.D. dependent var		7804502
S.E. of regression	1027811	Akaike info criterion		30.70062
Sum squared residual	8.45E+12	Schwarz criterion		30.76113
Log likelihood	-151.5031	F-statistic		18.9271
Durbin-Watson stat	2.012531	Prob. (F-statistic)		0.00427

Dependent variable: GDP; Method: Least squares; Date: 06/2/12; Time: 13:38; Sample: 2000 2009; Included observations: 30; E-view

Table 17: Breusch-Godfrey serial correlation LM test

F-statistic	2.290771	Probability	0.082758
Obs*R-squared	1.342963	Probability	0.065439

E-view

Table 18: White Heteroskedasticity test

F-statistic	3.508485	Probability	0.088014
Obs*R-squared	5.006053	Probability	0.081837

E-view

Table 19: Ramsey RESET test

F-statistic	1.273489	Probability	0.345952
Log likelihood ratio	3.538183	Probability	0.170488

E-view output

Table 20: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
GDP does not granger cause PPTR	29	4.82791	0.03261
PPTR does not granger cause GDP		0.48252	0.65813

Date: 06/2/12; Time: 13:41; Sample: 1980 2009; Lags: 1; E-view output

0.170488 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 20 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.03261 (3.2%) is less than the critical value of 0.05 (5%), this implies that we accept the null hypothesis of gross domestic product does not granger cause petroleum profit tax/royalty. Also probability of 0.65813 (66%) is greater than the critical value of 0.05 (5%), this implies we accept the alternative hypothesis that petroleum profit tax granger cause gross domestic product.

The Table 21 shows the regression result for petroleum profit tax and per capital income. The table

Table 21: Petroleum profit tax/royalty and per capital income

Variable	Coefficient	S.E.	t-statistic	Prob.
C	2885927	224330.5	12.86462	0.0000
PPTR	0.56604	0.179578	3.154061	0.0025
R ²	0.681625	Mean dependent var		1663484
Adjusted R ²	0.579328	S.D. dependent var		957557.4
S.E. of regression	137675.0	Akaike info criterion		26.68004
Sum squared residual	1.52E+11	Schwarz criterion		26.74055
Log likelihood	-131.4002	F-statistic		27.53733
Durbin-Watson stat	2.124761	Prob. (F-statistic)		0.000000

Dependent variable: PCI; Method: Least squares; Date: 06/2/12; Time: 13:55; Sample: 1980 2009; Included observations: 30; E-view output

reveals that the p-value of 0.025 (2.5%) is less than the critical value of 0.05 (5%). This implies that we fail to accept the null Hypothesis (H₀), hence we accept the Alternative Hypothesis (H_A) that there is a significant relationship between petroleum profit tax/royalties and per capital income of Nigeria. The R² (coefficient of determination) of 0.681625 shows that the variables combined determines about 68% of the per capital income of Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are statistically significant (F-Statistics = 27.53833; F-statistics Prob. = 0.00000). Using the coefficients as elasticity, the variable is positively signed meaning that there is a positive relationship between petroleum profit tax and per capital income. It is thus telling us that if there is a unit increase in oil revenue there is going to be about 56% increase in per capital income.

The Durbin-Watson statistics result shows that the d is 2.124761 which fall within the rejection of the null hypothesis that there is no apparent autocorrelation in the residuals.

The Table 22 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.604513 and 0.461955 is greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 8% is greater than the c-value of 5%.

The Table 23 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.5999952 and 0.507076 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

Table 22: Breusch-Godfrey serial correlation LM test

F-statistic	0.548019	Probability	0.604513
Obs*R-squared	1.544577	Probability	0.461955

E-view output

Table 23: White Heteroskedasticity test

F-statistic	0.550077	Probability	0.599952
Obs*R-squared	1.358189	Probability	0.507076

E-view

Table 24: Ramsey RESET test

F-statistic	1.542906	Probability	0.287980
Log likelihood ratio	4.149545	Probability	0.125585

E-view output

Table 25: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
PPTR does not granger cause PCI	29	2.26176	0.25180
PCI does not granger cause PPTR		6.79406	0.02872

