AN EXAMINATION OF OIL AND GAS TAXATION AND REVENUE MANAGEMENT IN GHANA

by

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ABDALLAH ALI-NAKYEA

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SUMMARY

Ghana's discovery of oil and gas in commercial quantities, in 2007, triggered a sense of optimism about the prospects for accelerated development in the country. However, pessimism about oil and gas revenues set in when the country ran into a liquidity crisis and, in 2014, it had to implore the International Monetary Fund (IMF) for assistance. This development has spurred research interest into the taxation and management of revenue accruing from the oil and gas sector. However, to date most research on oil and gas taxation and revenues has been on economic development, with a dearth of focused studies in oil and gas taxation and revenue management from a legal perspective. This study fills this knowledge gap through an examination of oil and gas taxation and revenue management in Ghana.

This thesis is qualitative by design, although quantitative data was used to highlight the revenue performance indicators from the oil and gas sector. The tax and revenue management policies and regulations of a number of oil-rich countries were briefly reviewed and compared to Ghana's oil and gas taxation and revenue management legislation. For comparative purposes, relevant literature, fiscal legislation and data from four oil and gas producing countries - Nigeria, Norway, Canada and the United Kingdom – were also examined in some detail.

A key finding is the noncompliance of the Government of Ghana with the provisions in the Petroleum Revenue Management Act (PRMA), which potentially makes the occurrence of the "oil curse" in Ghana more likely. A major concern in the findings of this research shows differences in fiscal regime in Ghana relative to the regimes in the countries used for comparative purposes (i.e. the United Kingdom, Norway, Canada and Nigeria). Ghana's oil and gas tax legislation is currently contained in different laws. This constitutes an unnecessary complication.

The research recommends that the Government of Ghana put in place adequate measures, underpinned by appropriate legislation, to enable the retention and investment of its share of oil revenues, and also deal with oil revenue volatility. The Government of Ghana should design a long-term fiscal strategy, based upon high quality, long-term economic and revenue projections, which includes a sensitivity analysis. I also recommend that watchdog entities in the oil and gas environment, such as the Public Interest and Accountability Committee (PIAC) and the Africa Centre for Energy Policy (ACEP), spearhead calls for amendments to the PRMA. These amendments should be in the areas of accounting for the oil and gas revenues,

setting up safeguards for the use of the revenues accrued from the oil and gas sector, as well as adhering strictly to the priority areas determined for the allocation of the petroleum revenues. This will allow for robust provisions and safety nets to be enshrined in oil and gas taxation and revenue management laws, to safeguard the revenue inflows for development. This will also constitute a check on the Government of Ghana against increasing its spending of petroleum revenues meant to contribute to the Ghana Stabilization Fund.

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ABFA	Annual Budget Funding Amount
ACE	Allowance for Corporate Equity
ACEP	Africa Centre for Energy Policy
AOE	Additional Oil Entitlement
APA	Advanced Pricing Agreements
ATI	Accountability and Transparency Initiatives
BEPS	Base Erosion and Profit Shifting
BIT	Bilateral International Treaties
BPR	Binding Private Ruling
BT	Brown Tax
CAPRI	Carried and Participating Interest
CEO	Chief Executive Officer
CEPA	Centre for Policy Analysis
CREFAA	Convention on the Recognition and Enforcement of Foreign Arbitral Awards
CSPOG	Civil Society Platform for Oil and Gas
CSR	Corporate Social Responsibility
DTRD	Domestic Tax Revenue Division
EITI	Extractive Industries Transparency Initiative
FIRS	Federal Inland Revenue Service
FPSO	Floating Production Storage and Offloading
GAAR	General Anti-Avoidance Rules
GDP	Gross Domestic Product
GHEITI	Ghana Extractive Industry Transparency Initiative
GHF	Ghana Heritage Fund
GNPC	Ghana National Petroleum Corporation
GPF	Ghana Petroleum Funds
GPWF	Ghana Petroleum Wealth Fund
GRA	Ghana Revenue Authority
GSF	Ghana Stabilization Fund
IAC	Investment Advisory Committee

ICSID	International Centre for Settlement of Investment Disputes
IMF	International Monetary Fund
IOC	International Oil Companies
IPA	International Petroleum Agreement
KPCS	Kimberley Process Certification Scheme
LI	Legislative Instrument
LTO	Large Taxpayer Office
MMDAs	Metropolitan, Municipal, and District Assemblies
MNE	Multinational Enterprise
MOF	Ministry of Finance
NGO	Non-Governmental Organization
NNPC	Nigerian National Petroleum Company
NOC	National Oil Company
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
PHF	Petroleum Holding Fund
PIAC	Public Interest Accountability Committee
PNDCL	Provisional National Defence Council Law
PPTA	Petroleum Profits Tax Act
PRRT	Petroleum Resource Rent Tax
PRT	Petroleum Revenue Tax
PSA	Petroleum Sharing Agreement
PSAs	Production Sharing Agreements
PSC	Production Sharing Contract
PWYP	Publish What You Pay
RRT	Resource Rent Tax
SARS	South African Revenue Service
SEC	Securities Exchange Commission
SMCD	Supreme Military Council Decree
SPT	Special Petroleum Tax

TIN	Taxpayer Identification Number
UK	United Kingdom
US	United States
VAT	Value Added Tax
VRPO	VAT Relief Purchase Order

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

More than 30 per cent of the world's known mineral reserves are found in Africa. However, less than 5 per cent of the total global mineral exploration and extraction budget is invested on this continent (DLA Piper, 2012). It is expected that with such mineral endowment, resource-rich countries in Africa would invest the revenues derived from the exploitation of the reserves in growth promotion and development-oriented programmes, to improve the quality of life of their citizens. According to Diamond and Mosbacher (2013), Equatorial Guinea, a resource-rich African country was wealthier in terms of gross domestic product (GDP) *per capita* than France, Japan and the United Kingdom in 2011. This wealth, however, reflects little on the living standards of the country's population as the authors further state that infant mortality rates have barely budged since oil was first discovered. Given this reality, Equatorial Guinea is classified as a textbook example of the so-called resource curse, a global phenomenon in which vast natural resource wealth leads to rapacious corruption, decimated governance and chronic underdevelopment (Diamond and Mosbacher, 2013).

Some African countries, however, have managed their natural resources efficiently and this has been to the benefit of their citizens. A good example is Botswana, a country that prudently manages its diamond industry and obtains meaningful returns (African Economic Outlook, 2011; Hove and Gamariel, 2017; African Economic Outlook, 2018). Fosu (2013a) observes that Botswana set up a reserve fund to optimize the inter-temporal allocation of its natural resources. Botswana's success story exemplifies the proposition that a country with meagre domestic savings and limited sources for effective taxation needs prudent management of its natural resources to finance diversification efforts. Ghana can thus learn valuable lessons from Botswana and possibly apply these lessons in its oil and gas sector. Botswana's success story also exemplifies what a good legislative framework, as well as institutional reforms, can do to secure revenue from natural resources for development and economic growth. The sharp disparities in the contribution of natural resources to the economies of many sub-Saharan countries could also be the result of structural gaps that exist in some countries (World Bank, 2013).

It is a paradox that many of Africa's resource-rich countries have very poor rankings on the Human Development Index - HDI (UNDP, 2012). The HDI measures a country's overall achievement in its social and economic dimensions. The social and economic dimensions of a country are based on the health of people, the level of educational attainment and the standard of living. The HDI is thus a composite statistic of life expectancy, education, and *per capita* income indicators. It is used to rank countries into four tiers of human development (Humphreys, Sachs and Stiglitz, 2007). There is a variety of reasons for high child mortality in African countries, such as malaria. Norway, a developed country and also a major oil producer, is at the top of the HDI, whereas Angola and Equatorial Guinea, two significant oil producing countries in Africa, are amongst the countries with the world's highest maternal and child mortality rates. The Democratic Republic of Congo is also amongst the countries at the bottom of the index on almost all fronts. Niger, the largest exporter of uranium globally, is also at the bottom of the index (Humphreys *et al.*, 2007; Keen and McPherson, 2010).

Similarly, resource-rich countries in Africa continue to perform abysmally as reported in the Corruption Perception Index (Transparency International, 2017) and the Doing Business Index (World Bank, 2017). According to the Corruption Perception Index, Norway is one of the least corrupt countries (ranked third globally), whereas its counterparts in Africa, with the exception of Botswana, are highly corrupt. This includes Ghana that did not obtain the average ranking of 50. In addition, the ease-of-doing-business indicator measures factors that ensure business facilitation or those that prevent businesses from starting, operating and expanding. The most recent indicator affirms that in most resource-rich countries, the constraints from forming, operating and expanding businesses are eminent, compared to Norway and Botswana. These statistics are an important guide for Ghana to ensure that the country emulates oil countries like Norway which perform well, and should not slip into the zone of poorly performing countries such as Equatorial Guinea and the Democratic Republic of Congo.

Fosu (2013b) observes that institutional reforms that create good governance, albeit backed by good laws, impact on economic growth, as demonstrated by the success story of Botswana. When Ghana discovered oil and gas resources in commercial quantities in 2007, it led to high expectations that the country would break from its chronic fiscal and external accounts deficits (Fosu, 2017). The share of petroleum receipts in domestic revenues increased from 5.9 per cent in 2011 to 11.6 per cent in 2014, an indication that the discovery of petroleum contributed to the growth in the share of domestic revenue as a proportion of GDP. I therefore examine

whether Ghana needs to review and amend its laws on taxation of the oil and gas sector, as well as the management of the expected revenues from these sources. I also review institutional reforms that may improve governance of the oil and gas sector in Ghana.

Multinational enterprises generally draw up their business plans and conduct thorough feasibility studies to determine the expected returns from their investment within a given period, before undertaking an investment in natural resources. Since corporate income taxes are only paid after profits are declared, corporate income tax constitutes a *post facto* cost rather than a *pre facto* cost. Thus, the impact of corporate income tax is realised only after positive returns are projected, factoring in an investor's cash flows in relation to an investment decision on a potential project. This is because the net investment returns are positive, even after computing the expected after-tax profits. This is where the Government of Ghana needs to negotiate petroleum agreements with international oil companies, to secure the government's royalties from the oil and gas deposits to shore up domestic revenue mobilization.

Although Ghana has enacted various fiscal laws to govern and regulate taxation in the oil and gas sector, this has not yielded the anticipated revenue. This begs the question: does the current tax regime in Ghana yield adequate revenue? An investigation into this matter is critical. This study addresses this question, to identify the appropriate and modern tax regimes in the oil and gas sector, especially the experiences and lessons that may have been learnt from the extractive sector globally.

Many jurisdictions, including Equatorial Guinea, Nigeria, Timor-Leste and Peru, impose royalty and corporate income tax on their natural resource sector, but others, such as Chile, Mexico, Sweden and Zimbabwe, use ownership rights. In countries that impose royalty and corporate income tax, policy makers are interested in determining whether the computational methods are competitive and efficient (Otto *et al.*, 2006). Collier (2010) observes that a royalty is the best option if information is sufficiently asymmetric, that is, the investor has more material information of resource prices as well as costs of production than the resource-rich host country. Governments of host countries, for example Ghana, are unable to incur expenditure to either monitor investors' costs or the enhanced profits of investors, hence making royalty taxes more preferred. As Nakhle (2010) observes, a royalty is relatively simple to understand and administer; it is predictable, as it is based on output. It also provides an early revenue stream to the host government, as soon as production starts.

Ghana's tax system is unstable and internally incoherent in the areas of tax avoidance and corruption. For example, Section 6 of the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188), which was the law in operation until 2015, provides that the corporate tax rate of a petroleum operator shall be 50 per cent, or as stated in the petroleum agreement. Yet, the Model Petroleum Agreement on which most of the existing petroleum agreements is based, provides for a corporate tax rate of 35 per cent. This leaves me to question whether the Government of Ghana could have rationalised the corporate tax rate of 50 per cent in the tax legislation with the option to vary it to 35 per cent? Furthermore, the Income Tax Act, 2015 (Act 896), which has been in operation since 2016, provides for a corporate tax rate of 35 per cent for the oil and gas sector, with the same rate applying in the petroleum agreements. This is what investors in the oil and gas sector indeed prefer because the corporate tax rate in the Income Tax Act, 2015 (Act 896) ensures certainty in the tax laws with regard to tax rates and assessment procedures.

It is important to ensure certainty in Ghana's tax regime in the oil and gas sector, to protect revenue inflows. This can be achieved if the legislator avoids granting discretionary powers to revenue officers of the Ghana Revenue Authority (GRA) in the laws governing the oil and gas sector. Ghana may learn valuable lessons from how the oil and gas sector in other oil producing countries are taxed and managed. These lessons may be instructive for tax policy and revenue management in the oil and gas sector in Ghana.

To this end, this thesis contributes to existing literature that bridges the literature gap by analysing legislation on the taxation and management of oil and gas revenue in Ghana. This proffers solutions to problems hitherto unconsidered in making the legislative framework for Ghana's petroleum industry adequate. The study also compares the fiscal regime for the oil and gas sector in Ghana with those of the United Kingdom, Canada, Norway and Nigeria. This research further examines and shows that a reform and revision of Ghana's tax regime for the oil and gas sector could be guided by lessons from the countries studied.

The outcome of this study will assist policy makers not only in Ghana, but also in other economies in the West African region, as well as developing countries elsewhere that are endowed with oil and gas deposits. The study will also provide impetus for further research into the effectiveness of tax legislation in revenue mobilization in the oil and gas sector.

1.2 STATEMENT OF THE PROBLEM

Resource wealth is not new to Ghana. As far back as the colonial period, the country has depended heavily on proceeds from the export of natural resources such as gold, timber, industrial diamonds, bauxite, manganese, fish, rubber, hydropower, petroleum, silver, salt and limestone, amongst others (Barry, 1995; United States International Trade Commission, 2002; Kumah-Abiwu, 2017). The minerals component of exports accounts for about 35 per cent of the total revenue mobilized by the government (Buatsi, 2002; Bank of Ghana, 2017). The revenue sourced from the mineral industry includes the tax charged on employees working for the companies, corporate taxes from companies, as well as through the payment of mineral royalties (GHEITI, 2018).

In 2007, the country joined the ranks of oil-rich countries in the Gulf of Guinea, when oil exploration companies discovered proven oil reserves in commercial quantities in the Jubilee Field, off the Cape Three Points along its western coast. Ghana's oil reserves, which are estimated to be between 600 million and 1.8 billion barrels, have been adjudged "the largest discovery in West Africa in more than a decade" (Gary, 2010; Skaten, 2018). With Ghana's production of crude oil expected to reach half a million barrels by 2024, for a country of about 30.42 million people with a *per capita* GDP of about USD 1,950 in the first quarter of 2019, expected to be USD2,100 in 2020, they are substantial (Ministry of Finance, 2019). Characteristic of oil from the Gulf of Guinea region, its reserves are of high quality - it is light and sweet. Crude oils of this type attract a wide range of refiners and can be expected to command competitive prices in the market (Tullow PLC, 2010).

Thus, the announcement of the discovery of oil in commercial quantities in Ghana in 2007 heightened expectations of the government and people of Ghana that the country was going to attain increased economic growth and development (CEPA, 2012). This optimism was based on the expectation that taxation on oil and gas would yield revenues in considerable amounts. This expectation was also corroborated by the International Monetary Fund (IMF). The IMF estimated that Ghana would earn about USD 20 billion between 2012 and 2030 (World Bank, 2009; Gary, 2010). According to CEPA (2012), the estimated quantities and exports of oil from Ghana's Jubilee Field were expected to make Ghana a net exporter of oil from the year 2011, hence an expectation to generate an exportable surplus of at least USD 1.0 billion per annum between 2011 and 2015. This excluded projection of discoveries to be made of other oil wells for the next thirty years. Oil production was projected to increase from 106,900 barrels per day

in 2011 to 120,500 barrels per day in 2015, after which output would then decline from the year 2016 to 2017 (CEPA, 2012).

The World Bank Country Report (2009) indicates that the expected government revenue from the Jubilee Oilfields was USD 899.1 million in 2011. This was expected to increase consistently year-on-year until it reached a peak of USD 1,804.1 million in 2016, before declining steadily to a low amount of USD 429.1 million in 2029. However, actual petroleum receipts in the years 2016 and 2017 from the Jubilee Field reveal that the expected government revenue, as indicated in the World Bank Country Report, was not attained. Government revenue expected in 2016 was USD 1,804.1 million (100%) as against actual receipts of USD 247.18 million (13%), showing a variance of USD 1,556.92 million (86%). A shortfall again occurred in 2017, where the government revenue expected was USD 1,587.00 million (100%), whereas actual receipts was USD 540.41 million (34%), showing a variance of USD 1,046.99 million (66%) (PIAC Annual Report, 2016; PIAC Annual Report, 2017; Ministry of Finance, 2018). The variance recorded over the period supports how this high expectation from the oil and gas discovery and production has been thwarted.

Moreover, the Ghanaian Government has enacted three important legislative instruments to promote transparency and accountability in the taxation and management of its oil revenues. These are the Petroleum Revenue Management Act, 2011 (Act 815) [with date of Gazette notification 15 April, 2011]; the Income Tax Act, 2015 (Act 896) [with date of Gazette notification 18 February, 2016] and the Petroleum (Exploration and Production) Act, 2016 (Act 919) [with date of Gazette notification 19 August, 2016].

These instruments notwithstanding, the country continues to experience tremendous problems in the management of its oil revenue. The challenges of oil revenue management can be summarized by the core questions of the timing of spending *vis-à-vis* allocation of the spending, subject to the constraint of oil price volatility. The timing of spending has to do with determining current spending versus future spending, that is, how much revenue should be spent now and how much should be saved for the future for the benefit of future generations. Since oil is a non-renewable natural resource, it depletes as production goes on year on year. All things being equal, that will lead to reduced revenue inflows to the Government of Ghana. This is the challenge for government as it tries to structure its spending levels between the current year and in the future.

The greatest challenge is whether a government would avoid the risk of using its revenue from the oil to fund the recurrent expenditure in its budget, instead of investing in long-term capital expenditure to impact other productive sectors. Related to this challenge of use of revenue from oil is the need for transparency, which is worth addressing. How prepared are governments to abide by the Extractive Industries Transparency Initiative (EITI), which places emphasis on full disclosure and publication of reports on revenue and their use? Another challenge is how to safeguard the rest of the economy against the weight of the oil sector, that is oil revenue-led exchange rate depreciation (i.e. "Dutch Disease"), industry competitiveness and agriculture.

Another challenge is whether the oil and gas tax regime is adequate to support domestic resource mobilization in Ghana. Similarly, whether policy makers could rationalize the tax system to secure internally coherent tax laws in the oil and gas sector is also worth finding out. In designing a tax regime for the oil and gas sector, lessons from comparative fiscal regimes could be a necessary guide and the challenge posed here is which countries Ghana could learn from in this regard.

These challenges and the abysmal performance of revenue mobilization in the oil and gas sector, led to a pessimistic outlook about the sector, which was further boosted when the country ran into a liquidity crisis in 2014, for which the country engaged the IMF for a bail out. This situation has generated research interest into the taxation of oil and gas and the management of revenue accruing from the sector (Ayelazuno, 2014). Studies such as those conducted by Amoako-Tuffour and Owusu-Ayim (2010), Adam (2014) and Fosu (2017), for instance, analysed the revenue expected from the oil and gas sector in Ghana. However, other studies on taxation of oil and gas and the management of the revenues flowing from the sector were mostly linked to the impact of these factors on economic development (Auty, 1990; Eifert *et al.*, 2003; Gelb and Turner, 2007; Segal and Sen, 2011). However, studies that assess the taxation of oil and gas as a phenomenon and its accompanying revenue management are scant (Ayelazuno, 2014). There is also little literature on the legislative reforms needed to ensure that the revenue expected from oil and gas are indeed received and managed well. This thesis therefore fills these gaps in the literature, as it examines both oil and gas taxation and the management of tax revenues from this sector, and also assesses the legislative reforms needed for effective management of oil and gas revenue in Ghana.

1.3 RESEARCH OBJECTIVES AND QUESTIONS

This thesis, rising from the statement of the research problem, seeks to examine whether Ghana requires reappraisal and amendment of its laws on taxation of the oil and gas sector and the management of the expected revenues from these sources, as well as institutional reforms that may improve governance. In particular, I respond to the following questions:

1. Does the current tax regime in the oil and gas sector yield adequate revenue for the government?
2. Could the Government of Ghana rationalise the tax system to secure a stable and internally coherent law in the oil and gas sector?
3. Could Ghana's tax regime for the oil and gas sector be guided by lessons from comparative fiscal regimes in the United Kingdom, Canada, Norway and Nigeria?
4. Does the Petroleum Revenue Management Act, 2011 (Act 815) lead to effective revenue management in Ghana to avert the "resource curse"?

1.4 METHODOLOGY

This thesis is primarily a legal, historical and critical review of the tax laws governing the taxation and revenue management of the oil and gas sector in Ghana. Further, the thesis employs induction, deduction and synthesis to address the questions set out in section 1.3. This research also uses some quantitative data to highlight the revenue performance indicators from the oil and gas sector in Ghana.

As an introspective review may not provide complete answers to the questions posed, a legal comparative review of similar laws in the countries selected for comparative purposes is also undertaken. The four countries selected for this comparison are the United Kingdom, Canada, Norway, and Nigeria. These countries were selected because the legislation in these countries have been in existence and applied for a longer period relative to the laws in Ghana in the oil and gas sector. The laws of these countries are reviewed to determine how these countries proceed to harness their oil and gas revenues for development. This approach enables me to conduct a comparative analysis to help guide policy makers in Ghana in their quest for best policies and practices to derive maximum revenue from its oil and gas reserves, through reforms in its legislation governing the taxation of oil and gas and revenue management.

In the area of revenue management, the revenue inflows, so far, to the Government of Ghana were analysed, to gauge conformity with the stipulated procedures for the accounting and use of the revenue from oil and gas, as provided for in the Petroleum Revenue Management Act, 2011 (Act 815). Furthermore, publications of the Ghana Extractive Industry Transparency Initiative (GHEITI) were analysed with regard to the performance of the petroleum sector as one of Ghana's key extractive industries. The reports of the Public Interest and Accountability Committee (PIAC) of Ghana were also examined to ascertain how judiciously or otherwise oil and gas revenues have been applied *vis-à-vis* the provisions in the Petroleum Revenue Management Act, 2011.

1.5 STRUCTURE OF THE THESIS

The study consists of six chapters. Following the introductory chapter, Chapter 2 provides a detailed literature review focusing on theoretical perspectives on taxation. Chapter 3 covers an overview of the tax policy and administration in Ghana. The discussion covers resource tax design and experience, and issues in resource tax administration in Ghana.

Chapter 4 evaluates fiscal regimes with a focus on oil and gas tax regimes, resource rent taxes and state participation, international resource taxation and the issue of fiscal stability. The chapter also examines the management of oil and gas revenues in Ghana, focusing on Ghana's petroleum revenue management laws.

Chapter 5 undertakes a comparative analysis of the fiscal regimes of oil and gas taxation in the United Kingdom, Norway, Canada and Nigeria. The chapter also discusses transparency and disclosure of the fiscal regimes in the respective countries, to understand the agreements that these governments entered into with investors.

Chapter 6 comprises the conclusions and policy recommendations. The implications of oil and gas revenue loss are presented in the final section of the study. The study makes recommendations that propose the prevention of revenue loss and the occurrence of the "Dutch Disease" in Ghana's oil and gas sector. Recent legislation in Ghana is also assessed and discussed, to determine its adequacy to resolve the issues identified in the study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews the taxation of the oil and gas sector, taking cognizance of the attributes that a tax system in the oil and gas sector should possess. In this regard, I examine the key tax instruments in the oil and gas sector, in relation to tax policy and the fiscal regime, to establish what reforms Ghana would require in its legislation, to enable the country to benefit from the tax instruments needed to collect the expected revenues from oil and gas. This chapter also examines oil and gas revenue management and its associated challenges, to determine the legislative reforms Ghana would require in the management of its oil and gas revenue.

2.2 TAXATION AND ITS CLASSIFICATION

Before one can examine the taxation of the oil and gas sector, it is important to determine what a tax is and how to design tax systems. Furthermore, taxes are generally levied within a specific constitutional framework where a country's constitution may be prescriptive regarding substantive and/or procedural aspects of taxation (Thuronyi 2003). This may be especially relevant in the oil and gas sector because there are a number of instruments in this sector that may spark a debate as to what, indeed, constitutes a tax. Are all payments due from the oil and gas sector 'taxes'? How do we classify payments as taxes, as compared to other forms of receipts by government from the oil and gas sector? What are the distinguishing features of a tax? These are the questions that have to be answered, before taxation in the oil and gas sector is discussed in detail.

2.2.1 What is Taxation and what is a Tax?

Taxation is a process whereby governments raise revenue to enable them to provide public goods and services for the welfare of their citizens. Buehler (1936), Samuelson (1955) and Musgrave and Musgrave (1973) discuss a 'tax' as a compulsory collection of a sum of money from the citizens of a country by their government, without a direct benefit in return for such payments. There is no direct benefit to the citizens who pay the tax, because all of the benefits

which the citizens derive are indirect, flowing from the government using the tax revenue to provide for their welfare. Taxation is thus a major instrument of social and economic policy. The OECD (1996) defines a tax as a compulsory, unrequited payment to general government. "General government" referred to in the OECD (1996) definition is explained to consist of supra-national authorities, the central administration and the agencies whose operations are under its effective control, state and local governments and their administration, social security schemes and autonomous government entities, excluding public enterprises. This definition of general government thus makes the definition of what a tax is broad, and includes levies imposed by government agencies, local authorities and such government agencies and administrations. It is said to be unrequited because, as found in the definitions of Buehler (1936) and Musgrave and Musgrave (1973), the benefits provided by the government to taxpayers are not normally in proportion to their tax payments.

James and Nobes (1997) define a tax as a compulsory levy made by public authorities for which nothing is directly received in return. The authors further indicate that taxes are thus transfers of money to the public sector, but they exclude loan transactions and direct payments for publicly produced goods and services. It is evident from the definitions of tax by Buehler (1936), Samuelson (1955), Musgrave and Musgrave (1973), the OECD (1996) and James and Nobes (1997) that the features of a tax are that it is compulsory, imposed by a government or its agencies, and is used for public purposes. It follows, therefore, that by these definitions, an imposition by a government (or its agencies) that meets these features, and without any direct counter-performance for the said payment, can conveniently be classified as a tax (Thuronyi, 2003; Vazquez-Caro and Bird, 2011). It is also evident from these definitions that the public-purposed nature of taxation appears to be a key determinant of what constitutes a tax.

