Balancing the Interests of Parties in Contractual Relationship: How Fair is the Nigerian Petroleum Tax System to the State and the Oil Majors?

Adam Konto Kyari*

Department of Accounting, College of Business Administration, Imam Abulrahman Bin Faisal University, P. O. Box 1982, Dammam, Saudi Arabia. *Email: akkyari@iau.edu.sa

ABSTRACT

Securing a fair share of oil wealth to the host government at the same time providing adequate incentives to the oil majors are two objectives that underpin the design of a fair petroleum tax system. These objectives are competing rather than complementing and thus the need for compromise by both the government and the oil majors to achieve fair contractual relationship. This study investigates whether the Nigerian petroleum tax system has fairly captured the interests of both the government and the oil majors. Guided by the economic rent theory, the study revealed, among others, that the tax system was fair in securing the government its fair share of oil wealth. Similarly, the tax incentives to the oil majors were adequate in positively influencing their investment decisions. The study concludes that the Nigerian petroleum tax has fairly captured the interests of both the government and that of the oil majors.

Keywords: Petroleum, Fair, Tax
JEL Classifications: F21, H21

1. INTRODUCTION

The main characteristics of a country's petroleum tax system are largely determined by the circumstances, needs and objectives of that country (Otto and Cordes, 2002). Thus, designing a tax system suitable for sustaining the contractual relationship between the host government and the oil majors is a very challenging job that requires the recognition and consideration of many diverging interests (Otto and Cordes, 2002). In particular, the tax system must fairly capture the interests of both the host government and the oil majors. Although this basic requirement is arguably met by all tax policies, it assumes a different dimension in the case of petroleum taxation because of the peculiarity of the petroleum industry which, according to Boadway and Keen (2010), have made the design of petroleum taxation not only important but also challenging. For example, there is the issues of the presence

of information asymmetry which gives the oil majors superior knowledge about costs and income and opportunities available in other countries than the host government. This information disequilibrium makes the extraction of oil rent difficult for the host government since the oil majors are not willing to share their superior information with them (Boadway and Keen, 2010). Accordingly, there is high probability that the tax paid by the oil majors might be lower than what it should be (Osmundsen, 2005). Similarly, the industry is surrounded by uncertainty relating to project life from exploration to decommissioning. There are risks relating to quantity and quality of crude oil, volatility of output prices, and political instability. All of these factors influence the decisions of the oil majors on where to invest their funds.

In the light of the issues above, governments should balance their desire for short term revenue maximization with long term

objective of maximizing investments. While achieving appropriate balance is not an easy task as what is fair to the government might not correspond to what the oil majors view as fair (Agalliu, 2011), governments should give due consideration to certain factors that will align their interests and the interests of the oil majors. For example, governments should ensure that their tax systems are not far away from what is obtained in other countries. Equally, governments should structure their tax systems in such a way that the risks faced by the oil majors are reduced. In the same vein, in pursue of tax neutrality, governments should distinguish the petroleum sector from the other sectors. All of these, Daniel (2004) noted, will ensure that existing oil majors are retained and potential ones enticed.

The objective of this study is to investigate whether in the opinion of the stakeholders the Nigerian petroleum tax system has fairly captured the interests of both the government and the oil majors operating in Nigeria. In order to achieve this objective, the paper is divided into seven sections. The section that follows presents the literature review. This is followed the theoretical framework in section three. Section four discusses the methodology employed in the study while section five gives the analysis of data and results. The discussion of results in given in section six. Section seven concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Petroleum Taxation Defined

Petroleum taxation system denotes a mixture of taxation arrangements established by legislation and contractual agreement under which the government and the oil majors operate (Mazeel, 2010). In other words, petroleum fiscal system embodies set of rules and regulations established by the host government to determined how economic gains generated from the extraction of hydrocarbon are distributed (Križ, 2015). It is the main instrument through which wealth accruing from petroleum activities are shared between the host government (owners) and the oil majors (investors). Government use its petroleum tax system(s) to acquire for itself a fair share of the oil wealth while at the same time encourages the investors to optimize the economic recovery of hydrocarbon (Nakhle, 2008). Thus, in designing a fiscal system, the government is faced with two critical objectives of securing fair share of the oil revenue to itself and providing adequate incentives to the investors to encourage investments. As these objectives are competing rather than complementing, there is the need to strike a balance in the design process so that the interests of all parties are considered.