Date: 04/27/12; Time: 13:59; Sample: 1980 2009; Lags: 1; E-view output

The Table 24 shows the Ramsey RESET test. The result reveals that the p-values of 0.287980 and 0.125585 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 25 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.25180 (25%) is greater than the critical value of 0.05 (5%), this implies that we reject the null hypothesis of petroleum profit tax/royalty does not granger cause per capita income and accept the alternative hypothesis that petroleum profit tax/royalty granger cause per capital income. Also probability of 0.02872 (2.9%) is less than the critical value of 0.05 (5%), hence we accept the null that per capital income does not granger cause petroleum profit tax/royalty.

The Table 26 shows the regression result for petroleum profit tax/royalty and inflation. The table reveals that the p-value of 0.4398 (44%) is greater than the critical value of 0.05 (5%). This implies that we accept the null Hypothesis (HO), hence we reject the Alternative Hypothesis (HA) that there is a no significant relationship between petroleum profit tax/royalty and inflation in Nigeria. The R² (coefficient

of determination) of 0.076306 shows that the variables combined determines about 7.6% of the inflation in Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are not statistically significant (F-Statistics = 0.660880; F-statistics Prob. = 0.43770). Using the coefficients as elasticity, the variable is negatively signed meaning that there is a negative relationship between petroleum profit tax/royalty and inflation.

The Durbin Watson statistics shows that 2.271431 falls within the acceptance of the null hypothesis of no autocorrelation in the residuals.

The Table 27 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.086379 and 0.077031 is greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 8% is greater than the c-value of 5%.

The Table 28 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.208898 and 0.164710 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 29 shows the Ramsey RESET test. The result reveals that the p-values of 0.229831 and 0.124582 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 30 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.04316 (4.3%) is less than the critical value of 0.05 (5%), this implies that we accept the null hypothesis of petroleum profit tax/royalty does not granger cause inflation. The probability of 0.03878 (3.9%) is less than 0.05(5%), this implies we accept the null hypothesis of inflation does not granger cause petroleum profit tax/royalty in Nigeria.

The Table 31 shows the regression result for licence fees and gross domestic product. The table

Table 26: Petroleum profit tax/royalty and inflation

Variable	Coefficient	S.E.	t-statistic	Prob.
C	2555918	1140351	2.241343	0.0553
PPTR	-70436.82	86643.96	-0.812945	0.4398
R-squared	0.076306	Mean dependent var		1663484
Adjusted R-squared	-0.039155	S.D. dependent var		957557.4
S.E. of regression	976124.1	Akaike info criterion		30.59742
Sum squared residual	7.62E+12	Schwarz criterion		30.65794
Log likelihood	-150.9871	F-statistic		0.660880
Durbin-Watson stat	2.271431	Prob. (F-statistic)		0.439770

Dependent variable: INF; Method: Least squares; Date: 06/2/12; Time: 14:01; Sample: 1980 2009; Included observations: 30; E-view

Table 27: Breusch-Godfrey serial correlation LM test

F-statistic	2.17628	Probability	0.086379
Obs*R-squared	1.145433	Probability	0.077031

E-view output

Table 28: White Heteroskedasticity test

F-statistic	1.974856	Probability	0.208898
Obs*R-squared	3.607138	Probability	0.164710

E-view

Table 29: Ramsey RESET test

F-statistic	3.142706	Probability	0.229831
Log likelihood ratio	4.509545	Probability	0.124582

E-view output

Table 30: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
PPTR does not granger cause INF	29	4.41884	0.04316
INF does not granger cause PPTR		5.16552	0.03878

Date: 06/2/12; Time: 14:04; Sample: 1980 2009; Lags: 1; E-view output

reveals that the p-value of 0.0072 (0.72%) is less than the critical value of 0.05 (5%). This implies that we fail to accept the null Hypothesis (HO), hence we accept the Alternative Hypothesis (HA) that there is a significant relationship between licence fees and gross domestic product of Nigeria. The R² (coefficient of determination) of 0.646181 shows that the variables combined determines about 65% of the GDP of Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are statistically significant (F-Statistics = 14.6453; F-statistics Prob. = 0.000002). Using the coefficients as elasticity, the variable is positively signed meaning that there is a positive relationship between oil revenue and gross domestic product. It is thus telling us that if there is a unit increase in oil revenue there is going to be about 22% increase in Gross Domestic Product (GDP).