Thuronyi (2003) defines a tax as a required payment to government. He also makes the point that, in some cases, the required payment may not be made to the government, but to a government-controlled entity. He goes on to argue that indeed not all payments to government constitute a tax, because payments to government for which a taxpayer receives something in return cannot be regarded as a tax. This position of Thuronyi (2003) supports the earlier definitions discussed above which show that a taxpayer indeed does not receive any direct benefit from government in return for paying taxes. Rogers-Glabush (2015) defines a tax as, "a government levy that is not in return for specific benefit and is not imposed by way of a

fine or penalty (e.g. for non-compliance with the law), except in some cases where it corresponds to tax-related offences."

The above definitions and explanations of 'tax' possess some common features of a tax, namely that it is compulsory, imposed by the state or a political subdivision of the state, and is for public purposes. The definitions further inform us that, even though a tax is a levy imposed by government, the taxpayer does not derive a specific benefit from paying the levy. This means that taxes collected by governments are employed to provide public or general services to the entire populace, and the kind of benefit a taxpayer receives from the government is not dependent on the quantum of taxes that the taxpayer pays to the government.

Although an impost may have different names such as 'tax', 'duty', 'levy', or 'charge', it has to be analysed carefully in practice. To the extent that it meets the common features identified above (i.e. being compulsory, imposed by the government or a political subdivision of the government and for public purposes, and there is no direct benefit for the payer thereof) any such imposition constitutes a tax. Abiola (2012) states that multiple taxation is a situation where a tax, fee, or rate is levied on the same person in respect of the same liability by more than one State or Local Government Council in Nigeria. Furthermore, Abiola (2012) observes that the drafters of Nigeria's Taxes and Levies (Approved List For Collection) Act No. 21, Cap T2 Laws of the Federation 2004, seem to be at a loss on the basic distinction between a tax and other related terms such as fees and charges.

The challenge that confronts the discussion as to what constitutes a tax is premised on the limits to which all payments to government and government agencies can be termed as tax. For example, what is the distinction between a levy, a contribution (as in contribution to social security) and a fee? Thuronyi (2003) raises the interesting finding that whereas some common law countries tend to be systematic about the concept of a tax, some do not make an attempt to define what a tax is in law. This, according to him, makes the concept of a tax in common law countries differ according to the context, since they are capable of being assigned meanings, whereas in civil law jurisdictions, there is the difficulty of assigning differing meanings to a given term such as tax.

Spitzer (2003) distinguishes taxes from user charges when he sums up the observation in the definitions of a tax, and states that for a payment to be considered as a tax, it must possess the

following characteristics or qualities: the payment must be compulsory; must be made to a public authority with tax jurisdiction; be certain, that is, it must have a known formula or basis for calculating it and not be an arbitrary sum, and finally, there should be no direct benefit arising from the payment. Furthermore, Spitzer (2003) indicates that the tax must be collected for the common good or benefit of all, must be backed by an act or any such enactment promulgated, and there must be penalties or sanctions for non-compliance with the provisions of the tax laws, as that is what gives effect to the tax being compulsory.

2.2.2 Classification of Taxes

Taxes are classified into different types. The discussions below address the various classifications into which taxes have been grouped.

2.2.2.1 Classification of Taxes according to Tax Base

Taxes can be classified according to tax base, that is, depending on the measure upon which the determination of the tax liability is based. The determination of a tax liability could thus be on an amount, as in corporate income tax, or an asset, as in the case of property tax. According to Kambe (1929), the OECD (1996), Nobes (1998) and Kunbuor and Ali-Nakyea (2016), taxes can generally be imposed on three bases, namely income, wealth and consumption. Based on this type of classification, the kinds of tax could be:

a. Taxes on income, which includes income tax on individuals and corporate or non-corporate bodies, as well as tax on rent;
b. Taxes on capital such as property tax on land, wealth tax and gift tax;
c. Taxes on expenditure such as consumption or production. This includes value added tax (VAT) and general sales taxes.

Economists normally illustrate the functional relationship between income, consumption and savings by the following mathematical formula: $Y = C + S$, where Y stands for Income, C for Consumption and S for Savings. Thus, the income of a person is the sum total of his consumption and savings. The part of income that is consumed is subject to consumption tax, while the portion which is saved is not.

2.2.2.2 Classification of Taxes by Nominal Source of Taxation

Under this classification, taxes are classified by the way in which they are collected. This differentiates a classification into 'direct' and 'indirect' taxes.

Direct taxes are based on the notion that taxes on income and capital are levied directly on chargeable persons such as individuals and companies (Boadway, Chamberlain and Emmerson, 2008; Martinez-Vazquez, Vulovic and Liu, 2011). They are assessed and collected directly from the taxable persons who are intended to bear the tax (James and Nobles, 1997). Taxable persons in this context are individuals, partnerships, companies and others determined in a taxing statute to be liable to pay tax (Wheeler, 2013). In this form of taxation, both the impact and incidence of tax are on the person to whom the income or gains accrue (Salané, 2003; Banks and Diamond, 2008). Direct taxes are usually collected through certified intermediaries such as employers (in the case of employee income tax), through corporate entities (in the case of withholding tax from payments to suppliers for the supply of goods and services), or through tenants of a property (in the case of rent tax). It is important to state that there is no need for any subsisting contract between the intermediary and the tax authority, since the intermediary status is created by the operation of the provisions of the taxing statute.

Indirect taxes, on the other hand, are not collected directly from the taxable persons who are intended to bear the economic burden of the tax (OECD, 2014). This type of tax is on expenditure through production and consumption, irrespective of the circumstances of the buyer or the seller (Martinez-Vazquez, Vulovic and Liu, 2011). Indirect taxes are levied on the transfer of goods and services, and are thus included in the price of such goods and services, depending on the elasticity of demand facing the supplier (Murty, 2017). Elasticity of demand refers to the degree of responsiveness of demand to a change in price. When the percentage change in demand for a good or service is more than the proportionate change in its price, the demand for the good or service in question is said to be elastic. Hence, the supplier is careful in passing on indirect taxes through the price, as it will impact significantly on a lowering of demand for the goods or services, thus affecting income to the supplier (Salané, 2003). On the other hand, the demand for a good or service is said to be inelastic when a percentage change in the price of a good or service leads to a less than proportionate change in the demand for that good or service. In such an instance, the supplier may pass on the indirect tax on the price of the good or service without this action impacting negatively on the income of the supplier (Ali-Nakyea, 2016).

Indirect taxes are said to be 'indirect' because the impact is on the person immediately paying the tax, that is, the one required by the taxing statute to collect the tax, whereas the incidence may be on a different person, say the consumer, who ultimately pays for the good or service on which the tax has been imposed. For example, in the case of an importer and a consumer, the impact of the tax is on the importer, whereas the incidence of tax is on the consumer, namely the person who ultimately bears the burden of the tax. The tax is collected from the person providing the goods and services, but the burden is on the consumer. It therefore depends on what a person decides to buy because indirect taxes do not depend on the individual circumstances of the taxpayer, hence both the rich and the poor suffer the same tax once it is on the price of a good or service.

Thuronyi (2003) argues that there seems to be a fair amount of consensus that income tax is a type of direct tax and that taxes on consumption, such as sales taxes, value added taxes and excise duties, are indirect taxes. A more in-depth analysis into the basis of this distinction becomes murky. I agree with this view because, indeed, what may be intended as direct tax, with the feature of it not being possible to pass it on (for example rent tax on landlords) ends up being passed on, a feature of indirect taxes, to tenants of the property. This thus makes this classification a loose one, in that it does not tend to stand the test of all analysis of all tax types.

2.2.2.3 Classification of Taxes according to Incidence

Taxes are classified according to their incidence amongst the intended class of taxpayers, and these are progressive, proportional and regressive taxes as posited by Ricardo (1817), Meade (1955), Auerbach and Jorgenson (1980) and Auerbach (2006). A progressive tax is a tax regime where the ratio of tax liability to income or other tax base rises as the income or other tax base increases. This means that the state takes a greater percentage of income, as it increases, as taxes. This is a graduated form of taxation. A good example of this type of tax system is the rate of tax upon individuals provided for at a graduated tax rate, such that the more a person earns as income, the more tax is paid.

Two principles that relate to classification of taxes according to incidence are the ability to pay principle and the benefits principle. The ability to pay principle is a justification for progressive tax system since it involves a sacrifice (Kendrick, 1939; OECD, 2014: Jessen, Metzing and Rostam-Afschar, 2018). High-income earners, all things being equal, are in a position to sacrifice more in tax payment than the low-income earner (Davidson, 2004). The benefits

principle requires that those who benefit most from public expenditures should pay tax for the benefit (Oakland and Testa, 2000; Martinez-Vazquez, 2001; OECD 2014). The benefits principle relates more to indirect taxes such as value added tax and goods and services tax, whereas the ability to pay principle relates more to direct taxes (OECD, 2014).

A tax regime is proportional if the ratio remains constant, which means the same percentage of tax is applied irrespective of a person's level of income or expenditure (Schneider, 1980; Bird and de Wulf, 1983). Examples are taxes on liquor or cigarettes, of say 10 per cent tax on whatever quantity one buys. A regressive tax regime is one in which the tax ratio falls as taxable value increases. It exacts a smaller percentage of tax as income increases. This is typical of indirect taxes such as value added tax.

2.3 ATTRIBUTES OF A GOOD TAX SYSTEM

The four significant attributes of a good tax system, identified by Adam Smith (1776) are still relevant today. Thus, in designing a tax policy, these attributes are guides to ensure that whatever tax system eventually evolves, achieves its objectives. These attributes are:

2.3.1 Equity

A good tax should be fair to the people who are required to pay it. The subjects of every state ought to contribute towards the cost of government as nearly as possible in proportion to their respective abilities. According to Kendrick (1939), the Carter Commission Report (1966) and Seto and Buhai (2006), the ability to pay refers to the economic resources under a person's control. For example, income taxes are based on a person's inflow of economic resources during the year, whereas value added tax and other indirect taxes are based on a person's consumption of resources represented by the purchase of goods and services. Rent tax, on the other hand, is based on a person's accumulation of resources in the form of landed property.

Similarly, Stiglitz (1981), Musgrave (1990), Elkins (2006) and Jarczok-Guzy (2017) state that the attribute of equity can be attained based on horizontal and vertical equity. Horizontal equity refers to a tax system so designed that persons with the same income level pay the same amount of tax. Vertical equity, on the other hand, refers to a tax system designed such that persons with higher income levels pay more tax than persons with lower incomes. Vertical equity is thus concerned with a fair rate structure by which to calculate the tax on different amounts of

income. Vertical equity may also be attained where reliefs are granted to taxpayers with levels of responsibility that impact on their earnings such that their chargeable income is then lowered, compared to others who have no such responsibilities (Thuronyi, 2003).

2.3.2 Certainty

This refers to the ascertaining of one's tax obligation. People should be in a position to determine their true tax liability with a fair degree of accuracy (Musgrave, 1990; James, 2010; Tjernberg, 2016). Taxpayers should be clear in their minds as to how much tax is due and payable at any point in time. There should be no ambiguities and tax administrators must have no discretionary powers as to how much to demand. This means that the tax administrator is not to squeeze out more tax money than dictated by the law. Additionally, the time of payment, manner of payment, amount to be paid, place of payment, as well as all rights and obligations under the tax laws must be known to both the tax administrator and the taxpayer. The Pay-As-You-Earn (P.A.Y.E.) system of taxing employment income is a good example of this criterion, as the graduated tax table utilized in such instances allows every employee to know for certain what his/her tax liability would be.

2.3.3 Convenience

A good tax should be convenient for the government to administer and for the people to pay. Perhaps the most important aspect of this canon is that taxpayers must not suffer unduly to comply with tax laws (Smith 1776). Every tax ought to be levied at the time or in a manner in which it is most likely to be convenient for the contributor to pay. The method of collecting the tax should be such that the majority of taxpayers would understand and routinely comply. The collection method should not overly intrude on taxpayers' privacy, but should offer minimal opportunity for non-compliance. Moreover, they do not have to devote undue time and/or incur undue costs in complying with the tax law (Jones, 1915; Musgrave, 1990).

2.3.4 Economy

According to Ricardo (1819), Jones (1915) and Buchanan (1986), a good tax should be economical to the government, that is, the administrative cost of collecting and enforcing the tax should be reasonable in comparison with the total revenue generated by the tax. Every tax

ought to be so contrived as to both take and keep out of the pockets of the people as little as possible, over and above what it brings into the national coffers (Smith, 1776).

2.4 TAX POLICY

Tax policy largely depends on the concept of efficiency and fairness. To maximize social welfare, the tradeoff of these concepts is complex for tax policy makers, hence the need for governments to be circumspect in their political interference with regard to tax policy. Bird and Casanegra de Jantscher (1992) observe that short-run political considerations often hamper not only policy changes, but also attempts to improve revenue administration. Tax policy refers to the design of the rules governing taxes. These rules may thus be found in tax legislation or, in cases of oil and gas taxation, in various types of agreements (Bird and Zolt, 2003).

Tax policy making should thus ensure that the tax system gains a reputation for predictability, stability and simplicity. Tax policies should not spring surprises on the taxpaying community, especially in the case of investors in the oil and gas sector, considering the huge investments required in that sector. Tanzi and Zee (2001) argue that extensive consultations are required in tax policy making to determine the feasibility of tax policy proposals under consideration. The consultations also ensure a smooth tax policy reform process that will gain public support (IMF, 2017).

Since oil and gas fall under the natural resource sector, I will first examine tax policy in the broad natural resource sector, before focusing and deepening the discussion into the specifics pertaining to only the oil and gas sector.

Tax policy in the natural resource sector is referred to as “resource tax policy” and this, in turn, refers to the design of the policy and legislative framework governing resource taxes. Inasmuch as being well-endowed with natural resources may be beneficial for a developing country, the abundance of such natural resources can make it difficult for policy makers to design and implement spending and tax policies, owing to the complexities associated with tax policy design (Daniel, Keen and McPherson, 2010). These authors posit that resource-rich countries will also have to contend with the following issues in the tax policy design, which are not easily surmountable:

a. Non-renewable resources – including oil and gas – are exhaustible and, as a result, so are the exports upon which these countries depend, leaving them open to the vagaries of international commodity prices.
b. The prices of these commodities that are exported are unpredictable, since the producing countries are unable to control these prices. Hence, a large proportion of the accrued revenue is often volatile, which can cause swings in government spending, which in turn cause the government to resort to borrowing.
c. Policy frameworks are often not strong enough to support the implementation of sound tax and expenditure policies, owing to the limited capacity of skilled personnel to undertake long-term revenue forecasts and implement high-quality public investment projects.

The issues above affect the design of appropriate fiscal policies in most resource-rich countries. Thus, it is imperative to ensure sound tax policy design in the productive sectors of such economies.

There is, therefore, the need for governments of resource-rich countries to be committed to a relatively fixed tax policy, to ensure consistency and transparency in the oil and gas sector. This is because the ability and willingness of a government to commit itself to consistent policy assists investors in the natural resource sector to plan and execute long-term projects (Osmundsen, 2010). Investors and industry players require certainty in their investment decision-making. Therefore, commitment to an agreed policy that will be applied to investors in a consistent manner, is a desirable quality in petroleum taxation, if a country is to succeed in harnessing the much-needed revenue from its oil and gas sector. Business plans and their related feasibility studies require an element of long-term planning with predictable tax variables, which are certain for a definite period of time, notably between 10 and 30 years for the petroleum sector (Nakhle, 2008). In this way, there is then certainty in the outcome of their investment decisions and the host country can be rewarded with the required investment returns by way of tax revenue.

The call for time consistency of tax policy is necessary because governments tend to change their tax policies after companies have invested. Once the companies know this, they tend to resist such moves by government. Hence, an unexpected tax increase by a government is likely to lead to a change in the companies' expectations of future tax policies (Osmundsen, 2010).

In addition, Osmunden (2010) states that companies in such economies are then likely to change their attitude to investing long-term, and instead invest in short-term projects. There should be no opportunistic and state-contingent tax policy. This is because any such scheme where taxes change in response to oil price fluctuations will increase uncertainty about the future level of tax rates. Companies will then be left to face political risks in terms of dramatic changes in tax regimes, as well as relatively minor deviations from announced policies. This will affect and influence the future investment decisions of companies and investors in the sector (Daniel, Keen and McPherson, 2010).

According to Boadway and Keen (2010), the challenges to achieving credible commitment in tax policy in the oil and gas sector include:

a. The long gestation period between investment and the flow of returns from the investment, which is a common feature of the petroleum industry. This needs to be taken into account in tax policy formulation. In petroleum, the exploration, development and production phases of a concession or oil block take a long time, hence the expectation that government should commit to a (fixed) tax policy. This reassures investors and provides them with the required confidence in the stated policy direction.
b. The complexity in technological and economic aspects of the oil and gas sector is another challenge to be addressed in tax policy formulation for the sector. This makes it difficult to provide standardized deductible allowances and expenses. For example, in respect of offshore exploration, expenses and other costs differ with regard to distance offshore as well as the depth of exploration.
c. The need to address the challenge occasioned by changes in elected representatives to parliament who approve or ratify petroleum agreements. Changes in elected representatives to parliament may affect institutional memory, which may be lost, as previous members who may have deliberated upon some agreements to a more advanced phase may lose their seats in parliament and thus not be available to continue their debates on issues affecting such agreements. This challenge pertains to oil and gas economies the world over.
d. Political constraints where the electorate disagree with the tax policy. For example, Norwegian voters dislike big profits and high dividends for private petroleum companies, perhaps particularly when these are foreign-owned. This gives the impression that a natural resource that belongs to the community is under-taxed,

whereas the government may have granted concessions to atone for the risks that the companies may have undertaken.

It is thus important for countries with oil and gas resources to address the challenges enumerated above in the design of their tax policy in the petroleum sector, to enable the countries to attain consistency in their tax policy design to which they can remain committed. This will send a positive signal to the investors in this sector who seek to invest.

Following from the abovementioned reviews, I identify and posit that the tax policy development process consists of four stages:

a. Stage 1 – To set out objectives and identify options. In relation to oil and gas, the government is expected to set the objectives for which the policy is being made, since that will guide the enactment of the law in the oil and gas sector. Policy options should be identified to enable government to use alternatives, should the main policy encounter implementation challenges.
b. Stage 2 – To determine the best option and develop a framework for implementation, including detailed policy design. In relation to oil and gas, there is the need for a detailed policy design to guide the sector for transparency and certainty.
c. Stage 3 – To draft legislation to effect the proposed change. It is evident that in cases where the policy to address the objectives of government is found inadequate, the law will also fail to protect the revenue base, as it is drawn based on the policy option adopted by the government. The legislation for the oil and gas sector should thus be unambiguous to effect the needed change in any *status quo*.
d. Stage 4 – The need for policy implementation. This is the execution stage for any policy that is designed. After the policy design and the drafting of legislation, to give effect to the policy in the oil and gas sector, the next stage is to implement the law, which encapsulates the policy direction.

2.5 CHALLENGES OF TAX POLICY MAKERS

The following challenges impact the oil and gas sector and will have to be addressed by tax policy makers, that is governments, Ministries of Finance and Revenue Authorities, to achieve a good tax policy for the sector. These challenges make tax policy in developing countries in particular often the art of the possible, rather than the pursuit of optimal taxation (Tanzi and Zee, 2001).

2.5.1 Dealing with Cross-cutting Structural Bottlenecks

Cross-cutting structural bottlenecks refer to the high levels of informality, a lack of fiscal legitimacy and huge administrative capacity constraints associated with taxing the informal sector (AfDB, 2010). One of the challenges in the making of tax policy in the oil and gas sector is how to deal with the informal sector, which has been classified as the "hard to tax" (Joshi, Prichard and Heady, 2014). It is important to ensure that a policy is put in place to accommodate the informal sector that, inevitably will wiggle its way into the oil and gas value chain. Joshi, Prichard and Heady (2014) state that the informal sector can be involved in the value chain in the area of the provision of services such as transportation and marketing of hydrocarbons. The policy is needed to enable the informal sector to meet its tax obligations. This is because the informal sector of any group of taxpayers constitutes an obstacle to broadening the tax base and collecting taxes, owing to its informality, hence requiring huge administrative costs to enforce compliance. The quality of tax policies and tax administration is also required to eliminate the challenge of complex tax laws and high compliance burdens. It is necessary simplify the legislation governing the oil and gas sector, to ensure tax compliance. Tax administration capacity is a major obstacle to improving tax policy, thus often limiting policy options (OECD, 2013).

2.5.2 Narrow Tax Base

The challenge of inefficient taxation of the oil and gas sector occurs because petroleum agreements entered into by the government and the international oil companies are often subject to strong confidentiality clauses by the companies and the government. The government usually lacks the capacity to negotiate petroleum agreements that allow them to generate a fair share of rents from natural resource extraction (Weijermars, 2015). This results in the excessive granting of tax preferences – also known as tax incentives. Various reasons and arguments are cited for this situation, yet are difficult to target, leading to revenue losses. Cooper *et al.* (2016) point out that the inability of revenue authorities to fight transfer pricing abuses initiated by multinational enterprises in the oil and gas sector is another challenge that adds to the narrowing of the tax base.

2.5.3 Unbalanced Tax Policy Mix

It is not prudent for a country to rely excessively on a narrow set of taxes to generate revenue. There must rather be a balanced mix of taxes that can help to stabilize public revenues, while getting a wider range of contributors (Ames *et al.*, 2001). Tax policy makers in resource-rich countries have to adhere to this and not tend to fashion out a tax policy that relies too heavily on the oil and gas sector. This is important because a volatile tax base also leads to uncertain revenues, and oil and gas revenues are volatile as they are subject to the vagaries of the world market price of the product (Landon and Smith, 2010).

In Nigeria, crude oil exports have been a major source of revenue over the years, making governments to rely heavily on crude oil exports, neglecting other sectors for revenue mobilization (Kazue, 2012; Odhiambo and Olushola, 2018). However, with the high volatility of crude oil prices, the government of Nigeria has had to explore other sources of revenue to assist in its public expenditure (Kazue, 2012; Odhiambo and Olushola, 2018). The volatility in the crude oil price has led to proposals submitted by the government to the Nigerian Congress to increase the VAT rate from 5 percent to between 7.5 percent and 10 percent (Gunter, Riera-Crichton, Vegh and Vuletin (2019).

2.6 DESIGNING TAX POLICY FOR THE OIL AND GAS SECTOR

Governments are confronted with a number of policy issues when designing an appropriate structure for taxing oil and gas activities in their economies. One of the policy issues is determining the appropriate level of tax for the oil and gas sector, since a high tax rate, relative to the tax rate in other comparable sectors, usually serves as a disincentive for new companies to enter into this sector of the economy. It also affects the ability of existing companies to carry out explorations, to expand their activities, as well as sustain existing operations (Sunley, Baunsgaard and Simard (2003); African Economic Outlook (2018)). On the other hand, although a low tax rate may attract investors into the sector, it could lead to loss of revenue for the state. Government tax policy in the oil and gas sector should therefore strike a balance between the two extremes, and government should design a system that maximizes the present value from all tax revenues. However, striking this balance remains a difficult task for most governments. Governments can employ both tax and non-tax instruments to help them achieve the maximum-benefit objective. The provision of infrastructure and other social amenities to

the community where the oil and gas companies operate could be a mechanism through which governments derive non-tax revenue from the companies (McPhail, 2000; Vasquez, 2016).

The next policy issue that most governments face in designing an appropriate tax regime for the oil and gas sector is what mix of taxes they should impose. The tax mix ranges from royalty instruments to corporate income tax. Corporate tax provisions designed for the oil and gas sector often allow for an accelerated write-off on exploration and development of the oil block, amongst others (Boadway and Flatters, 1993). High corporate income tax and profit-based royalties often create a disincentive for oil and gas companies to maintain marginal operations and it affects their decisions to venture into new areas (Boadway and Flatters, 1993). Corporate income tax and royalties are used as mechanisms to distribute risk between the government and the oil and gas companies.

The different kinds of taxes employed by governments in the oil and gas sector affect the flow of revenue to the state. Profit-based tax instruments often defer government revenue to a later date and affect the revenue inflows in the short-term (Boadway and Keen, 2010). The ease of tax administration and the tendency for tax evasion are issues that should inform the policy of governments when designing an appropriate framework to capture revenue from the oil and gas sector (Calder, 2010a). In the complex environment of the oil and gas sector, some tax instruments are easier to administer relative to others. A typical example is royalty, which is payable at the point of extraction of the oil and gas. This helps in reducing the tendency for tax evasion through overstated expenditure, often associated with profit-based tax instruments. The capacity of tax administrators to monitor the activities of companies engaged in the oil and gas sector should weigh heavily upon the decision of governments regarding which tax instruments to employ.

Another policy challenge for governments is whether to employ specific or uniform provisions to tax the oil and gas sector. This challenge is prevalent in countries where oil and gas activities constitute a major part of the economy. In such countries, governments are prone to design their tax code to capture an acceptable level of revenue from the sector. Opponents of specific tax provisions on oil and gas activities argue that such a system of tax creates the opportunity for companies engaged in the sector to lobby for favourable tax provisions (Calder, 2010b). Again, employing sector specific tax provisions, as opposed to a uniform system, creates unnecessary distortions and often increases the complexity of the tax code. Since the

complexity of a tax code affects compliance by taxpayers and increases the compliance cost, the tax policy underpinning specific tax provisions for the oil and gas sector should consider simplicity if tax compliance cost is to be minimized. However, proponents of a special tax regime for the oil and gas sector argue that the industry differs from others, because it deals with a non-renewable resource, especially in countries where ownership of this resource is vested in the state (Calder, 2010a). They also argue that factors such as the lengthy periods of exploration, huge capital investments, the exit barriers, the specialized nature of equipment, the fluctuations in world commodity prices, and the huge cost associated with winding down activities, justify this special tax treatment (Collier, 2010).

The two fundamental theories that should guide any impact assessment of taxation in the extractive resource sector, such as oil and gas, are the Economic Theory of Extractive Industries and the Theory of Optimal Taxation (Smith, 2012). The Economic Theory of Extractive Industries, according to Wise and Shtylla (2007) and Dietsche (2017), refers to seeking to balance the efforts of the extractive industries in the margins that they make in the exploration of oil and gas against the margins that they make from the extraction of oil and gas. An understanding of this theory then helps policy makers to determine the tax to be applied to the oil and gas sector, to encourage increased investment in the extractive industry to secure improved revenue inflows. The Theory of Optimal Taxation, also known as the Optimal Tax Theory, on the other hand, refers to the study of designing and implementing a tax that reduces inefficiency and distortions in the market, under given economic constraints. The standard Theory of Optimal Taxation thus states that a tax system must be designed and implemented to maximize a social welfare function, subject to a set of constraints (Mirrlees, 1971; Tuomala, 1990; Slemrod, 1990; Sørensen, 2006; Mankiw, Weinzierl and Yagan, 2009).