2.2. Objectives of Petroleum Taxation

Aside from the broad objective of petroleum taxation discussed above, the literature has identified other objectives of petroleum fiscal system. First, a petroleum tax system should not be distortionary in nature. In other words, it should be neutral for it to encourage investors to increase or sustain their investments in petroleum activities. Second, the tax system should provide adequate incentives to investors to contain their exploration

and production costs. This is very important because where the investors costs are high, the profit available for sharing between the government and the oil majors will be low which, in turn, might discourage the investors from increasing their investments. Third, the tax system should make adequate provision for the timing and stability of the revenues. Thus, depending on factors such as maturity of the oil sector, government may provide adequate incentives to the investors to ensure they receive revenue from tax within a desired timeframe while at the same time maintaining stability in the system. Fourth, the tax system should be made progressive. A progressive tax system has the benefit of increasing government petroleum take without negatively affecting the exploration and production incentives offered the investors.

A summary of the above objectives together other vital objectives is summarized by Goldsworthy and Zakharova (2010) in Table 1.

2.3. Alternative Petroleum Tax Systems

In practice, there are more petroleum fiscal systems in the world than there are countries (Kaiser and Pulsipher, 2004). This assertion is based on a number of factors. First, there is the existence of numerous versions of petroleum contracts at any given time. Second, producing nations employ more than one fiscal system at a time. Third, petroleum contracts are usually subject

Table 1: Objectives of petroleum taxation

Objectives	Description
Neutrality	Avoids investment and production distortions. The fiscal regime should not alter the order in which the projects are undertaken; nor should it change the speed of extraction, decisions about reinvestment, etc.
Capture of rents	Satisfies the neutrality criterion, enables the government to share in the upside of projects, and supports the government's role as owner of the oil
Stability and timing of revenue	Provides a stable revenue stream to government. Government favour stable and early revenue. However, the counterpart to this goal is a transfer of risk to the investor and delayed payback. This objective should be less of a concern when there are multiple oil fields at different stages of development
Progressivity and adaptability	Ensures progressivity. A progressive regime yields a rising government take as the project's profitability increases. A system that responds flexibly to changes in prices and costs might be perceived as more stable, lowering the investor's perceived risk of regime stability and avoiding the rent-seeking behaviour associated with discretionary changes. It also ensures a low tax burden on marginal projects
Administrative simplicity and enforceability	Support ease of administration. To the maximum extent possible, given other objectives, the regime should be transparent and simple to administer. It also be designed to avoid leakages through abusive transfer pricing and other tax
International competitiveness	Supports competitiveness. Adjusting for investor's perceptions of country risk, the regime should be competitive with those of other countries in order to attract investment

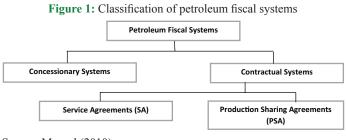Source: Goldsworthy and Zakharova, 2010

to negotiation and renegotiations due to changes in economic and political situations. However, despite this large number of fiscal systems, Mazeel (2010) and Križ (2015) broadly classified them into two broad categories as illustrated in the Figure 1.

Under the concessionary regime, the government grants the oil majors license which give them the right for exploration, development and production of hydrocarbon for a define period of time within a defined lease area. The ownership of the hydrocarbon belongs to the investors at the wellhead while that of the equipment and other installations passes to the government at the termination or expiration of the concession agreement. Decommissioning responsibility of oil platforms also rests with the oil majors. Over half of the oil producing countries, according to EY (2014), use the concessionary fiscal system.

The contractual system confers the ownership of the hydrocarbon resources on the government. The oil majors perform the role of contractors who develop and extract the hydrocarbon resources for a compensation. As a rule, the contract between the government and the oil majors depends on commercial quantity of the oil reserve and also the economic and political objectives of the host government. As can be seen in Figure 1, the contractual system comprises of two variants, namely production sharing agreement (PSA) and the service agreement (SA). Basically the same economic outcome is achieved under the two variants. The main difference, however, lies in the compensation received by the oil major. Under the PSA, the oil majors receive certain quantity of the crude produced as compensation to cover their costs and share of profit. On the other hand, in a SA the oil majors receive fees (instead of oil) as compensation for the services they provided (Table 2).