The Durbain Watson test results show that the DW is 2.028526, which is about 2, this implies that there is no first order autocorrelation either positive or negative.

The Table 32 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.934306 and 0.894064 is greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 93% is greater than the c-value of 5%.

Table 31: Licence fee and gross domestic product

Variable	Coefficient	S.E.	t-statistic	Prob.
C	51556.39	27290.63	1.889161	0.0955
LF	0.220560	0.060734	3.00491	0.00720
R-squared	0.646181	Mean dependent var		337173.9
Adjusted R-squared	0.539453	S.D. dependent var		164958.8
S.E. of regression	40590.21	Akaike info criterion		24.23730
Sum squared residual	1.32E+10	Schwarz criterion		24.29781
Log likelihood	-119.1865	F-statistic		14.6453
Durbin-Watson stat	2.028526	Prob. (F-statistic)		0.000002

Dependent variable: GDP; Method: Least squares; Date: 06/2/12; Time: 14:38; Sample: 1980 2009; Included observations: 30; E-view output

The Table 33 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.429175 and 0.341819 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 34 shows the Ramsey RESET test. The result reveals that the p-values of 0.100679 and 0.071789 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 35 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.30715 (25%) is greater than the critical value of 0.05 (5%), this implies that we reject the null hypothesis of licence fees does not granger cause per capita income and accept the alternative hypothesis that licence fees granger cause per capital income. Also probability of 0.04507 (2.9%) is less than the critical value of 0.05 (5%), hence we accept the null that gross domestic product does not granger cause licence fees.

The Table 36 shows the regression result for licence fees and per capital income. The table reveals that the p-value of 0.0372 (3.7%) is less than the critical value of 0.05 (5%). This implies that we fail to accept the null Hypothesis (HO), hence we accept the Alternative Hypothesis (HA) that there is a significant relationship between licence fees and per capital income in Nigeria. The R² (coefficient of determination) of 0.530261 shows that the variables combined determines about 53% of the PCI of Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are statistically significant (F-Statistics = 15.19044; F-statistics Prob. = 0.004561). Using the coefficients as elasticity, the variable is positively signed meaning that there is a positive relationship between licence fees and per capital income. It is thus telling us that if there is a unit increase in oil revenue there is going to be about 38% increase in per capital income.

The Durbain Watson test results show that the DW is 2.160479 which is about 2, this implies that there is no first order autocorrelation either positive or negative.

Table 32: Breusch-Godfrey serial correlation LM test

F-statistic	0.068726	Probability	0.934306
Obs*R-squared	0.223957	Probability	0.894064

E-view output

Table 33: White Heteroskedasticity test

F-statistic	0.956866	Probability	0.429175
Obs*R-squared	2.146949	Probability	0.341819

E-view output

Table 34: Ramsey RESET test

F-statistic	3.448750	Probability	0.100679
Log likelihood ratio	7.652741	Probability	0.071789

E-view output

Table 35: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
LF does not granger cause GDP	29	1.79499	0.30715
GDP does not granger cause LE		10.3446	0.04507

Date: 04/27/12; Time: 14:42; Sample: 2000 2009; Lags: 1; E-view output

Table 36: Licence fee and per capita income

Variable	Coefficient	S.E.	t-statistic	Prob.
C	425775.3	75287.31	5.655339	0.0005
LE	0.381673	0.164021	2.32698	0.0372
R-squared	0.530261	Mean dependent var		337173.9
Adjusted R squared	0.421544	S.D. dependent var		164958.8
S.E. of regression	46204.97	Akaike info criterion		24.49642
Sum squared residual	1.71E+10	Schwarz criterion		24.55694
Log likelihood	-120.4821	F-statistic		16.7140
Durbin-Watson stat	2.160479	Prob. (F-statistic)		0.000007

Dependent variable: PCI; Method: Least squares; Date: 06/2/12; Time: 14:45; Sample: 1980 2009; Included observations: 30; E-view