The Economic Theory of Extractive Industries is what I find feasible and applicable to the oil and gas sector, as it seeks to guide tax policy makers in determining a tax rate that would ensure that a resource-rich country receives enough revenue inflows, as well as encourages investments in the sector. Inasmuch as the Theory of Optimal Taxation seeks to maximize a social welfare function, it seems complementary to the Economic Theory of Extractive Industries. This is because the optimal tax may not be one that encourages investments in the oil and gas sector, although it may secure the resource-rich country its revenue inflows.

In designing a comprehensive tax policy to enable governments to derive maximum benefits from the oil and gas sector, they ought to bear in mind that taxpayers react to taxation and this means that the tax system should accommodate these reactions. The reactions may take the form of abusing the loopholes in the law through engaging in aggressive tax planning schemes. Mintz and Chen (2012) find that profit-based royalties appear to be economically appropriate, since they are determined after the cost of the project has been taken into account, even though this instrument also ignores return upon capital employed. However, there is a tendency for firms to minimize their reported profits.

Otto (2000) observes that in today's global economy, tax policies are increasingly taking into account factors that historically did not play a large role. This is why Ghana has a lot to learn from countries that have already blazed the trail in the area of oil and gas taxation, hence leaving no room for excuses for failures in harnessing the benefits of its new oil and gas discovery and production.

Given that the two primary objectives of taxation are to raise revenues and to guide taxpayer behaviour, Otto (2000) raises the key question in terms of meeting the objective of raising revenues: how great a tax burden should be placed upon an oil and gas block?

Thus, inasmuch as governments and investors expect to have a 'fair' share of the proceeds of the oil and gas resource endowment, the problem is with an appreciation and agreement by both sides on the concept of 'fairness'. The term 'fairness', as used here, implies that governments of resource-rich countries should receive adequate revenues from their oil and gas resources, since the government is indeed the owner of the resources. The investors are expected to also receive adequate returns from their investments in the exploration and production of the oil and gas. Thus, to the investors, 'fairness' entails oil and gas production companies receiving enough revenues to cover their costs of investment, as well as having adequate retained earnings for the benefit of their shareholders.

With regard to exploitation of oil and gas, the ownership status between governments and investors impact on the tax policy. Since the government owns the oil and gas resources, where it is to undertake the exploration and production all by itself, then all the gains and profits accrue to the government. However, where the government does not have the wherewithal to undertake the exploration and production, and thus invites investors to do so on its behalf, then

the sharing of the revenues is impacted by the issue of fairness. This explains why some oil producing countries such as Saudi Arabia, Kuwait and Mexico have opted for complete state ownership (monopoly) at one extreme, whereas other countries such as the United States and the United Kingdom permit total private enterprise operations at the other extreme (Nakhle, 2010). Yet other countries have policy measures that lie between pure state ownership and pure private ownership of oil and gas companies. State ownership is found in Ghana, where international oil companies explore and produce oil in cooperation with the Ghana National Petroleum Corporation.

Nakhle (2010) identifies three main policy options from which oil producing countries can select:

a. A "go-it-alone" strategy;
b. Complete private ownership; and
c. International oil company – national oil company cooperation.

In the "go-it-alone" strategy, the fiscal regime is almost irrelevant, since there are no private companies involved for whom fiscal policies required to be made, because the state handles the resource by itself. Concessionary regimes are normally applied under the entire private ownership strategy, as in the case of the OECD countries, while a wider selection of regimes is available under the hybrid strategy, with the regimes varying between concessionary, production sharing and service contracts (Nakhle, 2010).

It is thus important to realise that the oil and gas sector has a number of features that make its taxation not only especially important for many countries, but also particularly challenging. One of the key features is the high sunk costs with the associated long production periods in the sector. It has been observed that this long production period can range up to 50 years between exploration and decommissioning, during which no cash flow is returned from the exploration since production would not have commenced (Boadway and Keen, 2010). This situation of high sunk costs is more pronounced in the case of oil exploration, where the contractor finds no oil deposits after such long periods of exploration. Thus, although huge sums of money may have been sunk in the exploration phase of the project, no returns are obtained because no oil was found. Collier (2010) identifies four generic features of natural resource extraction that make it distinctive from normal economic activity:

a. the ownership of natural assets is rightly vested in citizens;

b. extraction is a process of asset depletion rather than mere production;
c. investment in extraction requires high sunk costs and long periods of payback; and
d. the prices of depleting assets are volatile.

The peculiar nature of oil and gas extraction explains why governments tend to have generous incentives in their tax design, in a bid to compensate for such sunk costs. The apparent benefit in such a case is that once the sunk costs have been incurred, investors are unable to cease operations, as such an option would not be economically viable, thus making the tax base relatively sensitive to the tax design (Collier, 2010). The challenges of a good tax design, therefore, are formidable, both in the technicalities of dealing with the distinctive features of oil and gas activities, and in coping with the interplay between the interests of powerful stakeholders (Collier, 2010).

It follows from the above that an efficient tax design in the oil and gas sector should be one that sets tax rates in inverse relation to the elasticity of the underlying tax base. Governments should thus have an incentive to offer relatively generous tax treatment at the planning stage, when the tax base is relatively elastic, but should be much less generous with tax treatment once production is in place, since the tax base would have been relatively inelastic. Governments have to be mindful of the generous tax incentives they promise in this regard, since investors' apprehension of the tendency by governments to renege on such promises is what drives them to demand fiscal stability clauses in the agreements into which they enter.

Another feature that affects tax design in the oil and gas sector is the prospect of substantial economic rents. Economic rent is regarded as the amount by which the payment received in return for some action exceeds the minimum required for it to be undertaken. An example would be bringing a barrel of oil to the market to be sold at USD 114, which will not be on par with the price of USD 57, that being the cost of production plus the investor's profit. Thus, such rents can be taxed fully without affecting the behaviour of the investor, making tax on rent non-distortionary. However, care needs to be taken in determining the phase at which the rent accrues, since the project life of the oil and gas project typically entails five stages, namely exploration, development, extraction, processing and shutdown. The shutdown stage includes a clean-up component, which entails restoring the damaged environment to the extent possible.

Some authorities propose that a resource tax system that aims to be efficient should tax full rents, not quasi-rents, which may be difficult to do if the tax is applied only at the extraction stage, since by then only successful resource discoveries will be pursued (Boadway and Keen, 2010). Since the rents from extraction belong in their entirety to citizens, the government, as citizens' agent, needs a tax regime that captures these rents over and above the standard taxation of profits. If the tax system does not discriminate between rents and returns to other factors of production, then it is sure to be mal-designed (Collier, 2010). It is in this respect that in the design of fiscal regimes for the oil and gas sector, the law should contain and emphasize such skewedness, to protect and preserve revenue inflows for host governments.

The observation that economic principles for taxing resource extraction imply that the way in which natural assets are harnessed for society should differ considerably amongst countries is a lesson for Ghana's oil and gas sector. The principles for taxing resource extraction in Australia, Canada and Norway, on the one hand, and in Angola, Chad and Timor-Leste on the other, are different (Boadway and Keen, 2010). This reiterates the adage that "one size does not fit all", meaning that each country has its own domestic features that may impact upon the design of the tax system. An example of this manifestation is how African countries, including Ghana, seek to apply the "Norwegian Model" to contexts that are widely different from those applicable to Norway, when paradoxically the Government of Norway is careful to explain that there is no "Norwegian Model".

Another uncertainty in the tax design in the oil and gas sector is that tax revenues can be substantial and a primary benefit to the host country. The significance of this in tax design is especially felt when the oil and gas deposits are concentrated in a few locations, such as the case of Ghana where oil and gas deposits are currently found in the West Cape Three Points area. This is so because tax design then becomes a *de facto* matter of negotiation between government and investor (Boadway and Keen, 2010). This is true of Ghana as is seen in the varied and different tax provisions regarding royalties in the various petroleum agreements negotiated by the contractors with the Government of Ghana. There is no uniform rate of royalty in the oil and gas sector, and different periods are negotiated in terms of stability clauses, ranging from 15 to 30 years, owing to the fact that prospect affects the tax design. It would have been appropriate for certainty and predictability to create a uniform rate of royalty in the petroleum sector. Had the rate of royalty and other related oil and gas taxation fiscal

issues been fixed and predetermined, it would have provided the certainty, predictability and transparency required by investors in the oil and gas sector in terms of tax design.

The uncertainty in terms of expected successes in exploration in the case of countries with few deposits also affects tax design. This is not the case with countries with several deposits, since losses in a project can be offset by successes in other projects, thus posing a different mix of tax design. This is further exacerbated by the resource price volatility in the world market. An example of the uncertainty is the apparent fluctuations in the prices of crude oil. The price of crude rose from USD 15 per barrel at the end of 1998, to USD 112 by mid-July 2008, before falling to USD 60 at the end of 2008 (Boadway and Keen, 2010).

The above-mentioned swings in the prices of oil and gas depict the uncertainty that affects the earnings accruing to industry players, leading to an impact of the tax treatment of resource activities. In Ghana, the discourse on windfall taxes, which was at the centre of government's tax policy discussions between 2011 and 2013, fizzled out in 2014. This tax was no longer a subject in the 2014 Budget Statement of the Government of Ghana; neither did it feature in the 2015 Budget Statement.

A proper tax design in the oil and gas sector in any country is impacted upon by considerations of the tax systems in the host country and the country of the investor. Most jurisdictions would allow a credit for corporate taxes and employee taxes paid in the host country, but that may not hold for royalties paid. It is thus imperative that this situation is taken into account in tax design, especially where in almost all the African countries, the development and exploitation of oil and gas are spearheaded by foreign businesses, either wholly or in collaboration with state-owned entities or local companies.

It has been noted that host countries, which *de facto* and *de jure* have the first right to tax activities undertaken in their jurisdiction, fail to fully tax the rents on some oil and gas activity, but the home government may seek to tax the activities. This, they observe, is the bane of African countries with oil and gas endowments but without a proper tax design to tax resource rents (Boadway and Keen, 2010). Since resource deposits are considered specific to a particular location, a company cannot choose to exploit an oil and gas deposit, for example, located in one country by building and operating a Floating Production Storage and Offloading (FPSO) vessel in another. Thus, standard tax theory would suggest that any associated rents may be

taxed at up to 100 per cent without jeopardizing the existence of a project. This observation therefore makes tax competition an unnecessary undertaking by resource-rich African countries.

It appears, however, that resource-rich African countries have policy makers who are not well-informed of the geological and commercial circumstances at all stages of particular oil and gas projects, than are those who undertake the exploitation, development and extraction of the oil and gas (Boadway and Keen, 2010). This occurs due to lack of information, as the investors who have knowledge of such dynamics are not prepared to disclose the information to policy makers in Africa, owing to the tax impact upon their operations should this information be shared. Policy makers in Africa have to build their capacity and capability. Tax administrators also have to build their capacity, because there is a challenge for them to monitor transfer-pricing arrangements. For example, most if not all investors in the oil and gas sector in African countries are multi-nationals. The related party transactions by these multi-nationals give rise to the requirement to monitor possible transfer mispricing in their transactions.

The incentive for tax-setting can be influenced by market power so that between host governments and investors, it becomes one of "he who pays the piper, calls the tune," since host governments and investors do not behave competitively. It has been observed that host governments may exercise appreciable control over the flow of oil and gas into the world market, whether collectively, as in the Organization of Petroleum Exporting Countries (OPEC), or, in some cases, individually (Boadway and Keen, 2010). It has also been noted that the ten largest oil-producing countries, for example, account for around 60 per cent of world petroleum production.

Boadway and Keen (2010) argue that tax design on a project basis, rather than on a company basis, is worth considering. This is because the nature of oil and gas activities, that is, the inability to switch oil and gas deposits between projects, lends itself to a project-based approach to tax design. The project-based approach to tax design is what has informed the provisions for ring fencing in most tax legislation of recent times. In Ghana, differentiation across oil and gas projects continues to be found. For example, there are different royalty rates for the Deep Water Tano and Cape Three Points projects, as opposed to those encountered in respect of the Keta Oil Development Fields (Otto *et al.*, 2006).

The unique feature of the oil and gas sector, which poses the greatest challenge to resource tax design, is the exhaustibility of the oil and gas, i.e. the non-renewability of the resource. More extraction of oil and gas now means less potential extraction later with the following four implications (Boadway and Keen, 2010):

a. The marginal cost to which the marginal benefit from extraction is optimally equated in each period reflects not only the current production cost, but also the opportunity cost in terms of future extraction foregone.
b. An oil and gas deposit should be depleted in such a way that the shadow price of the oil and gas, that is, the value of an additional unit of the oil and gas deposit, rises at the discount rate less a term reflecting the extent to which extraction becomes costlier as the deposit declines. The reason for this is simply that deferring extraction will be worthwhile whenever this leads to a gain in future welfare, including though, any reduction in future extraction costs that outweigh the discounting of that future benefit.
c. As a (very) special case in point (b) above, if extraction is costless, then the price of the oil and gas should rise at the rate of discount.
d. A higher discount rate will lead to faster extraction, the perception being that it increases the financial return from extracting the oil and gas early and investing the proceeds.

Revenue from the extraction of oil and gas constitutes a major part of export earnings for some resource-rich developing countries, hence the need for an appropriate tax design to ensure that the host government receives its fair share of revenues. Apart from contributing to the revenue base of resource-rich states, the oil and gas industry also creates employment opportunities for persons in countries where this natural resource is found. The design of an appropriate fiscal regime is therefore crucial if the state aims to derive maximum benefits from the resource (Sunley, *et al*., 2003).

Companies engaged in the oil and gas industry and governments, which own the oil and gas, have conflicting and competing interests as far as the sharing of risks and rewards from the petroleum sectors are concerned. Each of the players seeks to reap maximum benefits and shift a greater portion of the risk associated with the exploitation of the oil and gas to the other party. Sunley *et al.* (2003) argue that a well-designed fiscal regime can satisfy these competing interests. Governments mainly derive revenue from the oil and gas industry through production-based or profit-based instruments. A production-based instrument guarantees the

government a minimum amount of revenue from the oil and gas. Even though profit-based instruments enable governments to share in the profits derived from the oil and gas project, they also expose governments to the potential risks associated with such projects (Sunley *et al.*, 2003). Bonuses and other forms of rental payments are also a means by which governments generate revenue from the oil and gas industry. Bonuses usually enable governments to receive revenue during the early stages of the project and may serve as an incentive for companies to develop oil and gas fields rapidly. This revenue instrument is usually employed by governments that own oil fields characterized by fierce competition amongst potential investors, for the right to exploit these fields due to their high prospects.

Some of the principal tax design choices in petroleum operations include royalties, rent taxes, sector-specific profit taxes, production sharing, equity participation, auctions, other sector-specific charges and standard taxes.

2.6.1 Royalties

Royalties are seen as a charge, whether specific or *ad valorem*, levied directly upon the extraction of the oil and gas itself. They are also seen as a payment to the resource owner for the right to take ownership of the property. A royalty can be a per-unit tax, which is a uniform fixed charge levied upon a specific level of volume of production, or an *ad valorem* tax, which is a fixed charge levied upon the value of the output (gross revenues). Royalty rates range from 5 per cent to 25 per cent, but most are nearer 10 per cent to 15 per cent of production, whereas natural gas often has a lower rate of royalty (Boadway and Keen, 2010; Nakhle, 2010; Hogan and Goldsworthy, 2010).

Owing to their features of being simple to administer, being predictable and providing governments with early revenue streams, royalties have been the most preferred fiscal instrument by most governments, as far as oil and gas taxation is concerned. Nakhle (2010) is, however, of the opinion that as royalties are not profit-related, they may deter marginal projects that are profitable on a pre-tax basis from actually commencing. High-cost basins, such as the United Kingdom and Norway, have been progressively eliminating royalty rates, while others, such as the United States, royalty rates have been increasing. China uses the sliding-scale royalty method. With the sliding-scale method, royalty payable depends upon the level of production. Royalties are an allowable deduction for corporate tax purposes.

Boadway and Keen (2010) propose a simple royalty regime over profit-based taxes for the following reasons:

a. Royalties are easy to implement, as for example, in oil and gas production, royalties are readily measured by equipment at the well head, that is, the point of extraction of the oil.
b. Royalties yield revenues from the very start of production, hence calling for prudent management of these upfront payments to governments, as future inflows will diminish with the reduction in mineral reserves.
c. Royalties may provide a more stable and predictable tax base.

The reasons adduced above make royalties a more appealing tax handle for tax policy makers in the design of tax instruments for the oil and gas sector.

2.6.2 Resource Rent Tax

A resource rent tax is another revenue instrument that a government can employ to derive its fair share of economic rent. This instrument has an added advantage of being less distortionary in the oil and gas sector. Countries such as Australia and Papua New Guinea only impose this tax on projects with positive accumulated cash flows (Sunley *et al.*, 2003). The tax is usually "back-loaded" in that revenue from this instrument is only generated in the latter part of the project. If the project proves unprofitable, government is unlikely to receive any revenue from the project. It is therefore prudent for governments to adopt this revenue instrument, in addition to other instruments, such as royalties and standard profit tax, to guarantee government some revenue. Having an appropriate ring-fencing regime in place will ensure that governments derive the maximum amount of revenue from this revenue instrument.

Land (2009) observes that the first development of tax policy concepts, with a particular focus on resource rent capture, took place in the early 1970s. This was characterised by high and volatile commodity prices, coupled with assertive host governments, often in newly independent states. According to Land (2010), the potential to generate large resource rents in the petroleum industry in the wake of the OPEC oil price hikes in 1973 and, then again in 1979, motivated several countries to focus fiscal policies on rent capture, as depicted in Table 2.1.

Table 2.1 Selected examples of resource rent taxes

Country	Sector	Years in Force	Legislated/contractual
Papua New Guinea	Petroleum	Since 1977 (frontier areas exempt)	Legislated
Australia	Petroleum	Since 1984	Legislated
Ghana	Petroleum	Since 1984	Contractual
Tanzania	Petroleum	Since 1984	Contractual
Madagascar	Petroleum	Since 1980s	Legislated
Namibia	Petroleum	Since 1993	Legislated
Russia	Petroleum (PSAs)	Since 1994	Contractual
Angola	Petroleum	Since mid—1990s	Contractual
Azerbaijan	Petroleum	Since 1996	Contractual
Kazakhstan	Petroleum	Since mid-1990s	Contractual
Timor-Leste	Petroleum	Since 2003	Legislated

Source: Land (2010).

Note: PSAs signifies Petroleum Sharing Agreements.

A "rent tax" is any tax that is intended to only extract rent. Three attributes of rent taxes that make them preferable are:

a. exhaustible resources;
b. the relative fixity in supply of the resource; and
c. the notion that somehow property rights to a nation's resources are at least partly owned collectively.

Governments' recourse to exercising property rights effectively is thus to rely upon the private sector to find, develop, extract, process and market the oil and gas, and then to tax the rents that accrue (Collier, 2010; Hogan and Goldsworthy, 2010).

The tax base is thus critical in such a tax design. If the tax legislation does not properly capture or define the tax base, the state could lose revenue, since costs can be accumulated in varying ways by the investors. The various forms of rent taxes identified are as follows:

a. An R-based cash flow tax proposed by Meade (1978), which Brown (1948) referred to as Brown Tax, is a tax charged upon the producer's cash flow.
b. An S-based cash flow tax also proposed by Meade (1978), which is a charge on net distributions to shareholders, that is dividends less new equity.

c. An allowance for corporate equity tax base, which allows firms to deduct not only interest payments upon debt, but also a notional return upon their equity, with the retained earnings element of equity calculated for this purpose, using the same depreciation rate as that used to calculate taxable profits. Belgium is noted to be operating such a system (Konings *et al.*, 2016). Croatia did operate it for some time, Italy has employed variants of this form of rent tax, and Brazil still does so (Hebous and Klemm, 2018).
d. A resource rent tax (RRT) proposed by Ross and Clunies-Ross (1975), taxes cash flows once their value, calculated at an appropriately chosen rate, becomes positive.

The Brown Tax and the resource rent tax are equivalent, except that under a resource rent tax, losses do not generate refunds but are rather carried forward at the same interest rate, whereas with a Brown Tax, negative cash flows would give rise to negative tax liabilities that would be fully refunded immediately. Boadway and Keen (2010) observe that designing and implementing rent taxes is not straightforward and that it is important to recognize that there are many ways in which one can go about doing this. The choice is much wider than that between a Brown Tax and a resource rent tax. This is especially so because an Allowance for Corporate Equity (ACE), for example, avoids both the refunds associated with a Brown Tax and the delay in government receipts associated with a resource rent tax.

Sector-specific profit taxes are charges on resource operations that are based on some notion of profit, but without such a set of allowances to make the tax one, upon rents (Boadway and Keen, 2010). Ghana used to have such a tax design, by which the royalty rate, according to Otto *et al.* (2006) was piecewise linear, with a marginal rate that increased with the ratio of the operating margin to sales. Boadway and Keen (2010) regard such a tax design as being equivalent to a progressive tax upon operating profit and indicate that countries such as South Africa, Botswana, Uganda, Namibia and Zambia have used such tax design schemes in various forms.

Production sharing found under Production Sharing Agreements (PSAs) in oil and gas have a scheme where the share of "profit oil", that is, the profit that remains after "cost oil" has been taken to cover the contractors' cost, corresponds to a proportionate tax upon profits (Boadway and Keen, 2010). These authors also see it as an R-based cash flow tax, if borrowing costs are not to be covered from cost oil. They further observe that where limits are placed upon the

recovery of cost oil, allowing only up to a certain percentage of cost to be met from sales proceeds, then such a scheme functions in effect as an implicit royalty.

Many concessionary regimes include a special petroleum tax (SPT), similar to a resource rent tax, to capture a larger share of economic rent from oil production (Nakhle, 2010). This tax is usually based upon a project or oil field, rather than on corporate income and it is normally based upon cumulative positive cash flow, so that negative cash flows are carried forward and deducted from future positive cash flows (Nakhle, 2010).

Table 2.2 shows the details of resource rent taxes in selected countries. It gives an overview of the discussions above.

Table 2.2 Details of resource rent taxes in selected countries

	Australia Petroleum	**Timor-Leste Petroleum**	**Ghana Petroleum**	**Namibia Petroleum**	**Angola Petroleum**
Name	**Resource Rent Tax**	**Supplemental Petroleum Tax**	**Additional Oil Entitlement**	**Additional Profits Tax**	**Profit Oil Sharing**
Single Rate or Sliding Scale	single rate of 40%	single rate of 22.5%	sliding scale	3-tier sliding scale starting at 25%	sliding scale
Internal Rate of Return (IRR) threshold	long-term borrowing rate (6.18% for 2008) + 5% for exploration costs/+15% for capital costs	16.5%	varies contract by contract	15% 20% 25%	varies contract by contract
Legislated or contractual	Legislated	Legislated	Contractual	Legislated	Contractual
Biddable	No	No	Yes	2nd and 3rd tier tax rates	Yes
Ring fencing	project + abortive exploration pre-tax		project		
Levied pre-tax or post-tax	pre-tax	post-tax*	pre-tax	post-tax	pre-tax
Status	being imposed	being imposed	yet to be imposed	yet to be imposed	being imposed

Source: Land (2010). Resource Rent Taxes: A re-appraisal. Note: *The 22.5% rate is a net, post-tax rate.

2.6.3 Tax/Royalty Regimes

In general, governments generate revenue from the oil and gas industry through the use of both tax and royalty payments. These include the payment of royalties for the right to use the oil and gas, the payment of income tax by companies engaged in the industry and a resource rent tax, which ensures that governments derive maximum revenue from highly profitable projects as explained by Sunley *et al.* (2003). Royalties, which ensure that governments receive revenue in the early stages of the project, are particularly attractive to governments. Simple royalty regimes are also easy to administer and guarantee the government a minimum amount of revenue. Royalties may either take the form of specific levies based upon the volume of oil and gas extracted, or *ad valorem* based upon the value of oil and gas extracted. Royalty rates in countries such as Chile, Ecuador, Norway and Thailand depend upon the level of production.

High royalty rates may be a disincentive for investors in exploring marginal reserves areas, since royalty payments increase the marginal cost of oil extraction. Investors from countries which do not offer foreign tax credits for royalty payments may also be discouraged from investing in countries with royalty regimes, due to the potential for double taxation on incomes derived from these projects. From a tax policy perspective, determining the appropriate value for oil and gas extracted, which serves as a base for imposition of royalties and other taxes, is critical. Sunley *et al.* (2003) suggest that price determination should allow for adjustments by taking into account the crude oil quality, the wellhead value, transport and other associated costs.

2.6.4 Income Tax

In most countries, the income tax rate imposed upon companies engaged in the oil and gas industry is higher than on companies in other sectors of the economy (Sunley *et al.*, 2003). Contrarily, Nakhle (2010) observes that the overall level of corporate income tax rates varies considerably from country to country. However, the level of tax is between 25 per cent and 35 per cent. In Ghana, the corporate tax rate for companies in the oil and gas industry is 35 per cent, which is higher than the 25 per cent charged for companies in other industries. Thus, Ghana's corporate tax rate of 35 per cent in its oil and gas sector is within the range, albeit the topmost one.

Countries often allow an accelerated recovery of costs as an incentive to companies engaged in the oil and gas industry. Granted, this incentive reduces the investor's risk and interest costs and aids the financing of the project. To avoid eroding the tax base, some countries limit the ability of companies to deduct interest incurred from the use of debt financing, as well as manipulations of intra-group transactional prices through the enactment of appropriate regulations to combat "earning stripping" and transfer pricing abuse.

Determining the appropriate ring-fencing mechanism may also prove useful for states with oil and gas reserves. Whereas some countries limit the ability of companies to consolidate income and deduction from each activity in which the company is engaged, other countries ring fence contract areas. Sunley *et al.* (2003) mention that the choice of the appropriate ring-fencing mechanism depends upon the scope of the contract granted to the company, that is whether the company is only authorized to participate in the upstream sector, or whether it has the right to participate in all the streams of the oil and gas sector.