2.4. Hypothesis Development

One of the most important aspect of petroleum tax system is the government take (Swe and Emodi, 2018). It is defined as the "proportion of the host nation's income from investment project to the total project revenue within the valid period of the contract" (Luo and Yan, 2010:758). It measures how much the host government takes via upstream petroleum fiscal terms (Sen, 2014; Manaf et al., 2014). In designing a petroleum tax system, host governments most often attempt to maximize their share of the oil wealth (Agalliu, 2011). However, because of the conflict between the government and the oil majors on how risk and reward arising from oil extraction should be shared (Sunley et al., 2002), governments often make a trade-off of interests when choosing and designing a fiscal system (Tordo, 2007). Thus, in order to guarantee the receipt of their fair share of revenue, most host governments employ a mixture of tax and non-tax fiscal instruments. In the

case of Nigeria, Omorogbe (2005) broadly classified this mix as pre-production and post-production payments. The pre-production payments enable the government to generate revenue before the discovery of any oil through instruments such as fees, bonuses and rent, while the post-production payments are payments after commercial discovery and production of oil. Both the pre and post production payments are levied to enable the government raise as much revenue as possible. However, what matters is not the number of the instruments but the ability of each instrument to generate the desired fair share of revenue to the government. Based on these argument, the following hypothesis is formulated.

H_1: Government is getting a fair share of the revenue from petroleum extraction in Nigeria.

Government across oil producing states often attempt to design their petroleum fiscal policies with emphasis on short term revenue maximization (Agalliu, 2011). However, in order to achieve this objective, the government should create positive environment for the investors to increase their investments. One approach is by making changes to the fiscal terms to provide adequate incentives to the investors. (Agalliu et al., 2018). Many producing nations, in response to decline in exploration activities, have implemented changes to their fiscal terms. For example,

Table 2: Main characteristics of the fiscal systems

S. No.	Characteristics	Concession	Contractual
1.	Components	Fees, costs and taxes	Fees, cost recovery, production share, taxes
2.	Fees	A percentage of the total revenue, determined by a variable scale depending on the amount of production and the oil price	Opposed to the concession system, fee is not mandatory and generally is much lower
3.	Costs	Defined by the contract	Contractor takes part of the production costs for compensation, the contract is determined by the maximum limit. The rest of the production is shared between the state and investors, mostly based on variable scale
4.	Taxes	Define the corporate tax, which is effected by the country or special oil tax is applied. In the case of fees and expenses exceeding the total income, tax is not charged	Corporate tax can be applied (not necessarily), there is a possibility of payment by government or national oil companies on behalf of the investors

Source: Tordo (2007)

Figure 1: Classification of petroleum fiscal systems

Source: Mazeel (2010)

Angola, United States and United Kingdom took action to lower their government take, while Australia and Norway respectively conducted competitiveness review and stayed the course (Agalliu, 2018). Although these changes might be appropriate, there impact on investments in oil and gas exploration and production is not immediately measureable (Agalliu, 2018). In the case of Nigeria, the concern of the oil majors with the nation's petroleum industry bill that seeks to reform the Nigerian petroleum sector has cast a doubt on the investors perception of the sincerity of the reform. With the relocation of the oil majors to neighboring countries such as Angola and Ghana (Alike, 2011), it calls to question the adequacy of the Nigerian fiscal incentives to the investors. Based on this argument, following hypothesis is formulated.

H_2: Nigerian petroleum tax system has provided adequate incentives to the oil majors.

3. THEORETICAL FRAMEWORK

There are quite a number of theories (e.g. economic rent, agency theory, transaction cost theory) that underpin issues relating to equitable design of petroleum taxation. However, this study is guided by the economic rent theory as theoretical framework for the design of a petroleum tax system that balance the interests of the host government and the oil majors.

The term economic rent, like any other economic term, has been defined in many ways. In the words of Tollison (1982:594), it is the "excess return above normal levels that take place in a competitive market." Dickson (1999:1) defined economic rent as ". the difference between the revenues generated from resource extraction and the costs of extraction." Furthermore, Banfi et al. (2003. p. 2) defined economic rent as the "surplus return above the value of the capital, labour and other factors of production employed to exploit the resource."