Table 37: Breusch-Godfrey serial correlation LM test

F-statistic	0.604424	Probability	0.576575
Obs*R-squared	1.676896	Probability	0.432381

E-view output

Table 38: White Heteroskedasticity test

F-statistic	1.460169	Probability	0.295121
Obs*R-squared	2.943789	Probability	0.229490

E-view output

Table 39: Ramsey RESET test

F-statistic	1.105986	Probability	0.390042
Log likelihood ratio	3.138335	Probability	0.208218

E-view output

Table 40: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
LE does not granger cause PCI	28	0.39939	0.70180
PCI does not granger cause LE		7.48853	0.04817

Date: 04/27/12; Time: 14:50; Sample: 2000 2009; Lags: 2; E-view output

The Table 37 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.576575 and 0.432381 is

greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 57% is greater than the c-value of 5%.

The Table 38 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.295121 and 0.229490 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 39 shows the Ramsey RESET test. The result reveals that the p-values of 0.390042 and 0.208218 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 40 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.70180 (70%) is greater than the critical value of 0.05 (5%), this implies that we reject the null hypothesis of licence fees does not granger cause per capita income and accept the alternative hypothesis that licence fees granger cause per capital income. Also probability of 0.04817 (4.8%) is less than the critical value of 0.05(5%), hence we accept the null that per capital income does not granger cause licence fees.

The Table 41 shows the regression result for licence fees and inflation. The table reveals that the p-value of 0.7065 (701) is greater than the critical value of 0.05 (5%). This implies that we accept the null Hypothesis (H₀), hence we reject the Alternative Hypothesis (H_A) that there is a no significant relationship between licence fees and inflation in Nigeria. The R² (coefficient of determination) of 0.182690 shows that the variables combined determines about 18% of the inflation in Nigeria. The F statistics and its probability shows that the regression equation is properly formulated telling us that the relationship between the variables combined are not statistically significant (F-Statistics = 0.152368; F-statistics Prob. = 0.706470). Using the coefficients as elasticity, the variable is negatively signed meaning that there is a negative relationship between licence fees and inflation. The Durbin Watson test results show that the DW is 2.101285 which is about 2, this implies that there is no first order autocorrelation either positive or negative.

Table 41: Licence fee and inflation

Variable	Coefficient	S.E.	t-statistic	Prob.
C	13.71937	2.963771	4.629025	0.0017
LE	-3.11E-06	7.97E-06	-0.390344	0.7065
R-squared	0.182690	Mean dependent var		12.67000
Adjusted R-squared	0.103974	S.D. dependent var		3.755307
S.E. of regression	3.945707	Akaike info criterion		5.759990
Sum squared residual	124.5488	Schwarz criterion		5.820507
Log likelihood	-26.79995	F-statistic		0.152368
Durbin-Watson stat	2.101285	Prob. (F-statistic)		0.706470

Dependent variable: INF; Method: Least squares; Date: 06/2/12; Time: 14:51; Sample: 1980 2009; Included observations: 30; E-view output

Table 42: Breusch-Godfrey serial correlation LM test

F-statistic	0.461567	Probability	0.650947
Obs*R-squared	1.333405	Probability	0.513399

E-view

Table 43: White Heteroskedasticity test

F-statistic	4.078737	Probability	0.066934
Obs*R-squared	5.381816	Probability	0.067819

E-view

Table 44: Ramsey RESET test

F-statistic	2.307010	Probability	0.180640
Log likelihood ratio	5.704163	Probability	0.057724

E-view output

Table 45: Pairwise granger causality test

Null hypothesis	Obs	F-statistic	Probability
LE does not granger cause INF	28	1.11058	0.43554
INF does not granger cause LE		0.07947	0.92548

Date: 06/2/12; Time: 14:56; Sample: 2000 2009; Lags: 2; E-view

The Table 42 shows the Breusch-Godfrey Serial Correlation LM test. The result of the test reveals that the probability values of 0.650947 and 0.513399 is greater than the critical value of 0.05; this implies that the null hypothesis of no autocorrelation will be accepted because the p-value of about 65% is greater than the c-value of 5%.