Ring-fencing regulations are important for two cardinal reasons. Firstly, they limit the ability of oil and gas companies to wipe out their entire income by deducting expenditure from different operations against income from different projects, which invariably postpones the ability of governments to generate tax revenue in the short-term. This limitation upon deferral of tax ensures that the government has enough revenue to meet its current expenditure and reduces the need for government borrowing. Secondly, the lack of ring-fencing provisions may serve as a disincentive for new entrants into the oil and gas sector, since these new entrants will not have any expenditure to wipe out their incomes and defer the payment of tax, unlike the old companies who already have a foothold in the sector. Notwithstanding the above reasons, an overly complex ring-fencing regime will not prove to be beneficial for governments and it is necessary to adopt a regime that addresses the issues and provides appropriate remedies.

2.6.5 Production Sharing

Production sharing agreements are typically structured to allow the government to retain ownership of the natural resource, and to grant oil and gas companies the right to develop the resource. Production sharing has a semblance of 'free' equity participation, as it provides the state with an equity share income after cost recovery by the private investor, without any offsetting financial obligation to the state (McPherson, 2010). This entitles the company to a share of the oil and gas produced. The contractor's right to receive payment to defray

exploration and development cost is contingent upon discovery and development of oil and gas.

Such contracts stipulate the percentage of total production that will be used to defray the cost of exploration and development, usually referred to as "cost oil", and the excess of the production above the cost oil (referred to as "profit oil") is shared amongst the parties in accordance with a pre-determined formula. Some production sharing contracts (PSCs) incorporate a royalty element, which is paid to government before "cost oil" and "profit oil" are determined. Where the production sharing contract places a cap upon the cost which the company or contractor can recover in a year, the contractor is allowed to carry forward unrecovered cost, and this cost may be increased by an interest factor to compensate for the delay. A tax is often imposed upon the income derived by contractors from their share of the profit oil. This tax is usually collected in the form of an increase in the government's share of the profit oil. Fiscal stability clauses, which protect the contractors against changes in fiscal legislation, are particularly attractive to investors.

It is important to state that production sharing contracts take many different forms with the terms of engagement varying between one country and the other (Boadway and Keen, 2010). Petroleum sharing contracts are noted to have the following four main properties:

a. The international oil company pays a royalty upon gross production to the government, if applicable.
b. After the royalty is deducted, the international oil company is entitled to a predetermined share of production for cost recovery.
c. The remainder of the production, known as profit oil, is then shared between the host government and the international oil company at a pre-specified share.
d. The contractor, namely the international oil company, then has to pay income tax on its share of profit and cost oil combined, after deductions permitted under the tax law (Boadway and Keen, 2010).

Angola and Russia are countries whose systems have used profit oil alone as the base for income tax (Nakhle, 2010).

"Cost oil", also known as "cost recovery", is the recovery of costs incurred, to which a company is entitled after the discovery of oil, when that company has borne all the costs and risks of

exploration and development. The cost oil is usually allowed up to a fixed proportion of the total production from the petroleum operation and development and is known as the cost oil limit, which in general, ranges from 30 per cent to 60 per cent of gross revenue (Nakhle, 2008). It is worthy of note that contracts with unlimited cost recovery exist in Indonesia, Bahrain and Algeria, although a fixed ceiling upon cost oil is thought to ensure a minimum quantity of profit oil from which the state can secure upfront revenues as soon as production commences (Razavi, 1989; Nakhle, 2008; Cameron and Stanley, 2017).

It should also be noted that the more generous the cost recovery limit, the longer it takes for the host government to realize its take, hence the provision for ring-fencing for cost recovery, so that only costs associated with a particular block or license must be recovered from revenues generated within that specific block or license (Nakhle, 2008). This makes it impossible for the costs of a given block or license area to be recovered from the revenues of another block or license area. This is one sure way to secure the revenues of host governments.

2.6.6 Choice between Tax/Royalty and Production-Sharing Regimes

In practice, the tax/royalty regime does not have any comparative advantage over the production sharing contract regime or *vice versa*. This is because each of the regimes can be designed to include a royalty payment, tax upon income of the oil and gas companies and a resource rent tax, which will produce mutually beneficial results for both parties (Sunley *et al.*, 2003; Nakhle, 2010).

2.6.7 Risk Service Contracts

Under risk service contracts, the contractor carries out development work on behalf of the host government for a fee, payable by the host government, which in some exceptional cases, will be in the form of oil (Amoako-Tuffour and Owusu-Ayim, 2010; Nakhle, 2010). The risk service contract can be in the form of technical assistance contracts, under which capital provided by the contractor is principally based upon special technical know-how. The risk service contract is suitable for countries where the state has substantial capital but seeks only expertise, or a buyback agreement. Under a buyback agreement, the host government or national oil company “buys back” the project after a period by fulfilling the remuneration obligation to the contractor (Bindemann, 1999; Nakhle, 2010; Mansour and Nakhle, 2016).

2.6.8 State Equity

Governments may also take up equity in the oil and gas project if they intend to participate directly in the project. The traditional forms of equity that governments may take include paid up equity upon commercial or concessionary terms, carried interest, tax/equity swap, equity in exchange for non-cash contributions by government and 'free' equity. The so-called 'free' equity participation is a simple grant of an equity interest directly to the state, being the host country, without any financial obligation or compensation to the private investor, mostly being the international oil companies (McPherson, 2010).

Governments may choose equity participation in an oil and gas project for a variety of reasons. These reasons range from providing a mechanism for technology transfer to increasing the control that the government has over the project. Despite these good intentions, equity participation increases government's risk exposure in the project, since the government will be required to foot its fair share of the project cost. It also pushes government into a difficult and conflicting position as a regulator, whose responsibility is to ensure that standards are adhered to, as well as a shareholder, whose sole aim is to maximize profits from the project (Sunley *et al.*, 2003).

Table 2.3 provides an overview of state-participation in selected petroleum-rich countries. These countries have provided for varied incidence of state participation in their oil and gas sectors, ranging from direct state participation under various formulas and to varying degrees, 100% (found mainly in most of the Gulf States), and none in some countries (McPherson, 2010).

Table 2.3 State participation in petroleum-rich countries

Country	Participation	Country	Participation
Algeria	51% CI	Qatar	65%
Angola	20%/variable CI	Russia	Minority to 100%
Azerbaijan	20%/variable CI	Saudi Arabia	100%
Bahrain	None	Trinidad and Tobago	None
Brunei Darussalam	50%	Turkmenistan	None
Cameroon	50% CI	United Arab Emirates	60% - 100%
Ecuador	None	Uzbekistan	50%
Equatorial Guinea	15% CI	Venezuela	60% - 100% WI

Gabon	15% CI	Vietnam	15% CI
Indonesia	10%	Yemen	None
Iran	100%	Brazil*	Variable
Iraq	100%	Chad*	10%
Kazakhstan	50%/variable CI	Mauritania*	10%/variable CI
Kuwait	100%	São Tomé & Príncipe *	None
Mexico	100%	Timor-Leste*	20% CI
Nigeria	50+%	Ghana*	10% F/variable CI
Norway (SDFI)	20% - 56% WI	Uganda*	20% CI

Sources: IMF Guide on Resource Revenue Transparency (2007); Sunley et al (2003); McPherson (2010).

Note: Countries indicated with an asterisk have potentially large medium- and long-term petroleum revenue. CI signifies carried interest. WI signifies working or paying interest. F signifies 'free' equity.

2.6.9 Additional Payments and Measures

Bindemann (1999), Tordo (2007) and Nakhle (2008) note that other payments made to a government, such as bonuses, could be lump-sum payments. These bonuses are found under concessionary systems and are varied in kind. Examples include:

a. a signature or lease bonus, which is payable upon signing the agreement with the government or the award of a lease;
b. a discovery bonus, which is payable when a commercial discovery is made; or
c. a production bonus, which is payable at an agreed amount or bid upon the achievement of a stated level of daily production.

The signature and discovery bonuses are a once-off payment, whereas the production bonus can be recurring and based upon a sliding scale. Nakhle (2010) and Swe and Emodi (2018) observe that depending upon the tax regime, bonuses may be tax deductible.

2.6.10 Indirect Taxes

Indirect taxes imposed upon the oil and gas sector also serve as a source of revenue for governments. Duties imposed upon items used in the oil and gas sector could be a major revenue source for governments in the early stages of the project, since the items imported are quite substantial. Providing exemptions for equipment used in the sector provides a huge incentive for investors, since it reduces the overall cost of the project.

2.6.10.1 Value Added Tax (VAT)

VAT is a consumption-based tax, that is, it is a tax on final consumption of goods and services charged on value-added at multiple stages of production (Terkper, 2011). This makes the applicability of VAT to the extractive sector a challenge, owing to the predominantly export-oriented nature of extractive industries. Since VAT refunds are associated with exports, issues bordering on administrative costs of VAT audits and compliance costs of taxpayers in the extractive industries come into play.

In the design of VAT for developing countries, adopting a high threshold for VAT registration, hence limiting the number of taxpayers; minimising exemptions; avoiding multiple tax rates; using appropriate audit methodology in place of sophisticated computer systems; as well as avoiding tax amnesties is the way to go (Bird and Gendron, 2007). Although VAT is less detrimental to economic growth than an income tax is, VAT in most African countries are riddled with exemptions, exclusions, and zero rates on domestic goods and services (Cnossen, 2019). This calls for base-broadening which would make the VAT less distortionary and complicated (Cnossen, 2019).

The main methods for determining VAT liability, identified by Ebrill, Keen and Perry (2001) are the "invoice credit" method, where each trader charges VAT on its sales and purchasers pay for it, leading to the trader taking credit of any input VAT from the output VAT charged. The second method is the 'subtraction' method where allowable purchases are subtracted from revenues; and the third method is the 'addition' method, where the tax is levied on an estimate of the value added. The invoice credit method is the favoured method in practice in most countries; Japan and Italy use the subtraction method and Israel and Argentina use the addition method (Ebrill, Keen and Perry, 2001).

Van Oordt, Stern and Okoh (2016) observe that due to their predominantly export-oriented nature, governments should not expect large amounts of VAT revenue from extractive industries operating in their country. I agree with this position because at the exploration stage, most of the input VAT is on imported capital equipment that would be capitalized by the international oil companies and capital allowances taken thereon, to reduce any future corporate income tax. Furthermore, at the production stage, as again noted by Van Oordt *et al.* (2016), the exports of oil and gas are zero-rated, thus putting the oil companies in a tax refund

position, since their input VAT usually exceeds their output VAT, leaving the country or operation with little or no revenue flows from VAT.

Imposing a VAT on the input of companies in the oil and gas sector may pose huge challenges, if the administrative structures for paying refunds are weak. If the exports of oil and gas companies are zero-rated, then the companies will have their input VAT exceeding their output VAT, and will constantly pursue refunds from the tax authorities. The refunds could be a source of corruption, through the tendering of fake documents to secure such refunds (Gordon, 2010). Some countries exempt the imports of these companies from VAT, to avoid this problem. If this exemption is extended to local suppliers, it may provide an avenue for domestic suppliers to avoid the payment of VAT.

Some proposals made by Van Oordt *et al.* (2016), that could address the challenges of VAT in the oil and gas sector, include:

a. exempting the oil and gas sector from VAT,
b. granting oil and gas companies a tax deferral mechanism that allows them to pay the VAT later, or alternatively,
c. allowing them to only report the VAT involved without actual payment of the VAT.

This, they believe, would assist in the administrative monitoring of VAT in the oil and gas sector.

Ghana introduced the VAT Relief Purchase Order (VRPO) mechanism. It is an administrative system where oil and gas companies are granted relief from the payment of VAT. However, they are required to issue a VRPO to entities that supply goods and services to them (oil and gas companies). As noted by Van Oordt *et al.* (2016), this administrative measure has its own challenges, especially how to monitor the application and use of the VRPO to prevent abuse. Interestingly, since 2012, the Government of Ghana has always indicated in its annual budget statements that it is withdrawing the VRPO system, yet some companies still issue such orders, although, indeed, no new approvals have been given to new companies to use the VRPOs.

2.6.10.2 Export Duty

The majority of countries exempt oil and gas exports from duties. Russia is a notable exception to this practice, since it imposes export duties on oil and gas products. Four distinctive features

emerge from the evolution of fiscal regimes in Norway, Indonesia, Kazakhstan and Angola. The first feature is that the terms of the fiscal arrangement are mostly determined by the price of oil. The terms appear a bit relaxed in times of low oil prices, but the reverse is usually the case in times of higher oil prices. This is because low oil prices tend to lower the profits of oil and gas companies, which reduces their willingness to invest in exploration and development of new oil fields. Governments in these countries tend to relax the terms of the fiscal arrangement to serve as an incentive to attract investment in this sector.

The second feature is that the fiscal terms are largely influenced by the tax policies in the home country of the investor. Thus, a change of the tax policies in the home country of the investor usually results in a change in the fiscal terms between the governments in the resource-rich state and the investors. Sunley *et al.* (2003) note that changes in the production-sharing contracts by Indonesia in 1978 and the restriction upon capital depreciation by Norway in 1979 are typical examples.

The third feature is that the use of bonuses, as a revenue instrument, has lessened its importance over time. Finally, the fourth feature is that the maturity of the fiscal regime often results in a more progressive revenue regime. The introduction of a multiple rate royalty regime by Norway in 1972, the excess profit tax by Kazakhstan in 1995, the progressive production-sharing scheme adopted by Indonesia in 1998, and the model production-sharing contract introduced in Angola in 1988 bear ample testimony to this fourth feature (Sunley *et al.*, 2003). Policymakers in different countries should establish fiscal regimes, which take into account all the unique issues affecting the development of the oil and gas sector in each country. A good combination of production-based and profit-based instruments will ensure that governments maximize revenue from the development of the oil and gas sector.

2.7 FISCAL REGIMES IN THE OIL AND GAS SECTOR

The two basic and broad systems of granting rights to investors in the oil industry are the "concessionary system" and the "contractual scheme". The concessionary system is seen to have originated in the mid-1800s and predominantly used in the OECD countries, whereas the contractual system came into being in the mid-1950s and has been typically adopted by developing countries (Tordo, 2007; Nakhle, 2010).

The issues regarding the type of fiscal regime that should be in place in a country and the tax rates imposed can be considered when an examination is made of existing fiscal regimes in some oil-rich countries. It is important to note that very onerous fiscal terms can be found under concessionary regimes, such as in Norway, where the government's take reaches 78 per cent. Similarly, in the 1980s, the Government of the United Kingdom's share of the oil revenue reached nearly 90 per cent (Nakhle, 2010; Tordo, Tracy and Arfaa, 2011). Russia's regime provides a case study of the defects in petroleum sharing contracts, especially their production sharing contracts signed between 1994 and 1995. The objective of these contracts at the time was that the Russian government was to encourage foreign investment in the country's hydrocarbon projects. This was because the price of oil at the time was as low as USD 10/bbl (Nakhle, 2010; Larchenko and Kolesnikov, 2017).

Countries that operate a concessionary regime under which companies are entitled to the ownership of the oil extracted include Canada, the United States, Brazil and Norway. Whereas countries such as Algeria, Angola, Nigeria and Azerbaijan apply a contractual regime under which government retains ownership of the petroleum produced under one type of contractual regime, namely production sharing contracts (PSCs) or production sharing agreements (PSAs) (Nakhle, 2010; Tordo, Tracy and Arfaa, 2011; Mansour and Nakhle, 2016). Concessionary regimes have been adopted by the United Kingdom, Australia and Norway, with a certain harmonization apparent upon the surface, where in each case, a royalty was imposed when the country first opened up for production, but later, the royalty element was progressively abolished and replaced by a profit-related regime (Nakhle, 2010; Boadway and Keen, 2010; Hogan and Goldsworthy, 2010).

2.7.1 Concessionary Systems

A concession is an agreement between a government and a company that grants that company the exclusive right to explore, develop, produce, transport and market petroleum resources at its own risk and expense, within a fixed area, for a specific period of time (Blinn, Claude and Honoré, 1986). The characteristics of the concessionary system are that:

a. the petroleum resources in the ground or under the seabed are the property of the state;
b. the oil company has the right or title to produce oil at the wellhead and has to pay the appropriate taxes and royalties to the state (Nakhle, 2010). Royalties are the payment for the extraction of natural resources.

As noted by Nakhle (2010) and Amoako-Tuffuor and Owusu-Ayim (2010), the earliest type of concessionary system, that is before World War II, consisted of agreements which were one-sided and granted by comparatively inexperienced governments. These governments sometimes had little authority, were often under foreign political dominance and did not possess a legal framework appropriate to govern such things as petroleum operations. It was only after World War II that a second generation of concession agreements was developed, which provided for a more active role of the host government and a corresponding decrease in the rights of international oil companies (Wälde, 2008; Nakhle, 2010). The current practice under the concessionary system is thus through a combination of corporate income tax, a special petroleum tax and royalties, hence the concessionary regimes being known as royalty/tax systems.

2.7.2 Contractual Regimes

Contractual regimes emerged as the result of efforts to modify the nature of the relationships between international oil companies and host governments. Above all, it was also to find an alternative to the concessionary regime that was found to be incompatible with government sovereignty following the political developments around the world during the second half of the 20th Century (Nakhle, 2008; Daniel, Keen and McPherson, 2010).

The contractual regime thus sought to allow the host government to exercise more control over both petroleum operations and the ownership of production. Production sharing contracts (PSCs) and risk service are the two types of contractual regimes applied by some petroleum producing countries, with Indonesia making their use popular in the 1960s (Bindermann, 1999; Nakhle, 2008). A typical contractual system occurs where the oil company is appointed by the government as a contractor for operations on an oil block, which is a certain agreed area with the title to the hydrocarbons remaining with the state, hence all oil production belongs to the host government, unless it is explicitly shared.

The international oil company thus executes the petroleum operations in accordance with the terms of the contract with the host government, operating at its own risk and expense under the control of the host government, although it provides all the financing and technology required for the petroleum operation (Nakhle, 2008; Daniel, Keen and McPherson, 2010; Tordo, Tracy and Arfaa, 2011). If production is successful after the contractor has met the exploration and development costs, it receives a share of production or a cash fee for its operation. In a case where the international oil company receives a share of production in oil, the system is then a

production-sharing contract (PSC), also known as a production sharing agreement (PSA). If, however, the international company, being the contractor, is paid a fee for conducting the petroleum operations, the system is known as a service contract or a risk service contract under which the international oil company pays taxes upon the fee earned (Nakhle, 2008; Nejad, Manzoor and Amani, 2018).

2.8 ASSIGNMENT OF OIL REVENUE AND FISCAL FEDERALISM

The discussions in this section examine the issue of how revenue from oil and gas is assigned to different levels of government. Whereas some oil and gas resourced countries have a centralized government system where there is only a national government, some have in addition to the national government, subnational governments. Subnational governments are state, regional or provincial counties, and local government systems. This system of government impacts on how revenue from oil and gas is assigned, as suggested by Bahl and Bird (2018) that there is a relationship between democracy and decentralisation in the distribution of resource revenues. This is my focus of discussion in this section.

Brosio (2003) states that the assignment of oil revenue to different levels of government should follow the pattern of other mineral rents. Designing an appropriate allocation mechanism is often fraught with difficulties and complexities. In countries such as Russia and Argentina, the oil resource is located in a number of provinces, thus granting subnational governments the exclusive right to tax the resource (Brosio, 2003. This, however, would result in huge inequities as far as the distribution of oil revenue is concerned. To address this disparity, governments often implement policies aimed at equalization of revenue accruing to all subnational governments. These mechanisms are categorized into two main groups: vertical equalization and horizontal equalization.

In the vertical equalization model, which is practised in Canada and Australia, the central government pays grants to subnational governments. The horizontal equalization model is practised in Germany, and requires the relatively richer subnational governments to pay grants to the relatively poorer subnational governments. These two models are not mutually exclusive, and as suggested by Courchene (1979), can be combined to produce optimum results. The vertical model is used for revenue from non-oil sources, because the skewed distribution of the revenues to be equalized influences the total amount of the grant. Brosio and Jimenez (2015) state that in open-ended systems, such as in Canada, where there is no upper limit to the total

amount disbursed by the federal government, whenever the standard tax base – the tax base of the jurisdictions with reference to which revenues are equalized – increases, the total amount of the grant is bound to also increase, *ceteris paribus*. Thus, central government finances may be subjected to such a severe strain that they require a change in the formula.

The horizontal model, on the other hand, is used to equalize distributions from oil revenue. This is because the horizontal models do not have the same difficulties in construction as the vertical models. As further observed by Brosio and Jimenez (2015), the degree of equalization is written in the formula, thus not exposed to sudden changes in the total amount of natural resource revenue, neither is it skewed to their distribution. Moreover, possible strains on central government finances cannot arise if the standard is set at the national average, because the total grant from net-paying jurisdictions is equal to the total grant received by beneficiary jurisdictions.

Designing an appropriate equalization scheme ought to take into account the concentration of the resource, as well as the tax base applied, to generate revenue from this resource. Where the resource is located in one territory, it is relatively simple to implement an equalization model, since the tax base for generating the revenue is the same. However, where the resource is located in different territories that may apply different taxes, implementing an equalization scheme becomes more complex.

In some oil-producing countries, the revenue from the sector is shared amongst different levels of government (Sunley *et al.*, 2003). These levels of government can be categorized into national, provincial or state, and local government. The assignment of revenue to these various levels of government takes different forms, depending upon a number of factors. If the oil and gas resource is owned by either the provincial/state or local governments, the 'subnational' government is usually paid royalties for the right to extract the resource. This practice is common in Canada (McLure, 2003), owing to the federal system operative in Canada. These 'subnational' governments may also have the right to levy taxes upon the revenue generated from the extraction of oil and gas. This right is typically found in countries with federal systems, such as the United States and Canada (McLure, 2003). The right of the 'subnational' government to impose taxes may be absolute or limited, to enable the national government to receive a portion of the oil revenue through other forms of taxation. 'Subnational' governments may also impose taxes in addition to those imposed by national governments upon extraction

of oil and gas. National and 'subnational' governments may also share tax revenue generated from oil and gas extraction.

Several economic reasons justify the need for subnational governments to have a share of the revenue generated from the extraction of oil and gas. Firstly, since the resource is located within their territory, it is reasonable to assign a portion of the revenue from the resource to the subnational government, that is, the territory from where the oil and gas resource is located and being extracted, as a form of compensation for permitting the extraction of the resource (Brosio, 2003). The funds needed to provide infrastructure such as roads and hospitals, and to provide environmental clean-up exercises as a result of the activities of oil and gas companies, are usually realized through the assignment of revenue (Boadway and Flatters, 1982; McLure, 1983). Again, since subnational governments have limited sources of revenue, assigning a portion of the revenue generated from oil and gas extraction is often seen as necessary, to enable these governments to fund their expenditure.

Apart from the economic reasons, subnational governments may lay claim to revenue from the extraction of oil and gas on legal and political grounds. Where the national constitution grants the power to tax oil revenues to 'subnational' governments, national governments cannot curtail this constitutional right (Simeon, 1980). In addition, a federal system of government may permit 'subnational' governments to impose some form of tax on oil and gas extraction and reserve other taxing rights for the national government. This arrangement may be put in place to quell separatist tendencies which may arise if residents of a territory where the resource is located feel that they are not deriving sufficient benefit from the resource (Brosio, 2003).

2.8.1 Country Experiences and Issues

In both unitary and federal states, oil revenue assignment can be classified into four categories: full decentralization, full centralization, assignment of overlapping/shared tax bases and revenue sharing (Ahmad and Mottu, 2003).

2.8.1.1 Unitary States

Due to the limited expenditure of most local governments in small unitary states, oil revenues in these countries are often centralized, amongst other political reasons. The full centralized

model is practised in countries such as Kuwait, Bahrain, Oman, Qatar, Saudi Arabia and Yemen (Ahmad and Mottu, 2003). The positive effects of a fully centralized model are as follows:

i. The central government is able to manage fluctuations in oil revenues due to the diversity of its revenue streams.
ii. Disparities arising out of sharing arrangements, which allocate more revenue to territories where the resource is located, are addressed through a central equitable distribution arrangement.
iii. The classical "race to the bottom" phenomenon, where subnational governments engage in competition for development of the resource located in their territories, is reduced.

To address these issues of volatility in oil revenue, relatively small unitary oil producing states have adopted a number of measures. Most of these governments have taken steps to develop alternative sources of income from other sectors of their economies. Other countries, such as Norway, Chile, Venezuela and Papua New Guinea, have established stabilization funds to give their governments steady income over a period of time (Sugawara, 2014). In addition, some countries, such as Kuwait, have established a savings fund to address the issue of oil revenue volatility (Ahmad and Mottu, 2003).

In countries such as Colombia and Indonesia, which are large unitary states, national governments usually have arrangements with subnational governments where a portion of the revenue from oil and gas extraction is given to these subnational governments. The mechanism for designing an appropriate revenue sharing scheme is usually fraught with difficulties, and often leads to some economic and political problems (Ahmad and Mottu, 2003). In particular, the assignment of revenue to resource producing regions may lead to "horizontal inequalities" and make the government function of stabilizing oil revenues difficult, if not impossible, to achieve (Ahmad and Mottu, 2003). The large subnational governments in Indonesia and Columbia and the responsibilities of these subnational governments advance the economic and political argument for revenue-sharing arrangements.

2.8.1.2 Federal Countries

Revenue-sharing arrangements are used by most federal countries. In this arrangement, as proposed by Bahl and Bird (2018), the central government should collect all revenues from the extraction of oil and gas and redistribute them to subnational governments, according to a pre-determined formula. In some jurisdictions, the tax base is allocated between the central

government and subnational governments, and some of these bases may overlap (Ahmad and Mottu, 2003). The criteria for determining the amount of revenue to allocate to subnational governments ranges from population to tax capacity. For example, in Mexico the central government receives most of the oil revenue and only a small proportion is allocated to subnational government. Nigeria, on the other hand, has an extensive revenue sharing scheme where over 75 per cent of the gross revenue from oil is shared amongst the central, state and local governments. The main problems with Nigeria's model are that there are no mechanisms to ensure that state and local governments are fiscally disciplined, and resource producing states are constantly pushing for greater autonomy and control over the revenue generated from the extraction of oil. Russia also derives a huge share of its revenue from oil. Most of the oil revenue is collected by the central government and shared with subnational governments. Russia faces similar problems to those of Nigeria in its oil revenue management.