There are quite a number of issues that justify the application of the economic rent in the petroleum industry. Tilton (2003) has identified three main issues. First, the raw material being extracted are owned by the government in most countries. As a result, government should be compensated above the more than the normal taxes paid in other sectors. Second, the resources exploited are non-renewable. Therefore, there is an opportunity cost for consuming the resources now. Third, some projects in the petroleum sector are regarded as bonanzas. For this reason, the public questioned the rational for equitable distribution of mining wealth.

Informed by the issues discussed above, one of the reasons for adopting the economic rent theory is that taxes based on economic rent do not discourage oil companies from undertaking petroleum activities as rent is not a prerequisite for the operation of business (Nakhle, 2008). This suggests that government's objective of fair share of revenue might be achieved without the interests of investors being jeopardised. Similarly, a petroleum tax system designed to capture economic rent always tends to be flexible. As economic rent increases, government take also increases and vice versa (Nakhle, 2008). Third, most taxes distort the economy

but taxing economic rent shifts taxes off all factors of production leading to the avoidance of many distortions which in turn stimulates growth and employment (Otto et al., 2006).

4. METHODOLOGY

This study employs the use of qualitative research method because it measures the perception of people on equity in the design of petroleum tax system. Equally, since the findings of the study cannot be generalise across oil producing states due to peculiar characteristics of each state, the choice of qualitative method appears appropriate. The population of the study comprises of petroleum taxation experts from all the oil majors, petroleum government establishments, and representatives of the general public. Having considered the purpose of the research and the availability of time and resources (Patton, 2002), a sample of 120 experts was judgmentally drawn from the population. The use of judgmental sampling was employed because it allows for the determination of suitable sample size (Sandelowski, 1993) with extreme level of precision (Thietart, 2001).

Data for the study was collected via a questionnaire. Consistent with Blaxter et al. (2010), the questionnaire was subjected to a pilot test with some respondents across the group of experts. In the same vein, a reliability and validity tests on the questionnaire were conducted to reduce the likely threats to the credibility of the findings of the study (Golafshani, 2003). The questionnaires were personally administered to all the 120 experts sampled. 106 were returned completed and out of which 4 were excluded for being wrongly completed. The remaining 101 questionnaires represents 81% of the total administered questionnaires, which suggests that the questionnaire is well developed (Walonick, 2010).

5. DATA ANALYSIS AND RESULTS

5.1. Descriptive Statistics

Tables 3 and 4 present respectively the descriptive statistics of the respondents' views on the effectiveness of Nigeria's petroleum tax instruments and tax incentives. Table 3 presents the respondents' views on the effectiveness of the instruments used by the Nigerian government in ensuring that a fair share of the oil wealth is accrued to it. From Table 3, 71% of the total respondents agreed that production sharing was effectively contributing to government's fair share of revenue, while 17% were neutral and 12% in disagreement. With a mean of 3.8 and median of 4.0, on average, the respondents agreed that production sharing was effective in contributing toward generating fair share of revenue to the government. This trend is consistent to all the instruments except for participation where more than 70% of the respondents disagreed that participation was effective in raising fair share of revenue to the government.

Table 4 presents the respondents view on the influence of tax incentives on the investment decisions of the oil majors. The respondents were asked on the influence of five major incentives on the oil majors investment decisions. From Table 4, 84% of the respondents agreed that investment tax credit was positively influencing the oil majors' investment decisions. On the other

Table 3: Effectiveness of tax instruments in generating government fair share of revenue

S. No.	Questions	M	Md	Std	Responses					
					SD (%)	D (%)	N (%)	A (%)	SA (%)	TR (%)
1	Production sharing	3.8	4.0	1.1	6 (5.9)	6 (5.9)	17 (16.8)	43 (42.6)	29 (28.7)	101 (100)
2	Participation	2.4	2.0	1.1	17 (16.8)	54 (53.5)	8 (7.9)	17 (16.8)	5 (5.0%)	101 (100)
3	Income taxes	3.8	4.0	1.1	5 (5.0)	10 (9.9)	12 (11.9)	51 (50.5)	23 (22.3)	101 (100)
4	Royalties	4.0	4.0	1.0	4 (4.0)	5 (5.0)	13 (12.9)	47 (46.5)	32 (31.7)	101 (100)
5	Bonuses/fees	3.8	4.0	0.9	1 (1.0)	10 (9.9)	19 (18.8)	53 (52.5)	18 (17.8)	101 (100)