The Durbin Watson test results show that the DW is 2.101285 which is about 2, this implies that there is no first order autocorrelation either positive or negative.

The Table 43 shows the White Heteroskedasticity test. The result reveals that the p-values of 0.066934 and 0.067819 are greater than the c-value of 0.05; this implies that we accept the null hypothesis of no evidence of heteroskedasticity, since the p-values are considerably in excess of the 0.05.

The Table 44 shows the Ramsey RESET test. The result reveals that the p-values of 0.180640 and 0.57724 are greater than the critical value of 0.05; this implies that there is apparent linearity in the regression equation and so it will be concluded that the model is appropriate.

The Table 45 shows the Pairwise Granger Causality tests for cause and effect relationship. The result reveals that the probability value of 0.04316 (4.3%) is less than the critical value of 0.05 (5%), this implies that we accept the null hypothesis of licence fees does not granger cause inflation. The probability of 0.92548 (93%) is greater than 0.05(5%), this also implies we accept the null hypothesis of inflation does not granger cause licence fees in Nigeria.

Discussion of findings: The results show that oil revenue has a positive and significant relationship with GDP and PCI, but a positive and no significant relationship with INF. Similarly, PPT/R has a positive and significant relationship with GDP and PCI, but no significant relationship with inflation. It was also found that LF has a positive and significant relationship between GDP and PCI, but no significant relationship

with INF, respectively which means that LF benefits few highly placed individuals to the exclusion of the majority of the people in the country. This result is consistent with the argument of Arnold (2001) that rent-seeking as actions of individuals and groups who spend resources to influence public policy in the hope of redistributing (transferring) income to themselves from others. McNutt (2002) therefore inquired that rent-seeking mirrors the implicit or hidden costs attributable to the creation of artificial scarcity initiated in many instances by government issued monopoly rights and include the subsequent expenditure of real resources by aspiring monopolists and citizens alike through bribery and the lobbying of government. According to McNutt (2002), the monopoly producers may have to expend real resources in order to secure the monopoly rent. This is the most useful way to think of rent-seeking in terms of the opportunity costs of the resources used to acquire the monopoly position. Additional resources are spent but no additional output is produced; indeed the consumer is further denied the output of the alternative use of the resources. Unfortunately, the opposite is the case in Nigerian situation. It is the small groups that constitute themselves as “Niger Delta Militants”, “Boko-haram”, OPC Group, MASSOB (Movement for the Actualization for the Sovereign State of Biafra) and oil cabal. These small groups wreck havoc in Nigeria in order to have political power, or compel government to grant them undeserved power or gain benefit illegally from oil revenue at the detriment of the majority. The objectives of these small interest groups which cut across the south, the north, the west and the east of Nigeria are more often than not parochial as they always advance their courses or grievances with arms and weapons or political maneuvering that favor them alone. The consequences of their actions have caused destruction of properties, lost of lives, untold hardship and left Nigerian investment environment risky as no rational investor would like to invest where there is social and political unrest. Consequently, the Nigerian economy is worst off by the activities of these small interest groups.

CONCLUDING REMARKS

This study examined rent seeking and group interest on petroleum income and the economy of Nigeria. The review of literature provides strong evidence that rent seeking and group interest on petroleum income affects the economy of Nigeria. Our analysis substantiated the results of earlier studies with regard to this linkage. The study highlights the issues of rent seeking and group interest on petroleum income and the Nigerian economy. The study reveals that rent seeking and group interest is a fundamental problem affecting the socio-economic and political development

of Nigeria with impunity by the political class, the mafia, militants, Boko Haram and oil cabals in order to share in the resource pie. It does not only penalize or disrupt productive activities, distorts the entire economy and hinders economic growth where significant percent of public funds and oil revenue are diverted into their personal accounts and private pockets. On the basis of this result, the paper concludes that for the huge amount of petroleum income in Nigeria to improve the living standards of the people, the citizens must show a high level of ethical behavior of integrity, honesty and accountability for the level of massive corruption in the country to be minimized for the benefit of petroleum income to be maximized in Nigeria.

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