In the United States, the original taxing rights of the revenue base from oil and gas reside in the individual states. The subnational government is thus free to determine what fiscal regime it will fashion out to derive maximum benefit from the extraction of oil and gas. In Canada, the different provinces retain their right to tax oil and gas (Thring, 1979; Desbarats, Carson and Greenfield, 1985; Black, 1986). Bahl and Bird (2018) argue three reasons against sharing of revenue from natural resources as follows:

a. That considering the inherently unstable commodity prices on the world market, it may not be prudent to share revenue from natural resources, since subnational governments may be unable to respond to such fluctuations, hence may suffer shocks to their social and developmental budgets.
b. The unequal distribution of natural resources could cause inter-jurisdictional disparities that may create resentment in areas without natural resource endowments.
c. The inability to make judicious use of the increased revenue inflows into resource-endowed areas may lead to societal ills, misapplication and misallocation of funds leading to corruption and possible conflicts.

The solution proposed by Bahl and Bird (2018) is to treat the revenue as part of the national revenues available for distribution to all subnational governments, with a sharing formula that takes into consideration the endowment capacity of the regions with natural resources.

From a policy perspective, the assignment of oil revenue should be based upon a balanced approach to address the competing interests of all stakeholders. This is why I agree with the revenue sharing solution proposed by Bahl and Bird (2018).

2.9 OIL AND GAS REVENUE MANAGEMENT

The prudent management of oil and gas revenues is an important area of oil and gas governance. Managing these revenues in a manner that facilitates sustainable development and avoids distortion and destruction of the economy is the overall goal of revenue management. Revenue management therefore involves the employment of well-defined and deliberate efforts to ensure that the country receives the right revenues and that these revenues are used to achieve equitable and value-oriented national development for the current as well as the future generation.

How much of the revenues from oil and gas accruing to the (national) government should be invested or spent? Where should they be invested or spent? How efficient is it to invest or spend? These are the three fundamental policy questions with which resource-rich countries are often confronted. Other pertinent issues that should also be resolved are why should oil and gas revenues be treated differently from other tax revenues? Is it because the source is non-renewable, or because it could originate from one or only a few subnational regions? More often than not, resource-rich countries get the answers to these questions wrong (Gelb, 1988; Ross, 1999). Consequently, sustained relative economic and political failure in some resource-rich countries of the world has ignited a renewed global interest in developing good management standards and practices for oil and gas revenue governance. The growing importance of applying good revenue management principles, particularly in oil and gas producing countries, has resulted in a wide range of academic inquiries into the impact or value of revenues accruing to governments upon the overall development agenda of such nations.

A critical review of early scholarly literature upon oil and gas revenue management would seem to suggest that debates on revenue management are generally a bi-product of the resource curse hypothesis (Gelb, 1988; Auty, 1993; Karl, 1997; Ross, 1999; Sachs and Warner, 2001; Katz, Bartsch, Malthra and Cuc, 2004). It becomes necessary to begin this review with a basic understanding of the resource curse hypothesis and the controversies surrounding it.

2.9.1 The Resource Curse Hypothesis

Economic theory and common sense argue that oil and gas discoveries, like all other natural resources, could lead to important economic transformation, largely due to the earnings of significant revenues from production. Yet casual empiricism suggests that resource abundance has had negative economic impacts for producing nations (Stevens, 2003; Roll, 2011). In a study of oil-rich countries in the Gulf of Guinea region, namely Nigeria, Angola, Equatorial Guinea, Cameroon, the Republic of Congo and Gabon, Roll (2011:16) writes:

> Many countries' development indicators are lower today than they were at independence. National economies are anything but diversified and the oil business is run by small and super rich elites. Politics often is all about corruption, the distribution of rents and the quick sale of oil and gas blocks. …public service delivery is non-existent, poverty widespread and the state functions only where it is relevant for selling oil.

Kolstad and Wiig (2009) have rightly maintained that it is not the abundance of or the wealth in natural resources *per se,* but rather the huge revenues or rents therefrom that cause these negative economic impacts. The work of Soares de Oliveira (2006) in respect of the Gulf of Guinea would also seem to support this view. He argues that the Gulf of Guinea is the "worst-case scenario" amongst resource wealthy countries, and that every structural prerequisite is missing for sound use of oil revenues. Severe pathologies already characterized the politics of many states before the arrival of oil rents, and most of their economies were already fragile and badly run. What could go wrong with decision-making did go wrong (Soares de Oliviera, 2006). According to Roll (2011), oil has exacerbated previous shortcomings and created new ones.

While this is generally the case, Stevens (2003) suggests that rather than a one-way negative impact, the huge revenues generated, particularly from oil and gas production, have had mixed economic impacts for different oil producing countries.

Whether referred to as the "resource curse" (Gelb, 1988) or the "paradox of plenty" (Karl, 1997), the resource curse hypothesis basically posits that many resource-rich countries are less well off in terms of economic growth and development, including poverty reduction, than countries without such an abundance of natural resources (Auty, 2001; Bulmer-Thomas, 1994; Lal and Myint, 1996; Ranis, 1991). Empirical evidence highlights the bundle of negative developments in resource-rich countries to include slower economic growth (Sachs and

Warner, 2001), civil war (Collier and Hoeffler, 2004) and authoritarian rule (Ross, 2001a). Other negative factors are persistent poverty, lack of economic diversification, rising inequality, growing corruption and violent conflicts (Rosser, 2006).

However, the general pattern where resource-rich countries do suffer a 'curse' as a result of the influx of large oil and gas revenues is not without exceptions. There exist convincing examples of countries that have conveniently escaped the paradox of plenty. For example, countries such as Botswana, Chile and Malaysia have reportedly managed to stay immune to the negative effects of resource abundance and implemented sound pro-poor strategies (Ross, 2001b). Another country that has been mentioned in the literature to have escaped the paradox of plenty and is now a trail blazer of resource management is Norway (Wright and Czelutsa, 2002). Given these exceptions, Auty (1994) thus rightly maintains that the "resource curse" phenomenon is more of a "… strong recurrent tendency …" than "… an iron law …"

2.9.2 Genesis of the Resource Curse

The history of the resource curse hypothesis dates back to the writings of scholars such as the 14th Century Arab philosopher, Ibn Khaldun, and the 16th Century French philosopher, Jean Bodin. While Ibn Khaldun (1967) identifies the fifth stage of the 'state' as one of waste and squandering, Sachs and Warner (1999) quote Bodin to have written: "Men of a fat and fertile soil are most commonly effeminate and cowards; whereas contrariwise, a barren country makes men temperate by necessity, and by consequence careful, vigilant and industrious."

History situated the resource curse debate on whether primary products could promote growth. Although some scholars (Roemer, 1970; Lewis, 1989) argue in the affirmative, it appears that the negative consequences of primary products and natural resources generally dominated the discussions in the 1950s and 1960s (Prebisch, 1950; Hirschman, 1958; Baldwin, 1966). These scholars agree that deteriorating terms of trade would generally place primary product exporters at a disadvantage when trading with industrialized countries.

Following the first oil shock in the 1970s, the focus of oil exporting countries shifted from primary products and natural resources to the management of the huge oil rents produced by the oil economies. By the 1990s, large windfall revenues from oil, gas and mineral projects significantly changed the spending choices of governments, with resulting damage to growth and development prospects (Gelb, 1986). Considering the continued high rate of discoveries

worldwide, particularly in developing countries, the relevant question became whether or not the large-scale revenues might lead the oil exporters to a 'curse' or a 'blessing' in terms of their development outcomes (Neary and Van Wijbergen, 1986).

2.9.3 The Resource Curse and the Transmission Mechanisms

Substantial literature exists on the various categories of transmission mechanisms through which the resource curse works. For example, Auty (1994b) cites three exogenous causes, namely structuralist policies, the Dutch Disease and the Export Based Theory, as well as two endogenous causes, namely policy failure and inefficient investment; and rent seeking and political economy, as the causes through which the resource curse works. However, Stevens (2003) categorizes the transmission mechanisms to include long-term decline in terms of trade, revenue volatility, the Dutch Disease, crowding out effects, increasing the role of the state, and the socio-cultural and political impacts. After reviewing available literature on the subject, Stevens (2003) argues that there is no single agreement on or any collection of explanations of what creates a 'blessing' rather than a 'curse', or *vice versa*. He rejects the often-applied stereotypical generalizations and concludes that on a case-by-case basis, the debate should shift from "resource curse" to "resource impact" and the evaluation of the nature of the resource impact. Additionally, Stevens (2003) distinguishes between what the transmission mechanisms (macroeconomic policies) are and why decision makers may either allow them to operate or not, as the case may be. Roll (2011) summarizes the varieties of causes under three broad mechanisms: the "Dutch Disease" mechanism, the expansive spending mechanism and the "rentier state" mechanism.

The Dutch Disease mechanism originated from the economic experience of the Netherlands after the discovery and development of the Groningen Gas Field in the 1970s. Generally, the mechanism refers to an over-evaluation of the exchange rate resulting from inflation created from the huge inflow of revenue derived from a single sector of activity, usually in the extractive industries. The result of the over-evaluation is that exports of non-extractive industry goods fall and imports of goods rise, resulting in the decline of trade in the main non-extractive sector. Through this mechanism, the economic structure of the Netherlands and the United Kingdom, for instance, fundamentally transformed from manufacture-led to petroleum extraction-led economies. In a similar vein, agriculture has often been the casualty for developing countries. Fundamentally, the Dutch Disease leaves the affected country "less productive, more exposed to sudden commodity price changes and with a significantly lower

number of jobs than before." Country studies that give support to the existence of the Dutch Disease in resource-rich countries include studies on Bolivia (Auty and Evia, 2001), Venezuela (Rodriquez and Sachs, 1999), Venezuela and Peru (Mikesell, 1997), Mexico, Brazil and Venezuela (Auty, 1994b), Algeria, Ecuador, Indonesia, Nigeria and Venezuela (Fardmanesh, 1991), and the United Kingdom (Forsyth and Kay, 1980).

The expansive spending mechanism is often associated with excessive borrowing against expected future revenues from oil and gas production. Additionally, the in-flow of huge oil revenues is often met with confused spending/investment options by the political elite of frontier oil producing nations. Quick and ill-coordinated decisions of inexperienced political elites often distort the workings of the economy (Auty, 2001). Of particular importance is when governments decide upon capital spending without giving thought to the recurrent spending implications (Sarraf and Jiwanji, 2001). It matters not whether the money is wasted on luxurious but less viable projects, money is suddenly being spent and/or invested indiscriminately.

The "rentier state" mechanism originates from political discourse rather than economic theory. This approach argues that massive in-flow of rent income from natural resources has had damaging economic implications for economies, as opposed to revenue generated from taxation. The debate is centered on the damaging impact of the revenue or rent from natural resources upon politics and political institutions. Roll (2011:16) aptly summarizes huge revenues from natural resources as follows:

> … they make the governing elite more autonomous from their citizens. They also allow them to strengthen the state and security apparatus that may result in a more authoritarian political system. Perhaps, most importantly, they turn the state apparatus, including both politics and the bureaucracy, into a rent-distribution bazaar. The focus of state action shifts from service delivery to allocation tussles and consumerism. Conflict, corruption and other symptoms of bad governance often thrive in such an environment.

Although Roll (2011) refers to the first two, namely the governing elite becoming more autonomous from their citizens and the authoritarian political system, as the classic economic mechanisms through which the resource curse works, some scholars (Cavalcanti, Mohaddes and Raissi, 2010) have recently questioned the plausibility of the resource curse hypothesis. They argue that if more elaborate statistical cross-country methodologies and a number of more detailed distinctions were applied, as well as context conditions taken into consideration, they

could likely arrive at results that modify or sometimes completely contradict the resource curse hypothesis. The concern of these scholars largely relies upon the empirical results of the resource curse hypothesis. For example, Cavalcanti *et al.* (2010) use the real value of oil production or rent as a proxy for resource endowment, and estimate in their results that oil abundance, both in terms of long-run and short-run effects, does not seem to be a curse. Similarly, Dunning (2008), after a careful investigation of different and more detailed variables, claims that resource rents can promote authoritarianism or democracy, but they do so through different mechanisms.

Basedau (2005) and de Soysa (2006) support a slightly modified argument. They take the following important details and context conditions into account, namely

a. the particular type of natural resources which the country possesses;
b. the costs of extracting them and the country's degree of resource dependence;
c. the quality of institutions of a country before oil wealth arrives;
d. the involvement and response of international actors;
e. the degree of social fragmentation along ethnic, religious or other lines
f. the vulnerable or rather consolidated position of the ruling elite; and
g. socio-economic conditions more generally.

They maintain that some resource-rich and formerly poor countries exist, which either did very well in improving their democratic credentials, or at worst, did not regress significantly.

From the above discussions, it is apposite to state that resource wealth is neither an automatic blessing nor a curse. It is certainly not destiny. Instead, depending on the particular type of natural resource, two mediating factors are crucial: the quality of institutions before the natural resources are discovered (Roll, 2011) and political coalitions in and around governments (Poteete, 2009). While scholars differ with regard to which particular institutions they regard as relevant and have included in their empirical studies (Kolstad, 2007), it remains undisputed that the quality of the pre-resource extraction institutions is both an enabling and a constraining factor. Roll (2011:16) notes that:

> It enables the particular government to develop a resource governance framework with some degree of legitimacy and to implement this framework, drawing upon a minimum level of administrative capacity… At the same time, high-quality institutions may also constrain government. They can do so by actively contributing to the development of a resource governance framework, by criticizing and legally challenging government's plans or by refusing to subordinate administrative procedure to political influence.

Roll (2011:16) maintains that, “while institutions set the stage when resource wealth arrives, political coalitions can eventually alter that very stage”, either temporarily or permanently.

2.9.4 How the Resource Curse Might Be Avoided –The Theory and the Practise

Most publications dealing with the resource curse phenomenon focus more on the analysis than on solutions to the phenomenon. Yet, some have suggested a number of possible solutions (Humphreys *et al.,* 2007). A recent policy initiative established by eminent scholars and academicians, the Natural Resource Charter 2014, has condensed the proposed solutions into twelve best practice principles for escaping the paradox of plenty. The principles are designed to cover the sequence of choices faced by governments in relation to resource extraction, including creating the right environment for responsible investment, good fiscal terms, due diligence on contracts, robust institutions and regulations, macroeconomic management and strategies for sustainable development. They have been criticized, however, for being primarily concerned with the domestic economic dimension of the resource curse to the neglect of the broader international context (Roll, 2011).

A cursory review of recent literature goes beyond these shortcomings of the Charter, to include the political economy dimension of the resource curse. Consequently, the different analytical strands contained in the literature include, amongst others, (a) the macroeconomic approach, (b) the corporate social responsibility (CSR) approach (Roll, 2011) and (c) the political reform/transparency approach.

2.9.5 The Macroeconomic Approach

Developed in response to the “Dutch Disease” and the expansive spending mechanisms, the macroeconomic approach involves, amongst others, revenue sterilization, economic diversification, stabilization and oil funds, investment policy, and leaving the resource in the ground or developing it slowly.

2.9.6 Revenue Sterilization

This refers to the macroeconomic policy adopted by governments specifically to neutralize the impact of the large windfall revenue inflow on the rest of the economy. To achieve this, there is always the need for fiscal prudence on the part of government, including resisting spending

pressures and accumulating budget surpluses. Although Mansoorian (1991) argues that external borrowing against expected inflows eventually leads to depreciation, Usui (1997) compares the experiences of Indonesia (which did not borrow) and Mexico (which kept borrowing) and concludes that foreign borrowing needs to be decreased to prevent the exchange rate from appreciating to "Dutch Disease" proportions. It would appear that explicit macroeconomic policy choices helped countries like Botswana, Chile, Indonesia and Malaysia to record significant depreciation of the real exchange rate and consequently avoided a "curse".

2.9.7 Economic Diversification

One of the most recommended solutions to the resource curse phenomenon is to reduce the importance of the dominant oil, gas or mineral sector in the economy by diversifying other sectors of the economy (Ross, 2001). This obvious solution has however proven elusive to many oil economies (Eden, 1979). For example, apart from Tunisia and a few others, huge amounts of public money are usually spent or invested into inefficient and uncompetitive industries (Davis, 1995).

Successful diversification rests upon two important dimensions: private sector investment and the open nature of trade policy (Stevens, 2003). Stevens (2003) maintains that while it was quite noticeable that Australia, Canada and the United States avoided the 'curse' partly because they maximized their resource revenue flow to the private rather than the public sector. An important part of the explanation for why Botswana, Chile, Indonesia and Malaysia did so was because they all ensured the competitiveness of their non-oil export by pursuing, amongst others, deliberate policies of trade openness with the rest of the world (Stevens, 2003).

2.9.8 Stabilization and Oil Funds

Scholars agree that a stabilized spending regime is a form of balanced budget principle that can ensure stable and moderate growth (Usui, 1996). This can be done through one or a combination of several interventions such as stabilizing prices using future markets to lock in price stability (Lindahl, 1996), the extractive agreement itself to smooth out revenue flows, or creating some form of revenue fund to be invested outside the domestic economy for purposes of stabilizing revenues, and insulating the economy from large revenue windfalls as well as for intergenerational equity (Stevens, 2003).

The utility or otherwise of the creation of a revenue fund has generated much controversy. While some have argued that revenue funds are not necessary, due to absent prudent expenditure policies, they are neither by themselves restraining agents for increased expenditure, nor is their presence automatic surety for stabilizing expenditure (Davis, 1995). Others maintain that the funds are needed because they dampen spending expectations as in the case of Chile and Indonesia (Mikesell, 1997). After careful review of the literature, Stevens (2003) summarizes the merits and demerits of revenue funds as follows. On the positive side, revenue funds can

a. help avoid rent seeking and corruption and create a focal point/constituency for proper management of the revenue;
b. allow the significant accumulation of assets for future use;
c. improve fiscal policy impact by defusing spending pressures by sterilizing revenue inflows when prices are high;
d. ensure that investing abroad helps reduce any tendency to exchange rate appreciation; and
e. insulate revenues from the hands of kleptocracies, until accountable democracies emerge although the ability to insulate in such a context is clearly problematical.

On the negative side:

a. funds are no guarantee of an appropriate fiscal stance and indeed are no substitute for sound fiscal and macroeconomic management;
b. the rules governing the operation of the funds are constantly changed to suit political circumstances;
c. they are always a temptation to encourage corruption and fraud;
d. control of the fund endows considerable patronage that may lead to the entrenchment of a regime; and
e. the creation of a fund gives a false sense of security which may undermine the basic need for real fiscal discipline.

For such funds to effectively operate, Stevens (2003:22) concludes:

> Professional management of the fund is essential, as is reporting to an independent board of control. Income for expenditure or to finance non-oil deficits should be transferred to fiscal authorities with oversight by the independent monetary authority…The fund should not have independent spending authority otherwise it undermines the budgetary process…There need to be simple general rules for accumulation and withdrawal and the government needs to define clear goals for the

> fund to fulfill…There is a need for transparency and accountability via regular reporting, audits, press releases etc. This can be done best by accountability through '… appropriate representative bodies and other state agencies that interweave lines of supervision.'…There is a need to enhance citizens' interest in prudent use of the resources.

2.9.9 Investment Policy

The literature reveals that the investment policy adopted by the government for the oil, gas and mineral revenues plays a crucial role, both in avoiding macroeconomic pitfalls as well as encouraging the process of economic diversification. Usui (1996), for instance, juxtaposes sharp differences in investment policy between Indonesia and Mexico and concludes that Indonesia's investment policy focused upon strengthening the productive base of the tradable sector, especially agriculture, while Mexico yielded to pressure from Petróleos Mexicanos (PEMEX) and invested primarily in the oil sector, where rent seeking was rife. Depending upon other promoting factors, a successful investment policy could focus either on the private sector (Sarraf and Jiwanji, 2001) or the public sector (Hope, 1998), or even a combination of both (Rasiah and Shari, 2001).

2.9.10 "Leave It in the Ground or Develop It Slowly"

Although an Oxfam study (Ross, 2011) implicitly proposes "leaving the resource in the ground" as one of the solutions to the resource curse hypothesis, others (Stevens, 2003) maintain that the resource should be developed, albeit slowly. Stevens (2003) claims that "leaving the resource in the ground" or "developing it slowly" are extreme propositions and somewhat non-serious options, but nevertheless argues on purely commercial terms, that either option raises issues about the speed with which the oil, gas or mineral project is undertaken and hence, the consequent production/revenue profile.

Two competing arguments are involved here. The first and conventional wisdom approach is that the faster the development of the resource, the better in terms of present value and *vice versa*. The second and more commonsensical approach argues that, in terms of both revenue management and the absorptive capacity of new producing countries, the slower the development of the project, the greater the chance the economy and the society have to adjust to the sudden inflow of huge revenue. Useful illustrations of countries implementing the latter

include the United Kingdom and Norway (Hallwood, 1990), and both of these countries avoided the resource curse.

2.9.11 Political Reform/Transparency Approach

Considering that the oil and gas sector is largely veiled in secrecy, the sector's available literature recognizes the need for some sort of political reform to consolidate the above corrective measures. To develop democracy and to remove corruption and contain rent seeking by not politicizing the resource allocation feature in the literature as desirable strands of political change are necessary to encourage a 'blessing' rather than a 'curse' (Mbaku, 1992). The same is true of the need for transparency, which features in the literature as an aide to minimize corruption (Stevens, 2003).

The political reform/transparency approach, considered from its transparency strand, is probably the most recent and influential global initiative in response to the resource curse phenomenon. This approach has been adopted by all actors involved: governments, oil companies, donors, NGOs and organized civil society at large. Led by non-governmental organizations such as Global Witness as well as the NGO-consortium, Publish What You Pay, the approach emerged around 2002 in the context of the international anti-corruption movement (Roll, 2011). This "transparency movement" argued for full disclosure of the revenue flows from international oil companies to governments, particularly in poor countries as a transparency mechanism for monitoring and reducing corruption (Roll, 2011).

Viable programs such as the Extractive Industries Transparency Initiative (EITI) have reportedly succeeded in holding governments of resource-rich countries accountable for natural resource revenues, with the support of many progressive civil society organizations in those countries (Dykstra, 2011). The voluntary nature of the EITI, coupled with its flexible reporting standards, has however given impetus to some authors to question the utility of EITI's transparency campaigns (Gillies, 2011). They maintain that companies as well as governments often subscribe to initiatives such as the EITI because such initiatives provide these governments with a positive reputation and good public relations, even without having to demonstrate positive steps for economic growth and development (Gillies, 2010). Soares de Oliveira (2007) argues that it would be unlikely that transparency preconditions for company listings on Western stock exchanges would become reality in the foreseeable future. A major breakthrough in this regard, especially for the US Publish What You Pay Coalition, is the

Cardin-Lugar Energy Security Through Transparency Law. This law is a mandatory extractive industries payment disclosure in the United States.The provision is the first ever mandatory extractive industries' payment disclosure and transparency requirement. This is a part of the Dodd-Frank Wall Street Reform and Consumer Protection Act, passed by the US Senate in July 2010 in the midst of the global economic crisis. With effect from 2012, the law requires all extractive industry companies listed on the US stock exchange to disclose their payments to government for oil, gas and mining activities in their US Securities and Exchange Commission (SEC) filings. The disclosures, which are publicly accessible, are required to be broken down by country, project and payment stream, which is arguably more detailed than required by the EITI (Roll, 2011). According to Ian Gary of Oxfam America, around 90 per cent of all internationally operating oil companies, both US and foreign, are affected by this legislation (Gary, 2010).

It has been argued that 'transparency' remains paramount in the fight against corruption, but it is far from a sufficient condition to avert the resource curse (Roll, 2011). If transparency is to translate into better accountability and democratic governance as well as sustainable development factors such as the citizens' capacity to use the information provided, the existence of a free and critical media, an educated public, civil society organizations which can mobilize effectively, a capable parliament, as well as political parties are necessary (Kolstad and Wiig, 2008b).

Beyond transparency, some have argued that "… rulers usually have had no concept of a wider national interest, beyond that of their immediate circle, and certainly no concept of economic growth as a legitimate social objective", securing a developmental rather than a predatory state as well as securing an alignment of interests are key in minimizing the risk of suffering a 'curse' (Stevens, 2003). The encouragement of a vibrant private sector tempered with reasonable regulatory interventions also features prominently in the experience of the "usual suspects" that escaped the resource curse (Stevens, 2003).

Although theoretically there may be justification for opponents of the resource curse thesis, the literature largely suggests the continuing centrality of oil for the world economy and the concurrent developmental tragedies in resource-rich countries in the developing world as sufficient justification for the resource curse hypothesis. Does the answer to the problem of resource abundance lie with any particular approach? A proper review of the literature would

suggest that the list of measures discussed above is incomplete. Nor could any one of them, implemented in isolation from the others, be a solution to the resource curse phenomenon. What is required to have an impact is an intelligent combination of instruments, "a reform package" (Roll, 2011). On this, some have placed the greater burden on the quality of policy choices that political leaders of the respective countries can make (Roll, 2011).

Diamond and Mosbacher (2013) state that where one-party dominance or outright authoritarian rule prevails, as in Ethiopia, The Gambia (then under Yahya Jammeh), Tanzania and Uganda, oil wealth will further entrench it, whereas where democracy is struggling to sink its roots, as in the case of Kenya, Liberia, Malawi, Senegal and Sierra Leone, it could easily overwhelm weak state institutions. Diamond and Mosbacher (2013) also observe that Ghana, which is touted as having a liberal and stable democracy in West Africa, could fall victim to the problem of oil revenues.

2.10 NATIONAL OIL COMPANIES: EVOLUTION, ISSUES, OUTLOOK

The performance of the oil and gas sector in petroleum producing countries in terms of revenue generation for development is usually dependent on the structure of the oil and gas industry, as well as the pattern of ownership of the natural resource (McPherson, 2003). National oil companies (NOC), that is oil companies fully or in the majority owned by the state, usually play a pivotal role in ensuring that the state derives maximum benefit from its oil and gas reserves in terms of revenue generation. These companies usually have the backing of the state.

Argentina is credited as the first country to establish a national oil company known as the Yacimientos Petroliferos Fiscales in the 1920s (McPherson, 2003). The astronomical increase in the number of national oil companies in the 1970s is partly attributable to the desire by governments to have a foothold in the development of their national oil and gas reserves (McPherson, 2003). National oil companies gave governments the opportunity to participate directly in the oil and gas sector, since these companies are strategically positioned to operate in the 'upstream' and 'downstream' sectors of the industry, to secure the revenue base for governments. Over 90 per cent of the world's oil reserves are controlled by national oil companies and over 73 per cent of production emanates from these companies (McPherson, 2003).

In the next sub-sections, the issues peculiar to the activities of national oil companies in their quest to assist governments to secure the much-needed oil revenues for growth and development, are discussed.