Survey Result, 2019. Where, M: Mean, Md: Median, Std: Standard deviation, SD: Strongly disagree, D: Agree, N: Neutral, A: Agree, SA: Strongly agree, TR: Total responses

Table 4: Influence of tax incentives on oil major's investment decisions

S. No.	Questions	M	Md	Std	Responses					
					SD (%)	D (%)	N (%)	A (%)	SA (%)	TR (%)
1	Investment tax credit	3.9	4.0	1.0	2 (2.0)	6 (5.9)	8 (7.9)	68 (67.3)	17 (16.8)	101 (100)
2	Accelerated depreciation	3.6	4.0	1.0	6 (5.9)	8 (7.9)	17 (16.8)	61 (60.4)	9 (8.9)	101 (100)
3	Guaranteed profit margins	3.8	4.0	0.8	2 (2.0)	7 (6.9)	12 (11.9)	72 (71.3)	8 (7.9)	101 (100)
4	New projects' costs offset on the income of ongoing projects	3.7	4.0	0.9	5 (5.0)	6 (5.9)	10 (9.9)	70 (69.3)	10 (9.9)	101 (100)
5	Compensation for any increase in risks	3.8	4.0	0.9	4 (4.0)	6 (5.9)	15 (14.9)	62 (61.4)	14 (13.9)	101 (100)

Survey result, 2019. Where, M: Mean, Md: Median, Sd: Standard deviation, SD: Strongly disagree, D: Disagree, N: Neutral, A: Agree, SA: Strongly agree, TR: Total responses

hand, only 8% of the respondents disagreed. With a mean of 3.9 and median of 4.0, the respondents were on agreement on average. Similarly, 69, 79%, 79% and 75% of the respondents respectively agreed that accelerated depreciation, guaranteed profit margin, new projects' costs offset and compensation for risks had positive influence on the oil majors' investment decisions. With mean of score of more than 3.6 and above and median score of 4.0 throughout, the respondents have confirmed that incentives given to the oil majors have positively impacted on their investment decisions.

5.2. Kruskal–Wallis and *Post-hoc* Pairwise Tests

A Kruskal–Wallis test was carried out in order to determine whether there are any differences in response across the three groups of experts (i.e. Government, oil majors and general public). The test results for the effectiveness of the tax instruments and the influence of the incentive packages.

5.2.1. Test of hypothesis H_1

Tables 5 and 6 present respectively the Kruskal–Wallis and *post-hoc* pairwise test results for used to test hypothesis H_1. From Table 5, the Kruskal–Wallis test results show P = 0.015, 0.017, 0.002 and 0.005 respectively for production sharing, participation, income taxes and royalties. This indicate that the relationship between the groups for these instruments were significant, meaning their differences in the distributions of their responses for these instruments. In order to determine where the differences between groups lie, *post-hoc* pairwise comparisons test were conducted and the results are presented in Table 6.

5.2.2. Test of hypothesis H_2

Table 7 presents the Kruskal–Wallis test results for testing hypothesis H_2, that is the distribution of responses across the expert groups regarding the influence of tax incentives on the investment decisions of the oil majors. From Tale 7, the test results show significant relationship with P = 0.000, 0.001 and 0.003 respectively for investment tax credits, guaranteed profit

Table 5: Kruskal–Wallis test statistics for the effectiveness of tax instruments in generating fair share of government revenue

S. No.	Null hypothesis	Chi-square	Significance
1	The distribution to the effectiveness of production sharing in generating government fair share of revenue is the same across all the groups	8.382	0.015
2	The distribution to the effectiveness of participation in generating government fair share of revenue is the same across all the groups	9.920	0.017
3	The distribution to the effectiveness of income taxes in generating government fair share of revenue is the same across all the groups	12.237	0.002
4	The distribution to the effectiveness of royalties in generating government fair share of revenue is the same across all the groups	8.426	0.015
5	The distribution to the effectiveness of bonuses and fess in generating government fair share of revenue is the same across all the groups	3.179	0.204

Significance level = 0.05 (5%)

margins and cost offset. This indicates that the expert groups differed in distribution of their responses to these variables. *Post-hoc* pairwise comparisons tests were conducted to determine where the differences lie. The results are presented in Table 8.