2.10.1 Commercial Efficiency

A cursory look at the operations of most national oil companies reveals that these companies are not commercially efficient. A study conducted by PricewaterhouseCoopers in 1998 revealed that the Indonesian national oil company, Pertamina, was incurring annual losses of USD 2 billion. The Nigerian National Petroleum Company (NNPC) was also estimated to be losing between USD 800 million to USD 1 billion annually (World Bank, 2000a). This state of affairs obviously denies government the very revenue that these companies were established to secure for the state.

A World Bank report in 1993 on the operations of national oil companies in sub-Saharan Africa estimated that these state-owned companies were losing, on average, USD 1.4 billion annually, due to inefficiencies. This amount was equivalent to the total lending programme that the World Bank was offering to sub-Saharan Africa at the time (Schloss, 1993). Thus, if these companies had operated effectively and efficiently in harnessing the revenue expected from oil, the region could have been weaned off World Bank support.

The loss of state-owned companies is in part as a result of the generally high salaries paid to management of these companies, unaccompanied by a reciprocal high performance as compared to the private enterprises (Goldberg, Grünfeld and Benito, 2008). The high salaries burden leads to challenges in corporate governance issues, which includes agency and multiple-principals problems such as the demand by management for more benefits, allowances and perquisites of their office rather than reducing costs to the state-owned companies (Musacchio, Ayerbe and Garcia, 2015).

To address these problems, it is important to pay particular attention to the operations of national oil companies and to employ a number of strategies to address the operational inefficiencies. It will be helpful to benchmark the operational results of national oil companies against international oil companies, to find out which of the key areas require attention. This benchmarking exercise ought to be carried out on a regular basis and the results should be made public (McPherson, 2003).

There should also be a concerted effort to implement policies that allow national oil companies to operate on sound commercial principles. Governments can consider partial privatization of the national oil companies, to ensure that independent and commercially viable policies are implemented in the operations of the national oil companies. National oil companies can also diversify their activities, focus on their core activities, and outsource the non-core functions to other companies with proven capabilities in those areas.

2.10.2 Non-Commercial Objectives

National oil companies are usually established to achieve a number of economic, social and political objectives. These objectives ultimately affect the performance and profitability of these companies. National oil companies are usually tasked with creating jobs for nationals. This objective, however, of establishing national oil companies fails to take into account the fact that the oil sector is more of a capital-intensive than a labour-intensive venture (McPherson, 2003). To satisfy the job creation objective, national oil companies often employ people who do not have the necessary training or who are not needed in the first place. This ultimately affects the productivity of the national oil company.

In addition, national oil companies are often established to ensure that local capacity is developed. However, the companies may not be adequately equipped to fulfil this huge mandate. Some national oil companies are expected to fund key infrastructural projects in the state. These projects take a huge toll on the financial position of the companies, and usually render them unable to fulfil their core mandate. Some states also use national oil companies as vehicles to borrow from capital markets, to finance projects in the country. A typical example is the national oil company in Angola (McPherson, 2003). To reverse these worrying trends, national oil companies have to be relieved from the numerous non-commercial objectives, so that they can focus on their core activities.

2.10.3 Governance

The governance structure in most national oil companies is weak, which affects the efficient operation of these companies. The activities of most of the companies are not carried out in a transparent manner, and issues of accountability are frequently disregarded. The boards of directors and other key members of management are usually appointed by the government, without due regard to the qualifications and experience of these top managers. This gives most

governments the ability to interfere unnecessarily in the affairs of the national oil companies, which does not augur well for their smooth and efficient management. Governments should promote transparency and accountability in the operations of national oil companies. Appointment of managers should be based on merit and such managers given enough room to steer the affairs of the companies.

2.10.4 Cash Requirements

National oil companies usually require huge amounts of money to undertake their activities. Most national oil companies rely on government budgetary allocation to meet their expenditure. In periods of low government revenue, national oil companies become cash starved, as they will have to compete with other sectors of the economy for funds. Governments can consider privatizing these companies, so that they can wean them off state budgetary support. This is because international oil companies can easily raise capital from the international markets to finance their projects.

2.10.5 Conflict of Interest

Another major issue faced by national oil companies is conflict of interest. The national oil companies usually draw up policies and regulations and ensure that these rules are complied with. This, invariably makes the national oil companies regulators in the oil and gas industry. Apart from being regulators, these companies also participate directly in the upstream and downstream sectors of the industry. Thus, national oil companies play a dual role as a regulator and a producer in most countries. This gives rise to a conflict of interest situation. To address this problem, the regulatory oversight responsibilities have to be decoupled from the activities of national oil companies and placed in the care of an independent body.

With the coming into force of the Petroleum Commission Act, 2011 (Act 821), the Ghana National Petroleum Corporation (GNPC) is thus now concentrating on exploration and production activities in the upstream sector of the oil and gas industry in Ghana. The GNPC is therefore no longer regulating and managing the utilization of petroleum resources, hence relieving it of the dual role of both regulator and producer.

2.11 CONCLUSIONS

The literature shows that there are different ways to define a tax and its attributes. The most significant attributes of a tax are: a compulsory collection of a sum of money; by the state or an organ of the state; from residents and entities for public purposes. Thus, any imposition with the above features qualifies as a tax, notwithstanding that the taxpayer gets nothing directly in return from the state.

The attributes of a good tax system dictate that taxes in the oil and gas sector should be equitable between the state, being the owner of the oil and gas, and the oil companies. The tax system in the oil and gas sector has to be convenient to the oil and gas companies in terms of the method of payment of their assessed taxes, an area that will be examined in more detail in Chapter 3. The certainty of the imposition of the taxes and their calculations should also be assured, and the cost of administering and collecting the taxes in the oil and gas sector should be minimal in comparison to the revenue to be collected to meet the attribute of economy.

The key tax instruments in the oil and gas sector are royalties, resource rent, production sharing, equity participation, auctions, bonuses, corporate income tax, import duties, export duties and VAT. Royalties based on the value of the minerals are slightly better, because they fluctuate with the price of the minerals and are not regarded as part of the cost of the project. The indirect taxes, specifically the import duties, export duties and VAT do not to generate enough revenue for the state, if any, owing to the fact that exemptions are mostly granted to the companies in the oil and gas sector, to enable them to reduce their initial costs of exploration and development of the oil and gas blocks. Moreover, their exports are zero-rated, as the oil and gas are not consumed locally to attract VAT, which is a consumption-based tax. The exemptions from indirect tax, especially VAT, granted to the oil and gas sector is appropriate, considering that it is one sure way of reducing the costs of production in the oil and gas sector. The exemption from indirect tax will assist the oil and gas companies to undertake cost-efficient production, as most of their inputs for their production processes would be without the VAT charge, and hence, would be relatively low cost.

Policy making in the oil and gas sector is examined in this chapter, and the observation is that it is an arduous task of balancing between revenue generation and providing an enabling environment and a less costly investment to investors. The challenges of oil and gas being non-renewable with unpredictable prices are issues with which tax policy makers grapple. However,

commitment to an agreed policy, which is consistently applied to investors, is a desirable quality in oil and gas taxation that ensures that a country succeeds in harnessing the much-needed revenue from oil and gas for development.

The two main regimes for oil and gas are the contractual regime and the concessionary regime (also known as the royalty/tax system). The concessionary regime has a combination of corporate income tax, a special petroleum tax and royalty, whereas the contractual regime allows the host government to exercise more control over both petroleum operations as well as the ownership of production of the oil and gas. The variants of the contractual regime were observed to be production sharing contracts (PSCs) and risk service contracts. Ghana is noted in the study to have settled on a hybrid model, a novel system which combines the features of the PSC and that of the concessionary system. With this hybrid model, the Government of Ghana shares in the oil and gas output with the oil and gas companies. It also receives corporate income tax, royalties and special petroleum tax by way of additional oil entitlement.

A number of similarities in tax instruments, especially state participation and corporate income tax, are identified as being used in all the countries.

The assignment of oil revenue to different levels of government is examined in this chapter and this is done in the two main forms of federal states and unitary states. Subnational governments, found in federal states, are allowed to impose some form of tax on oil and gas extraction. In both unitary and federal states, oil revenue assignment can be classified into full decentralization, full centralization, assignment of overlapping shared tax bases and revenue sharing.

This chapter discussed the issue of oil and gas revenue management in general as a prelude to the discussions in Chapter 4 under the review of Ghana's Petroleum Revenue Management Act in a bid to determine whether the provisions of the Act are adequate to avert the occurrence of the "oil curse" in Ghana. The resource curse hypothesis as well as its genesis and transmission mechanism are also discussed in this chapter. The study observes that the general pattern where resource-rich countries do suffer a 'curse' as a result of the influx of large oil and gas revenues is not without exceptions. With regard to the genesis of the 'curse', the study observes that the debate is situated on whether primary products can promote growth, and in situations where they do not, then the 'curse' sets in. The transmission mechanisms through which the resource

curse works are found to be both exogenous causes, namely structuralist policies, the Dutch Disease and the Export Based Theory, with the endogenous causes being policy failure, inefficient investment and rent seeking. The 'curse' is avoidable through the application of the macroeconomic approach. This chapter identifies revenue sterilization, economic diversification, stabilization of oil funds and investment policy as the most practical macroeconomic approach for avoiding the "oil curse". These will be examined in relation to Ghana in Chapter 4 of this study.

The issues of national oil companies, their evolution, their policy direction and their outlook are discussed in this chapter. National oil companies (NOCs) play a pivotal role in ensuring that the state derives maximum benefits from its oil and gas reserves. However, they have the challenge of not operating in a commercially efficient manner.

The cash requirements of NOCs are a challenge, as is the issue of conflict of interest where the NOCs in some instances happen to also be the regulators of the oil and gas sector. Ghana used to face such a challenge with its NOC, the Ghana National Petroleum Corporation, being the regulator and an oil company until the Petroleum Commission was established in 2011 to handle the regulatory function as well as the maintenance of the utilization of oil and gas. This enables the Ghana National Petroleum Corporation to fully concentrate on its commercial function as an oil company.

The general literature review and findings in this chapter informs the discussion of the tax policy and tax administration in the oil and gas sector in Ghana more specifically, as discussed in more detail in Chapter 3. It also provides impetus to the discussion on the fiscal regime for oil and gas in Ghana, discussed in Chapter 4.

CHAPTER 3

TAX POLICY AND TAX ADMINISTRATION IN THE OIL AND GAS SECTOR IN GHANA

3.1 INTRODUCTION

This chapter examines Ghana's tax policy and the challenges with which tax policy makers encounter, the legal framework for Ghana's oil and gas sector, the adequacy of the tax administration system on oil and gas, as well as how the nation's tax policy in the oil and gas sector drives the tax administration. A review is also conducted of the staffing and capacity needs of the institutions responsible for tax policy and tax administration in respect of the oil and gas sector in Ghana.

3.2 TAXATION IN GHANA

Income tax was first introduced in Ghana, formerly called the Gold Coast, in 1943 by the British colonial government. It should be noted, however, that before the introduction of income tax in 1943, several attempts at taxation had already been made. For example, as far back as April 1852, the Poll Tax Ordinance was passed to raise money to finance the increased cost of the British administration (Kunbuor and Ali-Nakyea, 2016). Kunbuor and Ali-Nakyea (2016) observe that under the Poll Tax Ordinance, every man, woman or child residing in districts under British protection was to pay one Shilling (1/-) per head per year. These early experiments with the introduction of direct taxation failed due to weaknesses inherent in the system of collection.

The first Income Tax Law was the Income Tax Ordinance (No.27), 1943. This ordinance was modelled, to a large extent, on the general principles underlying the Income Tax Act in force in the United Kingdom at the time. It imposed the tax generally on incomes having their sources in Ghana so that foreign source income was not liable, unless it was remitted in Ghana. One characteristic feature of this ordinance was the numerous personal reliefs and deductions that it contained.

Over the years, the Income Tax Law has seen several changes through amendments and modifications, such as the Income Tax (Amendment) Ordinance of 1952. The first consolidated edition of the Income Tax Ordinance was published in March, 1953. The

following Acts then introduced amendments to the consolidated edition Act 68 in 1961, followed by Acts 178 and 197 in 1963 and Act 312 in 1965. The second consolidated edition was published in September 1966, i.e. the Income Tax Decree, 1966 (No. 78). The Income Tax Decree, 1975 (SMCD 5), which was published in December 1975, was the third consolidated edition, followed by the Internal Revenue Act, 2000 (Act 592), with all its amendments. The Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188) was also passed and enacted as a separate and distinct law to administer the taxation of oil and gas in Ghana until 2015 when the Income Tax Act, 2015 (Act 896) was passed and enacted. These two legislations, the Petroleum Income Tax Act, 1987 (P. N. D. C. L. 188) and the Income Tax Act, 2015 (Act 896) are pertinent to this study.

The current tax legislation for Ghana is the Income Tax Act, 2015 (Act 896) with date of Gazette notification of 1st September, 2015, and date of entry into force being 1st January, 2016. This is thus the fifth consolidated edition, which harmonizes all income tax laws including the taxation of the oil and gas sector. As a consolidated tax law, the Income Tax Act, 2015 (Act 896) repeals the Petroleum Income Tax Law, 1987 (P. N. D. C. L. 188) however, the discussions in this chapter will encompass both legislations. This will enable the study trace the historical development of the tax legislation governing the oil and gas sector.

Value Added Tax was introduced in Ghana in 1995, but had to be withdrawn following agitations against its implementation (Prichard, 2009). It was successfully reintroduced in 1998 by the Value Added Tax Act, 1998 (Act 546). This law was repealed and replaced with the Value Added Tax Act, 2013 (Act 870). The Customs Act, 2015 (Act 891) was also passed to amend and replace the Customs, Excise and Preventive Service (Management) Act, 1993 (P.N.D.C.L. 330) (Kunbour *et al.*, 2017).

The Revenue Administration Act, 2016 (Act 915) will be the reference legislation for discussions on revenue administration and collection by the GRA, whereas the Ghana Revenue Authority Act, 2009 (Act 791) will be the reference point for the discussion on the administrative structure of the GRA.

The Income Tax Act, 2015 (Act 896) changed Ghana's tax system from source jurisdiction to worldwide income basis. This means that a resident of Ghana, for tax purposes, is now liable to tax on all income wherever situated, unlike the previous source jurisdiction basis where a

resident for tax purposes was liable to tax on only income accruing in, derived from, received in or brought into Ghana (Kunbuor, Ali-Nakyea and Demitia, 2017).

Thus, for residents, tax was payable on income accruing in, derived from, brought into or received in Ghana, as such income was deemed to have a source in Ghana. This meant that where a resident has income accruing in or derived from outside Ghana, such income was not taxable unless it was brought into or received in Ghana. This provision in Section 6 of the Internal Revenue Act, 2000 (Act 592) made it possible for resident persons to thus keep their incomes accruing in or derived from outside Ghana in other jurisdictions, to escape being taxed in Ghana. For non-resident persons, it was only income accruing in or derived from Ghana that had a source in Ghana, hence non-residents not being liable to tax on income brought into or received in Ghana (Kunbour *et al.*, 2017). With the emergence of oil and gas, it became imperative to ensure that the loss of revenue is curbed through non-resident tax liability Considering the possibility of persons earning income from oil and gas being paid offshore, it is evident that where these incomes are not brought into Ghana, no tax would be payable.

The need for an overhaul of the Income Tax Act was to broaden the tax base by taking into account the emerging oil and gas sector. It was also necessary to consolidate the various amendments made to the Internal Revenue Act, 2000 (Act 592) which had been in existence for 15 years. There was also the requirement to strengthen the appellate system in tax cases as well as reducing the discretionary powers of the revenue administration to make the tax law simple to understand and comply. The overhaul of both the Income Tax Act and the Value Added Tax Act was aimed at addressing tax avoidance by non-residents in the oil and gas sector.

Under Act 896, resident persons are now liable to tax on their income wherever situated, that is wherever accrued or derived. Their incomes are thus taxable whether these incomes are not brought into or received in Ghana, but left in the jurisdictions where they were accrued or derived. The basis of taxation of non-residents, on the other hand, remains the same under the Income Tax Act, 2015 (Act 896) as it was under the internal Revenue Act, 2000 (Act 592), that is on income accruing in or derived from Ghana. Thus, income brought into or received by a non-resident in Ghana is not taxable in Ghana.

3.3 ATTRIBUTES OF GHANA'S TAX SYSTEM

The tax system in Ghana is analysed against the attributes of a good tax system discussed in Chapter 2. This is because in designing a tax policy, these attributes should be important guides to ensure that whatever tax system eventually evolves, achieves its objectives. It is thus important that any tax policy that Ghana has designed or may design meets these attributes. I will focus on examining how the tax policy design in the oil and gas sector in Ghana meets these attributes.

3.3.1 Equity

It is expected that a good tax would be fair to the people who are required to pay it. The subjects of every state ought to contribute towards the support of the government, as nearly as possible in proportion to their respective abilities. The ability to pay refers to the economic resources under a person's control. Ghana's income taxes are based on a person's inflow of economic resources during the year, whereas VAT is based on a person's consumption of resources represented by the purchase of goods and services in Ghana. Rent tax, on the other hand, is based on a person's accumulation of resources in the form of landed property, and Ghana has a withholding tax requirement on rental of properties for residential and commercial purposes.

Ghana's graduated income tax deduction table seeks to ensure that there is horizontal and vertical equity, thus, it is designed so that persons with the same income level pay the same amount of tax. In securing vertical equity in Ghana's tax system, reliefs are granted to taxpayers with levels of responsibility which impact on their earnings, such that their chargeable income is then lowered compared to others who have no such responsibilities. Section 39 of the Internal Revenue Act, 2000 (Act 592), as amended, which provision was maintained in Section 51 of the Income Tax Act, 2015 (Act 896), provides this approach of granting reliefs to achieve vertical equity in Ghana's tax system.

3.3.2 Certainty

People must be in a position to determine their true tax liability with a fair degree of accuracy. Taxpayers should be clear in their minds as to how much tax they owe and the amount that is payable at any point in time. There should be no ambiguities, and tax administrators of the GRA must have no discretionary powers as to how much to demand, that is, the tax

administrator is not to exact more tax than is necessary. The tax rates are thus available in the Income Tax Act, 2015 (Act 896), providing certainty to taxpayers as they can determine their tax liabilities on their own and are can challenge any arbitrariness from tax administrators.

Additionally, the time of payment, the manner of payment, the amount to be paid, the place of payment, as well as all rights and obligations of taxpayers are also provided for in the Income Tax Act. Employee taxes, under the Pay-As-You-Earn (PAYE) system, are required to be paid on or before the 15th day of the month following the month in which the deductions are made. For example, employee taxes for January 2018 were expected to be paid on or before February 15, 2018. Employers are thus certain when the employee taxes are due to be paid. The same timeline exists for withholding taxes - taxes withheld by persons from payments to suppliers and service providers are to be paid over to the GRA on or before the 15th day of the month following the month in which the deductions are made.

Ghana's tax system, again, provides certainty to taxpayers in the area of filing of annual tax returns. Taxpayers are required to file their annual tax returns on or before the last day of the fourth month after their accounting date. Extension of time is allowed when a taxpayer applies for such an extension from the Commissioner-General, which extension can be granted, but should not exceed two months. This allows taxpayers to be certain on when to file returns, when to apply for extension, as well as the timeframe allowable for an extension of time, so that they can arrange their tax affairs accordingly.

3.3.3 Convenience

A good tax should be convenient for the government to administer and for the people to pay. Perhaps the most important aspect of this canon is that taxpayers must not overly suffer to comply with the tax laws. Every tax ought to be levied at the time or in a manner in which it is most likely to be convenient for the contributor to pay. The method of collecting the tax should be such that the majority of taxpayers would understand and routinely comply. The collection method should not overly intrude on taxpayers' privacy but should offer minimal opportunity for non-compliance.

As previously mentioned, from the taxpayers' point of view, a good tax should be convenient to pay. Moreover, taxpayers should not have to devote undue time and/or incur undue costs in complying with the tax law. The Pay-As-You-Earn (PAYE) system of taxing employment

income in Ghana, again sets a good example of this criterion, because the time of payment is within fifteen (15) days after the month in which the deduction was made, which allows every employee and employer to have the money to settle the tax liability, making it convenient in terms of ability to comply. Moreover, the Ghana Revenue Authority offices are distributed throughout the various districts making them easily accessible to taxpayers. However, with the setting up of the Large Taxpayer Office (LTO), the Medium Taxpayer Office (MTO) and the Small Taxpayer Office (STO), files of taxpayers in some instances are being moved to offices located far from the taxpayer, flouting the principle of convenience. For example, a large taxpayer (with an annual turnover of GHS5 million and above), located in Bolgatanga in the Upper East Region of Ghana, which is more than eight hours' drive to or from Accra, is likely to access their tax file at the Large Taxpayer Office at the VAT House in Accra in the Greater Accra Region. Obviously, tax compliance may suffer with respect to filing of returns and payment of taxes in the absence of an effective and efficient computerization of the GRA It is thus expedient that the e-Ghana and e-Government Projects be sped up, to ensure efficient and effective computer networking of their offices nationwide. This will enable the Ghana Revenue Authority to ensure that the tax system is convenient to the taxpayer through the use of information communication technology (ICT).

3.3.4 Economy

This attribute requires a lot of risk assessment by tax administrators, as it requires a balance of risk and returns. The balance is between ensuring that the costs of collection are economical to the government, while at the same time ensuring that the tax revenue collected exceeds the costs incurred. The administrative cost of collecting and enforcing the tax should be reasonable in comparison with the total revenue generated by the tax. Ghana's tax system faces challenges in this regard, as the perceived costs of collecting tax from the informal sector of the economy *vis-à-vis* the expected revenue inflows, has left the informal sector generally untaxed.

The GRA has devised innovative mechanisms to tax the informal sector. These measures include the introduction and use of the stamp tax and the vehicle income tax. Unfortunately, these tax types are not based on income, hence raising doubts as to whether they are in fact income taxes. The stamp tax is paid by operators of barbering shops, hairdressers, tailors, seamstresses and shops, to mention but a few. It is based on the category in which a taxpayer in the above-mentioned sectors fall, hence there is no relationship with the income of the person. It is a kind of a presumptive tax, as each category is deemed to be earning a range of

income. The vehicle income tax is similarly based on the category to which a vehicle belongs, that is a salon car being used for commercial purposes, or a taxi cab, a bus or a goods truck, amongst others. Owing to the minimal income contribution to tax revenue perceived by the GRA, efforts are not made to incur costs to collect these taxes or to expand its scope, all in the interest of the attribute of economy.

3.3.5 Simplicity

A system of taxation ought to be simple, plain and intelligible. If a tax system is complicated, it becomes difficult to understand and administer, leading to administrative, interpretation and legal problems. An example is the situation that occurred with the initial introduction of VAT in Ghana in 1995, when taxpayers found the tax system introduced to be complex and difficult to comply with, both with the initial rate of tax (17.5%), as well as the input and output mechanism or credit system associated with the workings and filing of VAT returns. After extensive consultations and publication, the rate was reduced to 10% with the reintroduction, making the computation simpler for taxpayers. VAT was successfully reintroduced in Ghana in 1998 (Assibey-Mensah, 1999).

In Ghana's efforts to attain simplicity in its tax system, the Internal Revenue Act, 2000 (Act 592) was repealed and replaced with the Income Tax Act, 2015 (Act 896), in which the provisions had been simplified for taxpayers to understand and appreciate. It also consolidated all the income tax laws into one volume for easy reference, while some provisions, such as those on thin capitalization, had been explained for clarity and simplicity.

3.4 GHANA'S TAX POLICY

The discussions here will leverage on the discussions under Chapter 2, examining how Ghana has fared in tax policy making in the natural resource sector. Tax policy in the natural resource sector is referred to as "resource tax policy" and this in turn refers to the design of the rules governing resource taxes. In Ghana, ownership of natural resources is vested in the people of Ghana, with the government holding it in trust as provided for under Article 257 (6) of the 1992 Constitution of Ghana. The 1992 Constitution states that "very mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf is the

property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for, the people of Ghana."

Tax policy makers in Ghana are also confronted with the complexities in tax policy design identified by Daniel, Keen and McPherson (2010), namely that resources such as oil and gas are non-renewable and the prices of oil and gas are unpredictable. The policy frameworks are often not strong enough to support the implementation of sound tax and expenditure policies, owing to limited capacity of skilled personnel to undertake long-term revenue forecasts and implement high quality public investment projects.

The above-mentioned issues affect the design of appropriate fiscal policy in most resource-rich countries, including Ghana. Ensuring sound public expenditure in productive sectors of the economy in Ghana is thus a challenge worth transcending. There is a need for the Government of Ghana to be committed to a relatively fixed tax policy, to ensure consistency and transparency in the natural resource sector. This is because the ability and willingness of a government to commit itself to a consistent policy, assists investors in the natural resource sector to plan and execute long-term projects (Osmundsen, 2010). Thus, if Ghana commits to an agreed policy, which will be consistently applied to investors, then it will succeed in harnessing the much-needed revenue from its natural resources. This is in view of the fact that investors and industry players require certainty in their investment decision-making.

The call for time consistency of tax policy is necessary because governments tend to change their tax policy after companies have invested. Ghana should thus learn lessons from the requirement for a time consistency in tax policy in designing its tax policy applicable to the petroleum industry. There should be no opportunistic and state-contingent tax policy. This is because any such scheme where taxes change in response to oil price fluctuations will increase uncertainty about the future level of tax rates. Companies will then be left to face political risks in terms of dramatic changes in tax and regulatory regimes, as well as relatively minor deviations from announced policies. This will affect and influence the future investment decisions of companies and investors in the sector (Daniel, Keen and McPherson 2010). Companies are then likely to change their attitude to investing long-term, and to rather look at short-term projects and investments with growing interest in future licenses in oil blocks (Osmundsen, 2010).

The challenges to achieving credible commitment in tax policy in the natural resource sector discussed in Chapter 2 are also evident in Ghana's natural resource sector. In the petroleum sector, the exploration, development and production phases of a concession or oil block take a long time, hence, the expectation that government should commit to a (fixed) tax policy. The Government of Ghana has to provide such commitment to a tax policy that reassures investors and provides them with the confidence in policy direction that they require. The complexity in technological and economic aspects of the natural resource sector in Ghana also needs to be addressed in tax policy formulation, because it is difficult, for example, to provide standardized deductible allowances and expenses. This is because in respect of Ghana's oil and gas sector, offshore exploration, expenses and other costs differ with respect to distance offshore as well as the depth of exploration. It is thus difficult in tax policy making in Ghana to provide a fixed range of taxes to be made applicable to the oil and gas sector.

Ghana again faces the challenge occasioned by changes in elected members of parliament and the need for a reconstituted committee of parliament responsible for the oil and gas sector. This affects the approval and ratification of petroleum and mining agreements, because the newly appointed members would have to review them, although they may have already been reviewed by their predecessors. The possible loss of institutional memory is also eminent with the changes where previous members of parliament happen to lose their seats and are thus not available to contribute to discussions on petroleum agreements that were not concluded during their tenure (Boadway and Keen, 2010).

It is thus important for Ghana to address the challenges enumerated above in the design of its tax policy in the petroleum sector, to enable the country to attain consistency in its tax policy design, to which it can remain committed. This will send a good signal to investors in the petroleum sector to seek to invest in Ghana's discovered oil and gas fields, with the anticipated confidence in Ghana's fiscal regime.

3.4.1 Stages in Tax Policy Making in Ghana

The first stage of tax policy making in Ghana entails the Tax Policy Division of the Ministry of Finance undertaking a study of the areas requiring legislation. They then hold stakeholder consultations and workshops to collate the views of the stakeholders to effect necessary changes to their initial policy direction. From the stakeholder consultations and workshops, alternative policy options are also designed by the Tax Policy Division. The second stage

occurs when determining the best option is undertaken. The Tax Policy Division then develops a framework for implementation, including the detailed policy design. The third stage then follows with the drafting of legislation, to give effect to the policy option adopted. This stage is critical in tax policy making in Ghana, because the law to be drafted needs to capture adequately the objectives of the government in clear and unambiguous language. In Ghana, the drafting of the legislation is handled by the Ministry of Justice and the Attorney-General's Department in conjunction with the Tax Policy Division of the Ministry of Finance. It is after the drafting that bills are sent to parliament for debate and passage into acts of parliament. The fourth and final stage of the tax policy process is the implementation, after the legislation has come into force.

In Ghana, the legislation has to be published in the Gazette to enable it to come into effect. Thus, where a law has no date of entry into force, the date of Gazette notification is the day that the law comes into effect. The implementation stage thus encapsulates the policy direction of government in the natural resource sector.

3.4.2 General Challenges for Tax Policy Makers in Ghana

Tax policy makers in Ghana have similar challenges to those discussed in Chapter 2 to surmount in their quest to achieve a good tax policy framework for the oil and gas sector. Indeed, these challenges existed under the mining sector before the advent of oil and gas. These challenges are discussed below in the same order as those in Chapter 2, for purposes of consistency in the order of the discussions.

3.4.2.1 Dealing with the Large Informal Sector

Ghana has a large informal sector, which is estimated to be 80 per cent of the total labour force (Hormeku, 1998). Ghana has to ensure that any informal sector that will spring up in the oil and gas value chain is subject to tax. This is because the informal sector of any group of taxpayers constitutes an obstacle to broadening the tax base and collecting taxes. In Ghana, this situation has created a paradox I refer to as the 80/20 Paradox, namely that 80 per cent of the taxable population of Ghana contributes only 20 per cent to total tax revenue, whereas only 20 per cent of the taxable population contributes 80 per cent of the tax revenue. The legislation governing the oil and gas sector have to be simplified to ensure tax compliance. Tax

administration capacity is a major obstacle to improving tax policy, thus limiting policy options, hence the need for the GRA to enhance the capacity of its staff.

3.4.2.2 Resolving the Narrow Tax Base

Taxation of the oil and gas sector in Ghana is usually inefficient because the petroleum agreements entered into by the government and the international oil companies are often subject to strong confidentiality clauses by the companies and the Government of Ghana. The government usually lacks the capacity to negotiate petroleum agreements that allow it to generate a fair share of rents from natural resource extraction. This ends up granting varied tax incentives. The difficulties faced by the Ghana Revenue Authority in its quest to fight abuses of transfer pricing by multinational enterprises - which abound in the oil and gas sector - is another challenge worth noting. There are currently no concrete figures on transfer pricing measuring the size of the problem in Ghana, but the issue deserves serious attention. This is necessary because the figures for tax expenditures, that is revenue lost through the grant of incentives to taxpayers in Ghana, is always on the increase. Various studies conducted to estimate the quantum of Ghana's tax expenditure for the 8-year period (2008 – 2015) in a report by a Ministry of Finance and Ghana Revenue Authority team estimates the average tax expenditure to GDP ratio to be 2.01 per cent. This ratio grew from 1.68 per cent of GDP in 2013 to 1.82 per cent in 2014 and to 1.98 per cent in 2015, as stated in Paragraph 798 of the Budget Statement and Economic Policy of the Government of Ghana for the 2016 financial year, presented to Parliament on 13th November, 2015.

3.4.2.3 Averting Overreliance on Taxing the Oil and Gas Sector

Ghana's tax policy makers should not design a tax policy that relies heavily on the oil and gas sector, as was done and is still the case in the mining sector. This is important because a volatile tax base also leads to uncertain revenues, and oil and gas revenues are volatile as they are subject to the vagaries of the world market price of the product. Trade-related tax revenues have been decreasing in the face of trade liberalization. For Ghana, the revenue from import duty in 2014 (January – September) was 1.7 per cent of GDP and declined to 1.5 per cent of GDP for the same period in 2015 (January – September) as shown in Table 7 of Paragraph 79 of the Budget Statement and Economic Policy of the Government of Ghana for the 2016 financial year, presented to Parliament on Friday, 13th November, 2015. Replacing declining

trade taxes is thus a major challenge. Ineffective urban property taxes constitute another area which tax policy makers in Ghana have to address (Terkper, 1993). Urban property taxes offer a significant, and largely unexploited, opportunity for taxation. With Ghana's urban population on the increase, it is becoming urgent to put in place tax structures that can grow with urban development and the corresponding need for urban infrastructure (Asiamah, 1982). Property taxes are progressive, administratively feasible and scale up automatically with urban expansion (Norregaard, 2013).

3.5 LEGAL FRAMEWORK FOR THE TAXATION OF OIL AND GAS

The legal framework for taxation of oil and gas in Ghana, since the discoveries of oil in commercial quantities, consists of the following legislation:

1. The 1992 Constitution of Ghana, which is the primary source of law in Ghana. Article 174 governs taxation.
2. The Customs, Excise and Preventive Service (Management) Act, 1993 (P.N.D.C.L. 330).
3. The above-mentioned was amended by the Value Added Tax Act, 2013 (Act 870) and its Regulations: Value Added Tax Regulations, 1998 (L.I. 1646).
4. The Petroleum Revenue Management Act, 2011 (Act 815).
5. The Value Added Tax Act, 2013 (Act 870).
6. The Customs Act, 2015 (Act 890).
7. The Income Tax Act, 2015 (Act 896) as amended by the Income Tax (Amended) Act, 2016 (Act 907).
8. The Petroleum (Exploration and Production) Act, 2016 (Act 919).
9. The various petroleum agreements entered into between the Government of Ghana and the respective international oil companies.

The focus of the study, however, is on the Petroleum Revenue Management Act, 2011 (Act 815) as amended by the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893), the Income Tax Act, 2015 (Act 896) as amended, and the Petroleum (Exploration and Production) Act, 2016 (Act 919), as they contain provisions governing oil and gas taxation and revenue management, some of which need review and reform.

My examination of the legislation covers all legislation governing the taxation of oil and gas from the discoveries through to the present day, because owing to the stability clauses in the petroleum agreements, references to repealed legislation are still relevant. I will then proffer recommendations as a guide to the government in bridging such gaps as they are found in the legislation. This would then prevent any anticipated loss of revenue owing to gaps in the legislation.

With reference to the list of legislation governing the petroleum sector as enumerated above, the tax provisions governing the petroleum sector are not found in one single piece of legislation. Rather, they are found partly in the tax laws, and partly in the petroleum agreements. It is also worth noting that although some laws have since been repealed, they are still applicable to issues arising at the time that they were in implementation. One such repealed law I will discuss is the Petroleum Income Tax Law, 1987 (P. N. D. C. L. 188) since it operated until 2015 when it was repealed as I mentioned in section 3.2, hence relevant to this study. This is because the Constitution of Ghana frowns on retroactive legislation as provided for in Article 107 of the 1992 Constitution of Ghana, which states thus:

> Parliament shall have no power to pass any law
> (a) to alter the decision or judgment of any court as between the parties subject to that decision or judgment; or
> (b) which operates retroactively to impose any limitations on, or to adversely affect the personal rights and liberties of any person or to impose a burden, obligation or liability on any person except in the case of a law enacted under articles 178 to 182 of this Constitution.

It is necessary to consolidate the tax provisions into a single legislation, to ensure that all tax provisions governing the taxation of the petroleum sector are easily accessible. This is the focus of this work, in that revenue can be lost in the scenario where there are conflicting interpretations occasioned by the provisions in the different laws *vis-à-vis* the petroleum agreements. Investors may be tempted to undertake aggressive tax planning by resorting to provisions that are open to different interpretations, with the view to arguing for their case in international dispute resolution *fora*.

The Income Tax Act, 2015 (Act 896) was passed and had a date of gazette notification of 1st September, 2015, but only came into effect on 1st January, 2016. Act 896 seeks to resolve the challenges identified in the preceding paragraph by consolidating all direct taxes into one act, including the taxation of oil and gas operations in Ghana. The provisions governing the taxation of petroleum operations are provided for under Division I of Part VI of Act 896.

In Ghana, resource tax policy prior to the Income Tax Act, 2015 (Act 896), was highlighted in the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188), as well as in the various petroleum agreements entered into between the Government of Ghana and the contracting companies in the petroleum sector. It is noteworthy that the passage into law of Act 896 in no way affects the agreements entered into by the Government of Ghana with the petroleum companies who have stability clauses in their agreements. Such companies will thus continue to be governed by the fiscal legislation contained in their various agreements, until the expiry of the stability periods guaranteed in those agreements (Section 135 of Income Tax Act, 2015 (Act 896)).

The tax policies applicable in respect of the petroleum sector, will now be discussed to identify possible gaps that have to be addressed.

3.6 ANALYSIS OF THE LEGAL FRAMEWORK IN THE OIL AND GAS SECTOR

The Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188) contained the policy issues in the petroleum sector with regard to taxation and tax-related issues prior to the Income Tax Act, 2015 (Act 896), as encapsulated in the preamble to the Act as "An ACT to provide for the payment of tax on petroleum operations and for related matters". The repealed Act indicated in Section 1 that "a person conducting petroleum operations shall, subject to this Act, pay for each year of assessment a tax on chargeable income calculated in the manner provided in this Act."

3.6.1 Ascertainment of Chargeable Income

Section 2(1) of the Petroleum Income Tax Law, 1987 (P.N.D.C.L. 188) provided for the ascertainment of "chargeable income", which is largely in line with the standard tax computation approach of deducting from the gross income allowable deductions specified in Section 3 of the Petroleum Income Tax Law, 1987. These allowable deductions are required to satisfy the conditions of being wholly outgoings and expenses, exclusively and necessarily incurred for the purposes of petroleum operations before they can be allowed as deductions from the gross income (Section 3 of the Petroleum Income Tax Law, 1987). "Gross income" is defined in Section 38 of the Petroleum Income Tax Law as income derived from the sale or export without sale of petroleum and income incidental thereto. The challenge posed here is the question as to what constitutes "income incidental thereto"? What did the policy makers

intend this phrase to cover? Would interest income arising from (a) interest on money deposited into a bank's current account in the ordinary course of petroleum operations, and (b) interest arising from investment decisions such as fixed deposits and interest upon treasury bills, constitute income incidental thereto and thereby be liable for petroleum income tax?

Interestingly, the passage of the Income Tax Act, 2015 did not cure this apparent uncertainty, as it allows in Section 66(1)(g) for the same unclear provision above, namely the phrase "income incidental thereto". The said provision is to the effect that the income of a person from petroleum operations for a year of assessment includes "any amount derived by the person during the year from or incidental to the operations that are included in calculating income under the provisions of this act". The confusion thus remains as to what constitutes "...other amount … incidental to".

Of particular interest regarding loss of revenue is the provision in Section 3(1) (c) of the Petroleum Income Tax Law, 1987, which is an allowable deduction and is to the effect that:

> … sums of money payable by way of interest, fees or charges on money borrowed by that person, where the Commissioner-General is satisfied that the interest, fees or charges were payable on capital employed for the purpose of petroleum operations: but where in the opinion of the Commissioner-General, the rate of interest, fees or charges payable on the loans, are excessive by reference to the commercial rate for similar loans generally prevailing at the time the loan was made, the deduction shall be limited to the commercial rate.

The determination of whether or not to allow a deduction of the interest, fees or charges at the discretion of the Commissioner-General by reference to the prevailing commercial rate of interest leaves room for arbitrariness, and it would be more prudent, in terms of tax policy, if thin capitalization rules were rather provided for in this provision in the law. It is worthy of note that the Income Tax Act, 2015 introduced in Section 33 the thin capitalization rule with a debt-to-equity ratio of 3:1.

This provision thus eliminates the subjectivity in the provision in Section 3(1) (c) of the Petroleum Income Tax Law, 1987, hence preventing loss of revenue by way of excessive interest cost deductions in the petroleum sector. This is a commendable way in which to go as a country, to safeguard revenue losses from the oil and gas sector in Ghana.

The provision for loss carried forward in the law as an allowable deduction for tax purposes is another policy issue worth addressing to prevent loss of revenue. Petroleum sector operators are allowed under Section 3(5) of the Petroleum Income Tax Law, 1987 to deduct losses incurred during any previous year of assessment. The policy issue lies in the fact that there is no restriction in terms of the time frame within which the loss can be carried forward, thus allowing for an indefinite or albeit perpetual carryover of losses, and the potential for loss of revenue from the petroleum sector. There is a need for a sunset clause setting a limitation to the period for carryover of losses, if Ghana is to protect its revenue base for petroleum income taxation.

It is refreshing to note that the Income Tax Act, 2015 (Act 896) has provisions under Sections 17 and 68, to address these issues. This is yet another amendment worth commending and safeguarding, as it has the potential to stem the tide of revenue losses from the oil and gas sector in Ghana. This provision thus requires officials of the GRA to scrutinize tax returns and strictly apply the provisions of the act in the examination of the financial statements and tax returns filed by operators in the oil and gas sector in Ghana, if the country is to prevent revenue losses.

3.6.2 Transfer Pricing in the Oil and Gas Sector

An important policy direction is provided in the area of addressing transfer pricing in the petroleum sector, as captured by Section 5 of the Petroleum Income Tax Law, 1987, which deals with artificial or fictitious transactions. This provision allows the Commissioner-General to disregard a transaction that, in the opinion of the Commissioner-General, is artificial or fictitious in that it has the tendency to reduce or would reduce the amount of tax payable. The Commissioner-General is then empowered to direct that adjustments be made with regard to the liability to tax that is considered appropriate, to prevent the reduction of liability.

The policy of the Government of Ghana regarding transfer pricing for taxpayers, especially multinational enterprises who are predominantly engaged in the mining and petroleum sectors, has been further boosted by the promulgation of the Transfer Pricing Regulations, 2012 (L.I. 2188). The Transfer Pricing Regulations spell out the acceptable pricing methods to include comparable uncontrolled price method, resale price method, cost plus method, transactional net margin method and the transactional profit split method. However, there is still a challenge with regard to intangibles, as they constitute the most vexing issue as far as transfer pricing in the petroleum sector is concerned. Unfortunately, this challenge was not resolved in the Income

Tax Act, 2015, leaving it as an issue worth discussing, hence my discussions on the subject matter. Intangibles refer to services that cannot be seen nor touched, as it would have been for goods which are tangibles. The challenge therefore has to do with the pricing of such intangible services such as insurance and interest on borrowing, as the services cannot be seen nor touched to determine their fair pricing at arm's length. Thus, the amounts to be stated as payment of premiums for insurance and amounts paid as interest on borrowing by multinationals in the petroleum sector lend themselves to possible transfer pricing abuse. Therefore, without a comparable pricing structure against which such pricing of intangibles could be measured, possible losses of revenue may not be averted.

3.6.3 Benchmark for Determining Transfer Pricing under Ghanaian Transfer Pricing Rules

Regulation 2(1) of the Transfer Pricing Regulations, 2012 (L.I. 2188) provides that for any transaction entered into by persons in a controlled relationship, the profit and loss arising out of such a transaction should be computed using an arm's length standard. A transaction is conducted at arm's length if the terms of the transaction do not differ from the terms of a comparable transaction between independent persons (Regulation 2(2) of L.I. 2188). This is relevant considering the relationship between contractors, sub-contractors and their affiliates in the petroleum sector in Ghana.

Regulation 10 of L.I. 2188 defines a controlled relationship as:

> a relationship between one person and another person by the terms of which the relationship is able to influence the transfer price set in a transaction, and in which that other person is:
>
> a. an associate of the first person;
> b. a relative of the first person;
> c. a person in a trust relationship with that first person;
> d. a person who is in a partnership relationship with that first person;
> e. a holding company, a subsidiary or a subsidiary of a holding company of which that first person is a subsidiary;
> f. a member of a closed corporation together with that first person; and
> g. a relative of a person who is a member of a closed corporation together with that first person.

Even though the Ghanaian Transfer Pricing Regulations adopt the arm's length standard as the benchmark for evaluating intra-group transactional prices, the OECD, in its Transfer Pricing Guidelines, acknowledges the shortcomings of the arm's length principle and opines that it may not always offer practical solutions to the problem of determining the appropriate price of

intra-group transactions (OECD, 2010). The first practical difficulty identified by the OECD is that the members of a multinational enterprise (MNE) group may undertake activities that an independent enterprise may never undertake. This is particularly true in the development and transfer of intangibles where the activities that members within the MNE group undertake are so unique to those intangibles such that no other independent entity would ordinarily perform such activities.

The uniqueness of these activities to members within an MNE group renders any attempt to treat these members as independent entities, as advocated by the arm's length principle, a complete fallacy (Avi-Yonah, 2010). This reality essentially throws out the separate entity concept – a plinth of the arm's length principle argument, and casts serious doubts upon the idea that the arm's length principle is the *panacea* to the current difficulty of determining the appropriate price for intra-group transactions.

Another practical difficulty of using the arm's length principle is the fact that members within an MNE group, as pertains to the petroleum sector, may face different commercial circumstances that independent enterprises may never face (OECD, 2010). This difficulty, with which members of an MNE have to deal, completely flaws the assumption by arm's length principle that there exists a comparable uncontrolled transaction to every controlled transaction. The arm's length principle fails to take into account the fact that the organization and structure of most MNEs in the petroleum sector enables them to overcome some of the practical difficulties and inefficiencies associated with transactions between independent enterprises (Avi-Yonah, 2010). For example, there is a greater level of flexibility in contracts concluded by MNEs, and even more so international oil companies (IOCs), due to the increased interrelationships of associates and affiliates to companies found in the petroleum sector. Such contracts can be varied, altered or terminated without any legal or financial consequences. The same cannot be said of contracts between independent enterprises.

A third difficulty with the arm's length principle is the unusual burden it places upon taxpayers and tax administrators (OECD, 2010). The arm's length principle requires a comparison between the price of intra-group transactions and uncontrolled transactions. Depending upon the volume of such intra-group transactions within a given period, the transactions can generate a huge amount of data. Any attempt to carry out comparisons will undoubtedly create a huge burden upon the taxpayers who prepare the transfer pricing documentation, and the tax

administrators who conduct the transfer pricing audit. In some cases, the information from comparable uncontrolled transactions may be difficult or costly to obtain, or the information may be unreliable due to inaccuracies (Avi-Yonah, 2010). In other cases, such information may not exist at all. The concerns raised in this instance are the time and effort to be exerted by all parties, the GRA and the MNEs in the petroleum sector, in justifying the pricing structure with supporting documentation, as well as the disputes that may arise.

The provision of an "economic or commercial value" test, in United States tax law, gives both an objective and subjective standard for evaluating intra-group transactions. Ghana could formulate a list of safe harbour provisions to cater for the objective standard of the "economic or commercial value" test, especially for simple intra-group transactions. This would allow the subjective standard to be based upon facts and circumstances, as recommended by the OECD (OECD, 2014).

The implications upon revenue are that the extra costs to be incurred by MNEs, in this case IOCs, in disputing with the GRA are allowable deductions, hence reducing further the revenue that could accrue to government. Furthermore, the time and effort of the GRA would most likely be exerted in challenging the pricing structure of MNEs, rather than going after other taxpayers who may owe taxes to government.

3.6.4 Alternative to Arm's Length Principle

Several scholars and practitioners have proposed global formulary apportionment as an alternative to the arm's length approach of determining the price of intra-group transactions, especially in the petroleum sector (Langbein, 1986). This is worth examining by Ghana in its quest to deal with challenges of the arm's length principle, as it applies to the petroleum sector. This is because the petroleum sector is inundated with a number of intra-group transactions. A number of related parties are found in the production and distribution value chain in the petroleum sector and are thus fertile grounds for non-arm's length dealings. Under this approach, the MNE, in this case an IOC, is treated as a single economic unit and its entire income is allocated to its individual entities in specific jurisdictions using a pre-determined formula (Weiner, 1996). The successful implementation of this method rests upon two key components. The first would be the determination of the appropriate tax base and, second, devising an appropriate formula to be used to allocate the income (Weiner, 1996).

The significant advantage of this method is the fact that it reflects the economic reality that the MNE is a single corporate entity and should be treated as such for tax purposes (Bird, 1986). The major criticism of this method spearheaded by the OECD is the difficulty of implementing it in a manner that both prevents double taxation and ensures single taxation. I find this criticism quite interesting because the current arm's length principle does not have any automatic adjustment formula that prevents double taxation, nor does it ensure single taxation in all instances. The current Base Erosion and Profit Shifting (BEPS) project acknowledges the porosity of the current rules in addressing the issue of non-taxation of income.

Effective implementation of this approach would require international consensus and coordination on the tax base and the formula, which would be used to allocate income. Most countries adopt different approaches in determining the elements of their tax base. By establishing the arm's length principle as the standard for determining the appropriate transactional prices for persons in a controlled relationship, the transfer pricing regulations in Ghana reject the unitary or formulary apportionment approach in its entirety. Thus, it is susceptible to all the inherent problems associated with the arm's length principle discussed above.

3.6.5 Determination of Services

Ghanaian transfer pricing rules establish three essential validities that ought to be satisfied by persons in a controlled relationship, to show that a payment is consistent with the arm's length principle (Regulation 5(1) of L.I. 2188). These are:

a. the payment should be made for a service actually rendered to the payor or taxpayer;
b. the service should provide economic or commercial value to the payor; and
c. an independent person in a comparable circumstance should pay that charge for the service rendered.

The first benchmark, which requires that the recipient of the payment should actually render a service to the payor, is highly commendable from a policy perspective. It accords with the General Anti-Abuse Rules of Ghana's Internal Revenue Act, 2000 (Act 592), as well as the current Income Tax Act, 2015 (Act 896) in section 34, which places a premium upon substance over form (Section 111 of the Internal Revenue Act, 2000). This means that a mere contract for services between persons in a controlled relationship will not be enough justification for

any payment. Paragraph 2.2.4 of the Practice Note on Transfer Pricing Regulations (Methodologies & Related Issues) issued by the Commissioner-General in January, 2013 (PN/CG0001/2013) alludes to this point.

To apply this provision to the SABMiller arrangement, for example, a service contract between SABMiller or its subsidiaries on the one hand, and Accra Brewery Limited on the other, would not be enough to support any deduction of service payments for tax purposes in Ghana. Under the Evidence Rules of Ghana, Section 10(1) of the Evidence Act, 1975 (NRCD 323), Accra Brewery Limited bears the burden of persuasion as to whether SABMiller or its subsidiaries have actually rendered a service.

The second benchmark requires that the service rendered should provide some economic or commercial benefit to the payor. Even though this requirement is in line with the OECD recommendation (OECD, 2010), the transfer pricing regulations do not provide guidance upon how the economic or commercial value test will be conducted. This uncertainty is a source of concern, due to the fact that the current benefits of some services are difficult, if not impossible, to determine, and these are quite evident in the petroleum sector. For example, if Tullow Oil (UK) Limited enters into a contract to provide management training for Tullow Oil (Ghana) Limited, how would the Ghana Revenue Authority determine that the management training provided some economic or commercial value to Tullow Oil (Ghana) Limited? Should the training result in an increase in turnover from production of oil and gas or improved management or corporate strategies before the service would be deemed to have provided economic or commercial value? How frequently should this management training service be provided in a year to justify a service payment? Would a one-time session be enough or should the sessions be carried out more than once in a year? Even though the OECD recommends that this determination be made based upon facts and circumstances (OECD, 2010), this vague recommendation does not provide any guidance or certainty on how this determination should be made.

The third benchmark, which requires that an independent person in a comparable circumstance should pay that charge for the service rendered, encapsulates the OECD guidelines on the 'Special Considerations for Intra-Group Services' (OECD, 2010). From the Practice Note issued by the Commissioner-General, one can reasonably infer that if the service charge:

a. is excessive in relation to the benefits conferred by the service arrangement;
b. guarantees the service provider a certain profit outcome without reasonable justification; or
c. generates profits for the service provider without any clear evidence that the service provider has added any value or performed any functions;

it may raise the presumption that an independent person in a comparable circumstance would not have paid the charge for the service rendered (Paragraph 2.2.4 of PN/CG0001/2013).
The transfer pricing regulations do not recognize certain service payments between persons in a controlled relationship as being consistent with the arm's length principle. These include:

a. Payments made due to ownership interest of a parent company in one or more members within the group of companies (Regulation 5(2)(b) of L.I. 2188).
b. Payments for services rendered in relation to the juridical structure of the parent company of the payor, such as issuing of shares in the parent company and costs of supervisory board of the parent company (Regulation 5(3)(a) of L.I. 2188).
c. Payments for services rendered in relation to reporting requirements of the parent company, including consolidation of reports (Regulation 5(3)(b) of L.I. 2188).
d. Payments for services rendered in relation to raising of funds for the acquisition of participation, except where the participation is directly or indirectly acquired by the payor and the payor benefits or is expected to benefit from the participation (Regulation 5(3)(c) of L.I. 2188).

These excluded payments conform to the recommendations of the OECD, which describe these activities as "shareholder activities" that provide no justification for payments made by the recipient company (OECD, 2010).

A shortcoming of the transfer pricing regulations lies in their failure to provide guidance on "package deals". Package deals often involve charging a single price for the transfer of intangibles, the provision of technical and management services, as well as the leasing of production facilities in a single transaction (OECD, 2010). These package deals provide enormous benefits to MNEs, especially when the tax rates for each of the items differ significantly. It is arguable that the Commissioner-General can employ the general anti-avoidance rules (G.A.A.R.) to defeat such an arrangement, but failure of the transfer pricing regulations to provide detailed treatment for these complex but common transactions is a source of concern.