6. DISCUSSION OF FINDINGS

The results in section 6 revealed a number of findings. First, with the exception of participation, the study revealed that the expert groups held different views regarding the effectiveness of the mix of instruments employed by the government in generating a fair share of revenue. This differences, as indicated by $P < 0.05$, are presented in Table 5.

From Table 6, the general public, with a mean rank of 43.89, disagreed that production sharing contract was effective in generating fair share of revenue to the government while the oil majors agreed having a mean rank of 63.00. The general public's disagreement might not be unconnected with the dismay being expressed by Nigerian on revenue losses traced to production sharing contracts. In 2015, Nigeria's Minister of Petroleum drew the country's attention to revenue losses valued at $21 billion traced to production sharing contracts (Sahara Reporters, 2018). Since then, Nigerians have been calling on the government to review the production sharing contracts entered into in 1993. Notwithstanding the public outcry, production sharing contracts remain the most prepared fiscal regime by producing nations as it gives the state greater benefit of the oil wealth (Abraham, 2017). This, perhaps, underscores the agreement by the oil majors.

Similarly, the government differed with the general public in terms of the effectiveness of participation. As the mean ranks indicate, the government disagreed (40.82) that participation was effective in generating fair share of revenue to the government. This view is consistent with Saidu and Sadiq (2014) findings that government joint venture agreements with the oil majors have led to underpayments of petroleum profit taxes and royalties by the oil majors. Equally, the decision of the Nigerian government to relinquished it stakes in its joint venture contract with oil majors is a good ground to justify the government's view. The general public, on the other hand, agreed (60.63) that participation was effective. This view might not be correct as evidence have shown that government participation in a joint oil exploration with the oil majors is not popular among producing nations (Abraham, 2017).

Furthermore, the government differed with both the oil majors and the general public in relation to income taxes. While the government agreed that income taxes were effective, both the oil majors and the general public disagreed. The recent directive by the Nigerian government ordering the oil majors operating in the country to pay to it the sum of $20 billion as taxes (Olawoyin, 2019) confirms the position of the government that income taxes were effective in raising a fair share of revenue to the government. What might have influenced the perception of the oil majors and general public could be the reported revenue figures from income taxes which in most cases were under-reported as discussed above.

In terms of royalties, the general public and the government differed by respectively disagreeing and agreeing that royalties were effective in extracting a fair share oil wealth to the government. The general public's perception might be due to government's lack of access to the cost data of the oil majors which makes it administratively difficult to collect royalties especially if the royalties were to be collected well by well which allows deduction for well costs (Mintz and Chen, 2012). While this perception might be valid, it is a well-known fact that the use of royalties is an approach appropriate for collecting rents with no or minimal economic distortions (Mintz and Chen, 2012).

Second, it is also the finding of this study that the experts also differed on the effectiveness of three of the incentives surveyed as presented in Table 7. *Post-hoc* pairwise tests were conducted and the specific areas of differences are presented in Table 8. From Table 8, both the government and the general public differed with the oil majors on the effectiveness of investment tax credits. With mean ranks of 42.79 and 45.30, the government and the general public disagreed that investment tax credits were effective in influencing the oil majors' investment decisions. This disagreement might not be true because evidence have shown that petroleum tax incentives are significant factors in influencing the investment decisions of the oil majors and in particular investment tax credits have the effect of directly reducing the taxes to be paid by the oil majors (Allen and Wells, 2001).

Similarly, the government differed with the general public on guaranteed profit margins with the government disagreeing and the general public agreeing. Guaranteed profit margin is an assurance to the oil majors that they will not operate at a loss at any particular operational conditions. This arguably one of the factors that encourage oil majors to increase their investments in host countries and hence the agreement of the general public.

In terms of offsetting the costs of new projects against the income of ongoing projects, the general public and the government differed with the oil majors. Offsetting the costs of new projects against the income of ongoing projects is arguably an incentive that the oil majors cannot contemplate. By offsetting the costs on the ongoing projects, the income available for tax on those projects will be reduced which in reduces the income tax payable by the oil majors. Not only that, it is also likely that no tax will be paid on ongoing projects if the offset absorbed the total income of the ongoing project. Accordingly, the view that costs offset was effective in influencing the oil majors' investment decisions seems appropriate.

Table 6: *Post-hoc* pairwise comparisons test for the effectiveness of tax instruments in generating fair share of government revenue

S. No.	Variable	Difference	Mean rank	Adj. significance
1	Production sharing	General public-oil majors	43.89-63.00	0.017
2	Participation	Government-general public	40.82-60.63	0.005
3	Income taxes	Oil majors-government	41.58-63.43	0.003
		General public-government	46.29-63.43	0.023
4	Royalties	General public-government	40.47-58.60	0.015

Significance level = 0.05

Table 7: Kruskal–Wallis test statistics for the influence of tax incentives on the investment decisions of the oil majors

S. No.	Null hypothesis	Chi-square	Significance
1	The distribution to the effectiveness of investment tax credits in influencing the investment decisions of the oil majors is the same across all the groups	19.820	0.000
2	The distribution to the effectiveness of accelerated depreciation in influencing the investment decisions of the oil majors is the same across all the groups	0.710	0.701
3	The distribution to the effectiveness of guaranteed profit margins in influencing the investment decisions of the oil majors is the same across all the groups	13.604	0.001
4	The distribution to the effectiveness of costs offset in influencing the investment decisions of the oil majors is the same across all the groups	11.361	0.003
5	The distribution to the effectiveness of compensation for risks in influencing the investment decisions of the oil majors is the same across all the groups	2.798	0.247

Significance level = 0.05

Table 8: *Post-hoc* pairwise comparisons test for the influence of tax incentives on the investment decisions of the oil majors

S. No.	Variable	Difference	Mean rank	Adj. significance
1	Investments tax credits	Government - oil majors	42.79-67.50	0.000
		General public - oil majors	45.30-67.50	0.001
2	Guaranteed profit margins	Government - general public	41.14-61.57	0.001
3	Costs offset	General public - oil majors	44.30-63.17	0.005
		Government - oil majors	47.38-63.17	0.023

Significance level = 0.05 (5%)

7. CONCLUSION

The study investigated whether in the opinion of experts the Nigerian petroleum tax system has captured the interests of both the government and the oil majors. Based on the empirical results discussed in section 6 above, the study concludes as follows.

First, it is the conclusion of this study that the mix of tax instruments used by the Nigeria government were effective in generating fair share of oil wealth to the government. In spite of the differences across the expert groups, it is clear from the analysis in section 6 that the views of the groups agreeing were stronger than those disagreeing. This conclusion is justified by the increase in Nigeria's oil revenue over the years. For example, using the same mix of instruments, Nigeria saw its oil revenue raised by 30% from $26 billion in 2016 to $34 billion in 2017 and for the seven to July 2018 Nigeria's oil export revenue has hit $26 billion (EIA, 2018). Had the instruments not being effective, it would have been difficult to raise these amounts considering production restrictions imposed by the Organisation of Petroleum Exporting Countries on its members.

Second, the study concludes that all the incentives surveyed were effective in influencing the investment decisions of the oil majors. The views expressed by the groups disagreeing the effectiveness of some of the incentives, particularly guaranteed profit margins and costs offset, were not convincing. Perhaps their disagreements might be related to the fall in foreign direct investments (FDI) into the Nigerian petroleum sector (Nnodim, 2019). However, evidence have shown that such fall in FDI were due to factors such as inadequacy of infrastructure and the growing rate of insecurity in the oil rich Niger Delta region of the county (Ajala,

2016). Petroleum tax incentives, as discussed above in section 6, remain important factor in influencing the investment decisions of oil majors operating in Nigeria.

It is also the conclusion of this study that the Nigerian petroleum tax system is fair to both the government and the oil majors. This conclusion is underpinned by the two conclusions above which when put together have met the requirement of a fair tax system. As discussed in section 2.2, a fair tax system must capture the interests of the government and oil majors by securing to the government a fair share of the oil wealth and proving the oil majors with adequate incentives. As the two conclusions above have met these two competing design objectives, the conclusion that the Nigerian petroleum tax system is fair is appropriate.

While the above conclusions have met the objective of this study, it is recommended that a further study be undertaken to investigate possible ways, other than mix of tax instruments, that could result in government getting fair share of the nation's oil wealth. Similarly, a further study is also recommended to investigate factors other than incentives that could influence the investment decisions of the oil majors.

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