The transfer pricing regulations are also silent on the tax treatment of cost contribution agreements, which is a common feature in the petroleum sector. The OECD (2010) defines cost contribution agreements as a "framework agreed amongst business enterprises to share the costs and risks of developing, producing or obtaining assets, services or rights and to determine the nature and extent of the interests of each participant in those assets, services or rights."

This is of concern in the petroleum sector considering the joint ventures operating in that sector contributing to costs and sharing of risks, as well as the various unitization schemes in that sector.

3.6.6 Corporate Tax and Withholding Tax

A policy direction that did not maintain certainty is the chargeable tax payable by petroleum sector operators.

The policy on the corporate tax rate should have been definite and should not provide such variance. Since the petroleum agreements are premised on the Income Tax Act, 2015 (Act 896), the corporate tax rate of 50 per cent should have been negotiated for by the Government of Ghana. Alternatively, since the 35 per cent rate negotiated for by the international oil companies prevailed, the government should have revised the act and amended the 50 per cent to the reduced 35 per cent. This would ensure that certainty of the applicable corporate tax rate in the petroleum secured is procured. This is because invariably, all petroleum agreements provide for a corporate tax rate of 35 per cent, hence the Income Tax Act, 2015 (Act 896), which provides for a corporate tax rate of 35 per cent. I find the provision of the 35 per cent corporate tax rate in the Income Tax Act, 2015 to be in accord with the corporate tax rate in the petroleum agreements that I have reviewed. However, I am of the considered view that the 50 per cent rate of corporate tax in the income tax law should have been considered the minimum tax rate applicable, to provide increased revenue to the country.

Owing to the fact that the petroleum agreements assume the status of international agreements, after having been ratified by Parliament under Article 75 of the 1992 Constitution, provisions therein supersede domestic legislation. Moreover, their interpretation is guided by the Vienna Convention on the Law of Treaties, Ghana being bound by the principle of *pacta sunt servanda*, (i.e. obeying faithfully the terms of the agreement). Thus, in the case of a conflict between provisions of an act and those in an international agreement, such as a petroleum agreement,

the provisions of the petroleum agreement shall prevail (Section 111(1) of the Internal Revenue Act, 2000; Section 135 of the Income Tax Act, 2015).

A more worrying development is the provision in Article 12 of petroleum agreements in Ghana entitled "Taxation and Other Imposts". Looking at this article in respect of the Petroleum Agreement amongst the Republic of Ghana, the Ghana National Petroleum Corporation, Kosmos Energy Ghana HC and the E.O. Group, in respect of the West Cape Three Points Block Offshore dated 22nd July, 2004, known as Jubilee Fields for instance, it appears to create a fiscal enclave ousting the jurisdiction of the general income tax law, the Internal Revenue Act, 2000 (Act 592) as well as the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188). The provision in Article 12.1 states:

> No tax, duty, fee or other impost (including VAT) shall be imposed by the state or any entity or affiliate political subdivision on contractor, its sub-contractors or its affiliates in respect of activities related to petroleum operations and to the sale and export of petroleum other than as provided in this article.

Following on from this article, Article 12.2 then spells out the taxes applicable to the petroleum operations. It is thus submitted here that it would be impossible to impose any taxes upon petroleum operations outside the tax provisions in Article 12, making the provisions in Article 12.1 more akin to stability clauses. This is so because the petroleum agreement has assumed an international status, having been ratified by Parliament.

It would have been preferred if this provision in the agreement was rather embedded in the legislation. If the provision on stability clauses is embedded in the principal legislation, it affords more certainty to investors. This is because the agreements may be subject to review and future negotiations.

It is noteworthy that the provisions on the taxation of sub-contractors and expatriate employees (Section 27 of the Petroleum Income Tax Law, 1987) also leave much to be desired. The said provisions leave the percentage of withholding tax at the discretion of what may be specified in the petroleum agreement, instead of being emphatically provided for in the tax legislation. A cause of concern is that provision is made for the waiver of the application of withholding tax on payment of tax by a sub-contractor by the express terms of the petroleum agreement, in respect of work or services, where the sub-contractor is an affiliate of the contractor whose services are charged to the contractor at cost (Section 27(2) of the Petroleum Income Tax Act,

1987). This is done by invoking the provisions under Article 174(2) of the Constitution, which permits such a waiver with the prior approval of Parliament.

Furthermore, once the amount so agreed is withheld, it becomes a final tax and the sub-contractor is not liable, in respect of that aggregate amount, for tax under any other law in force in Ghana (Section 27(3) of the P.N.D.C.L. 188).

The potential loss of revenue here arises from the following questions:

(i) Assuming it applies that sub-contractors, are to suffer final withholding tax, should sub-contractors not register and file tax returns, and why?
(ii) When the conditions for the waiver of withholding tax by reason of the affiliate relationship and supply of works or services are made at cost, should sub-contractors still register and file returns?
(iii) How do we determine that works and services supplied by an affiliate sub-contractor to the operator were made at cost? Can we verify supplies made at cost?
(iv) What are the challenges of "transfer pricing and arm's length transaction implications"?

The above questions require the attention of policy makers, as they have to be addressed if revenue loss from the petroleum sector in Ghana is to be averted.

The situation is no better with regard to taxation of expatriate employees, as the policy reflected in the law is to the effect that a petroleum agreement may exempt from tax an expatriate employee of a contractor or a sub-contractor exclusively conducting petroleum operations (Section 28 of the P.N.D.C.L. 188). Indeed, the petroleum agreement in respect of the Jubilee Field, for example, exempts expatriate employees from tax if they are resident in Ghana for thirty days (30) or less in a calendar year. This gives rise to a policy disconnect, considering the fact that the Internal Revenue Act, 2000 (Act 592), as amended, as well as the current Income Tax Act, 2015 (Act 896) provide a definition for resident and non-resident persons for tax purposes (Section 160 of Act 592 and section 101 of Act 896).

3.6.7 Taxation of Proceeds from the Assignment of an Interest

The vexing issue of taxation of proceeds from the assignment of an interest in petroleum operations also needs policy direction. There is a misconception that the petroleum income tax

law in Ghana does not tax proceeds from an assignment of an interest in petroleum operations. Indeed, gross income, as defined in Section 38 of the Petroleum Income Tax Law, 1987, does not include proceeds from an assignment of interest. However, under Clause 7 of the Schedule to the Petroleum Income Tax Law, 1987, capital allowances available to a person engaged in petroleum operations are adjusted with proceeds from an assignment of an interest, hence the person ends up paying tax by the reduction in capital allowances, as the case used to be.

This policy position was evident from the fact that under the petroleum income tax law in Ghana, capital gains tax was not applicable to the petroleum sector (Section 39(4) of the Petroleum Income Tax Law, 1987). Although the National Redemption Council Decree, 1975 (N.R.C.D. 347) was repealed by Section 168(1)(b) of the Internal Revenue Act, 2000, (Act 592), the Interpretation Act, 2009 (Act 792) required that reference to the said N.R.C.D. 347 in Section 39(4) of the Petroleum Income Tax Law, 1987 must be construed as reference to Chapter II of the Internal Revenue Act, 2000, which governed capital gains tax.

Section 35(1) of the Interpretation Act, 2009, Act 792 provides as follows:

> Where an enactment repeals or revokes and re-enacts, with or without modification, an enactment, a reference in any other enactment or statutory document to the enactment so repealed or revoked shall without prejudice to the operation of Subsections (2) and (3), be construed as a reference to the enactment as re-enacted.

The capital gains tax regime is found in Sections 95 to 104 of the Internal Revenue Act, 2000 (Act 592). However, there is no provision in the petroleum agreements in Ghana or the Petroleum Income Tax Law, 1987, which makes the provisions in the Internal Revenue Act, 2000 relating to capital gains tax applicable to the petroleum sector. Should the policy be that capital gains tax provision was applicable, then recourse would have to be made to the charging provision in Section 95(1) of Internal Revenue Act, 2000, as amended, which states: "Subject to Subsection (2), capital gains tax is payable by a person at the rate of 15 per cent of capital gains accruing to or derived by that person from the realisation of a chargeable asset owned by that person."

The Third Schedule to the Internal Revenue Act, 2000 classifies petroleum exploration and production rights and assets, which refers to petroleum prospecting, exploration and development costs as Class Three depreciable assets. Section 97(3)(c) of the Internal Revenue Act, 2000 expressly states that Class Three depreciable assets are not chargeable assets within the meaning of the law. It can be safely concluded that even if the capital gains provisions of

the Internal Revenue Act, 2000 had been applicable to petroleum operations, Section 97(3)(c) would have exempted the transaction from capital gains tax.

The policy switch in this regard to make gains arising from an assignment of interest taxable is found in an amendment to the Internal Revenue Act, 2000, to now make Class Three depreciable assets liable to capital gains tax under the Internal Revenue (Amendment) Act, 2013 (Act 871). The legal issue that this raises is whether provisions in a general law, as in the Internal Revenue Act, 2000 (Act 592) could be used to amend a specific law, as in the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188), which was specifically enacted to deal with the petroleum sector. This observation is borne out of the legal maxim *generalia specialibus non derogant* (the provisions of a general statute must yield to those of a special one), which maxim renders the new policy direction espoused by the amendment to Internal Revenue Act, 2000 problematic in achieving its intended objective. It is worthy of note that, as discussed above, Article 12.1 of the petroleum agreements indeed prevented imposition of taxes other than those stated in the agreement.

The policy shift should rather be by way of an amendment to the special law, thus the current provision of Section 87 of the Petroleum (Exploration and Production) Act, 2016 (Act 919), now makes a licensee, contractor, sub-contractor and the Ghana National Petroleum Corporation liable to pay capital gains tax. This will provide Ghana with increased revenue streams as the applicable tax rate on the gains would be 35 per cent (prevailing petroleum income tax rate).

Indeed, it is not the case that assignment of an interest in a petroleum agreement was not taxable in Ghana. A close examination of the provisions of Clause 5 of the Schedule to the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188), which provided for capital allowances, states *inter alia* that in calculating capital allowance for the year of commencement, petroleum capital expenditure incurred in the year of commencement and in previous years shall be the net expenditure after deducting "as consideration in respect of the acquisition by any other person of an interest or proportionate part of the interest in a petroleum agreement and in the assets held in connection with the agreement in respect of which capital expenditure has been incurred" (Clause 5(a) of the Schedule to the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188)).

It is obvious that the seller/assignor loses capital allowance on the value of the assignment, resulting in a higher tax payable. This is so because since capital allowances go to reduce the chargeable income for tax purposes, a reduced capital allowance results in a higher tax payment as the chargeable income increases.

It is instructive to note that the above provision in the law, notwithstanding Clause 6 of the Schedule to the Petroleum Income Tax Law, 1987, provided for sale of assets after year of commencement. Paragraph (3) stated that provisions in Clause 6 in respect of taxation of proceeds from the sale of assets by a person carrying on petroleum operations does not apply to the assignment of an interest in a petroleum agreement or a proportionate part of the interest, or to any other asset assigned with the interest. But for this provision, the proceeds would have been divided by five and the resulting amount should, in that year and in each of the successive four years after the sale or assignment, be added to the gross income of that person from petroleum operations for the purpose of calculating the chargeable income of that person (Petroleum Income Tax Act, 1987).

Going forward, the lack of clarity in the Petroleum Income Tax Law, 1987 with regard to the taxation of an assignment of interest in the oil and gas sector has been resolved by Section 66(1)(d) of the Income Tax Act, 2015 (Act 896). This provision clearly states that "a gain from the assignment or other disposal of an interest in the petroleum right with respect to which the operation is conducted" shall be included in the income of a person from petroleum operations. This provision puts beyond all doubt the taxability of gains from the assignment of an interest, which is a positive outcome for the country, as Ghana stands to gain revenue on the assignment of interest in the petroleum sector. The positive outcome is that, hitherto under the Petroleum Income Tax Law, 1987, the income accruing to the state was deferred as it was taxable on the acquirer of the interest by way of a reduction in the acquirer capital allowances. According to the Income Tax Act, 2015 (Act 896), the Government of Ghana gets its tax revenue of the assignment of an interest upfront, since it is taxable on the seller/assignor. The seller/assignor would have been paid by the purchaser/assignee/acquirer, hence would have the ability to pay.

3.7 STABILIZATION PROVISIONS IN INTERNATIONAL PETROLEUM AGREEMENTS

Since 2004, Ghana has entered into several international petroleum agreements (IPAs) with international oil companies (IOCs) for offshore exploration, development and production. These include pre-production agreements such as the Ghana-Kosmos Agreement, the Ghana-Tullow Agreement, the Ghana-Ameranda Agreement, the Ghana-Vitol Agreement (Petroleum Agreement amongst the Government of the Republic of Ghana, the GNPC and Vitol Upstream Ghana Limited) and the Ghana-Heliconia Agreement (Petroleum Agreement amongst the Government of the Republic of Ghana, the GNPC and Heliconia Energy Ghana Limited in respect of Blocks Offshore Cape Three Points Basin, Ghana).

Since production commenced in December 2010, there have been additions to these agreements, i.e. post-production petroleum agreements. These include:

- the Ghana-AGM Agreement, which is the petroleum agreement amongst the Government of the Republic of Ghana, the Ghana National Petroleum Corporation, the GNPC Exploration and Production Company Limited and AGM Petroleum Ghana Limited, in respect of the South Deepwater Tano Contract Area (Dated and signed: 10 September 2013);
- the Ghana-COLA/MEDEA Agreement which is the petroleum agreement amongst the Government of the Republic of Ghana, the Ghana National Petroleum Corporation and COLA Natural Resources and MEDEA Development Limited in respect of the East Cape Three Points Contract Area (Dated and signed: 24 September 2013);
- the Ghana-AMNI Agreement, which is the petroleum agreement amongst the Government of the Republic of Ghana, the National Petroleum Corporation and the AMNI International Petroleum Development Company (Ghana) Limited in respect of the Central Tano Block Offshore in the Republic of Ghana; and
- the Ghana-CAMAC/Base Agreement, which is the petroleum agreement amongst the Government of the Republic of Ghana, the Ghana National Petroleum Corporation, the GNPC Exploration and Production Company Limited, CAMAC Energy Ghana Limited and Base Energy Ghana Limited, in respect of the Expanded Shallow Water Tano Block Offshore in the Republic of Ghana.

Owing to the mandatory standard terms required by the P.N.D.C.L. 188 included in IPAs, all of these agreements, except with changes in names of the IOCs in the respective petroleum agreements, or in some cases, the merger of certain provisions, contain virtually similar stability regimes but with necessary modifications and additions under miscellaneous provisions (Article 26 respectively of all these agreements). There is particularly a sharp modification in the stabilization regimes between pre-production petroleum agreements and post-production petroleum agreements. Whereas pre-production petroleum agreements such as the Ghana-Tullow and Ghana-Kosmos Agreements establish stability regimes that combine both economic equilibrium and freezing clauses, post-production petroleum agreements such as the Ghana-AGM and the Ghana-COLA/MEDEA agreements sharply depart from freezing clauses and provide only for economic-equilibrium provisions.

To avoid doubt, Article 26 of the Ghana-Kosmos Agreement provides, in the relevant parts, that:

> 26.2: The state, its departments and agencies, shall support this agreement and shall take no action which prevents or impedes the due exercise and performance of rights and obligations of the parties hereunder. As of the effective date of this agreement and throughout its term, *the state guarantees the contractor the stability of the terms and conditions of this agreement, as well as the fiscal and contractual framework hereof,* specifically including those terms and conditions and that framework that are based upon or subject to the provisions of the laws and regulations of Ghana (and any interpretations thereto) including, without limitation, *the Petroleum Income Tax Law,* the Petroleum Law, the GNPC Law…that are applicable hereto. The state further represents and guarantees that the contract area is wholly within Ghana's territorial waters and is not subject to any dispute.
> 26.3: *This agreement and the rights and obligations specified herein may not be modified, amended, altered or supplemented, except upon the execution and delivery of a written agreement executed by the parties.* Any legislation or administrative act of the state or any of its agencies or subdivisions which purport to vary any such right or obligation shall, to the extent sought to be applied to this agreement, constitute a breach of this agreement by the state; provided, however, if the Petroleum (Exploration and Production) Law, 1984 (P.N.D.C.L. 84) is amended or replaced (superseded), then the contractor shall be entitled to enjoy this agreement (and any new petroleum agreement referred to herein) shall be deemed to include (or include – as applicable) the terms and conditions in such amendment or replacement law that favourably affect the rights and/or the contractor under this agreement.
> 26.4: Where a party considers that a significant change in the circumstances prevailing at the time that the agreement was entered into has occurred, affecting the economic balance of the agreement, the party adversely affected thereby shall notify the other parties in writing of the claimed change with a statement of how the claimed change has affected such economic balance or has otherwise affected relations between the parties…. (Ghana-Kosmos Agreement, Article 26(2), (3) & (4)). [My emphasis in italics].

The Ghana-Tullow Agreement provides for substantially the same stabilization mechanisms (Ghana-Tullow Agreement, Article 26). A significant variation of the "provided however clause" in Article 26.3 of the Ghana-Tullow Agreement is, however, instructive to note:

> 26.3: …provided, however, where a new income tax rate comes into force as a result of the promulgation of the new Petroleum Income Tax Law currently before Cabinet, the contractor shall have the option of either applying the new income tax rate to this petroleum agreement or remaining under the Petroleum Income Tax Law, 1987, P.N.D.C. Law 188.

Here, it would seem that Tullow is given the option of either continuing in the income tax regime under P.N.D.C. Law 188, or any superseding law, which may come into force at a later date, such as the Income Tax Act 2015 (Act 896). The general tenor of Article 26.3 of the Ghana-Kosmos Agreement, except for a difference in the superseding law, is in tandem with Article 26.3 of the Ghana-Tullow Agreement. The effect clearly is that the parties are contracted to, at all times, maintain the status quo of the petroleum agreement, unless a contrary action would benefit the IOC. This is the essence of a traditional freezing clause.

Clearly, Articles 26.2 and 26.3 provide for freezing stabilization clauses, whereas Article 26.4 provides for an economic-equilibrium clause, respectively of the two agreements. The combined effect of these provisions is that pre-production IPAs in Ghana not only guarantee IOCs of strict compliance with the terms of the petroleum agreements by Ghana and its administrative sub-divisions, but also promise the IOC the potency of a meaningful dialogue where the said terms turn out to be unenforceable, as the case may be. These provisions in pre-production petroleum agreements aim at preventing a unilateral change in law by Ghana.

In contradistinction with pre-production petroleum agreements such as the Ghana-Tullow and Ghana-Kosmos Agreements, which establish a hybrid stabilization regime that combines both economic equilibrium and freezing clauses, post-production petroleum agreements such as the Ghana-AGM and the Ghana-COLA/MEDEA Agreements provide for only economic-equilibrium provisions. Post-production petroleum agreements envisage possible changes in the laws of Ghana and accordingly provide for economic-equilibrium provisions as the sole avenue to adjust, in such circumstances, the fiscal terms of the IPAs commensurate with the IOCs' economic benefits thereto. Article 26 of the Ghana-AGM Agreement provides useful illustration:

> …26.3: Without prejudice to the rights and obligations of the parties under the agreement, in the event that after the effective date that any applicable law, rule, decree, or regulation of the Republic of Ghana is made or amended, that makes further observance of the original terms and conditions of this agreement impossible or that has a material adverse effect on the rights, obligations and benefits arising from the economic, fiscal and financial provisions of this agreement (a "Material Change of Law"), the parties shall, if a party so requests, meet as soon as possible to negotiate possible modifications to the agreement as provided under Articles 26.4 and 26.5.
> 26.4 Where a party considers that a material change of law or a significant change in the circumstances prevailing at the time the agreement was entered into, or has occurred affecting the economic balance of the agreement, the party affected hereby shall notify the other parties in writing of the claimed change, with a statement of how the claimed change has affected the relationship between the parties.
> 26.5 Within a period of three (3) months of receipt of notification under Article 26.4, the other parties shall indicate in writing their reaction to such notification and shall meet to engage in negotiations with a view to amending, or rectifying, the provisions of this agreement as they agree is necessary to restore the relative economic position of the parties at the date of the agreement. …

It is arguable that the shift towards only economic equilibrium clauses in post-production petroleum agreements is influenced by the significantly de-risked nature of Ghana's petroleum basins, following the first oil in December 2010. It is probable that freezing stabilization clauses were inserted in pre-production IPAs as incentives for IOCs to invest in the relatively unknown petroleum basins of Ghana at the time. With Ghana's petroleum basins significantly de-risked, it is likely that the move towards an economic equilibrium stability regime, rather than the hybrid regime in pre-production petroleum agreements, was accentuated by the need not to place too much emphasis upon balancing the economic position of the IOC to the disadvantage of government and the GNPC. This would offer equal opportunities to either party when the economic position of either party is disturbed with regard to the project. This would thus guarantee the government its fair share of the much-needed revenue for development, should it be required to amend tax rates upwards.

Consequently, whether in terms of pre-production or post-production petroleum agreements, it would appear that the future of petroleum agreements in Ghana does make provision for unforeseen circumstances on the IOCs' rights pertaining to the contract. Pursuant to Section 12(1) of the since repealed P.N.D.C. Law 84, all of these petroleum agreements were entered into for a term of thirty years or less, commencing from their effective dates.

3.7.1 Efficacy of Stabilization Clauses in Guaranteeing Stability of International Petroleum Agreements in Ghana

The extent to which petroleum agreements in Ghana promise to survive the risk of a unilateral state action can be measured by reference first to the stabilization clauses in the petroleum agreements, and second to some additional provisions enshrined in the petroleum agreements. The former is discussed in the immediately preceding sub-section where the hybrid effect of both freezing and economic-equilibrium clauses is shown to have the effect of insulating IOCs from the adverse actions of the state and its administrative subdivisions, as well as to afford the IOCs the opportunity of a favourable review of the terms of the petroleum agreement, where a significant change in circumstances affects its economic balance. The latter, as discussed below, is the focus of this sub-section.

3.7.2 Internationalisation of Petroleum Laws

In addition to stabilization provisions, the choice of law provisions in Ghanaian petroleum agreements has been internationalized. The Ghana-Tullow Agreement, for example, provides that:

> 26.1: This agreement and the relationship between the state and the GNPC on one hand and the contractor on the other, shall be governed by and construed in accordance with the laws of the Republic of Ghana consistent with such rules of international law as may be applicable, including rules and principles as have been applied by international tribunals (Ghana-Tullow Agreement, Article 26.1).

The same provision is contained in the Ghana-Kosmos Agreement (Ghana-Kosmos Agreement, Article 26.1) and in all other IPAs operating in Ghana. By insisting upon consistency in Ghanaian law with applicable rules and principles of international law, including arbitral awards, this provision enhances the level of comfort to IOCs and may prove effective to IOCs in enforcing awards favourable to them against the Ghanaian state. This inherent reality may also operate to induce the Ghanaian state to renege from any unilateral state action that will unduly affect the economic balance of the bargain, at least from the perspective of the investor.

3.7.3 International Arbitration

Additionally, by providing that upon failure of consultation and negotiation, IOCs and the state should have recourse to international arbitration for the resolution of all disputes "…in relation

to or in connection with or arising out of the terms and conditions…" (Ghana-Kosmos Agreement) of petroleum contracts, Ghanaian petroleum agreements promise to enhance enforceability of stabilization clauses enshrined in them. The provision recognizes the importance of a neutral forum for such international arbitration, and accordingly provides for all such arbitration to be conducted either in London, or any other location agreed upon unanimously by the arbitrators, provided that the location is in a state which is party to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards (CREFAA, 1958). Arbitration is to be conducted under the auspices and adopting the Rules of the International Chamber of Commerce (ICC), whose award shall not only be final and binding upon the parties, but enforceable against the losing party (Ghana-Tullow Agreement, Article 24.5). In fact, both the Republic of Ghana and the Ghana National Petroleum Corporation have agreed in express terms to irrevocably waive any form of immunity they are entitled to whatsoever, in relation to legal proceedings against them and arising out of petroleum agreements, whether in Ghana, the United Kingdom or elsewhere, as the case may be. The willingness of Ghana to be bound by arbitral awards is therefore not in doubt.

An additional advantage in this provision is the initial consultation and/or negotiation between the IOC and the Ghanaian state, a standard "cooling-off" provision that seeks to respect and preserve the long-term relationship established by the parties pursuant to the terms of the petroleum agreement. The provision for settlement of disputes by international arbitration is particularly useful to IOCs, whose home countries have operating bilateral international treaties (BITs) with Ghana. As of 30th June 2011, Ghana has 21 operating BITs with the rest of the world (ICSID, 2015). In all of these BITs, provisions are made for "Standing Offers" to international arbitration. Even though the stabilization provisions in petroleum agreements in Ghana are not expressly drafted to take account of BITs, the mere existence of these BITs, *ipso facto*, entitles an aggrieved investor of a contracting state to initiate arbitration proceedings against a contracting host state under the International Centre for the Settlement of Investment Disputes (ICSID) Convention (Convention on the Settlement of Investment Disputes between States and Nationals of Other States (submitted for signature on 18 March 1965, entered into force on 14 October 1966) (575 UNTS 159), for instance. In the unlikely event that the state unilaterally terminates a petroleum agreement, the IOC's right to initiate arbitration proceedings against the state stands protected (Ghana-Tullow Agreement, Article 24.6). All of the above contribute to the investment protection regime of IOCs in Ghana.

3.7.4 Force Majeure

Moreover, Ghanaian petroleum agreements make provision for "Force Majeure" (Ghana-Kosmos Agreement, Article 22), a specific hardship provision which excuses the investor from performance upon the occurrence of specified unforeseeable events. "Force Majeure", in the Ghanaian context, is defined to mean:

> …any event beyond the reasonable control of the party claiming to be affected by such event which has not been brought about at its instance, including, but not limited to, earthquakes, storms, floods, lightning or other adverse weather conditions, war, embargos, blockades, riots or civil disorder (Ghana-Tullow Agreement: Article 1.35).

These events are often viewed as risks. Notwithstanding that their effect is limited with regard to preventing unilateral state action, when considered together with stabilization provisions, Force Majeure provisions forecast a secure future for long-term petroleum agreements in Ghana. According to one commentator, for instance, "Force Majeure" provisions are very important for long-term IPAs because they allocate "the risk of misprediction" (Farnsworth, 2004).

There are other factors (which deserve to be highlighted), however, these fall outside petroleum agreement provisions, which help to promote good relations between Ghana as a host country and foreign investors in the petroleum industry.

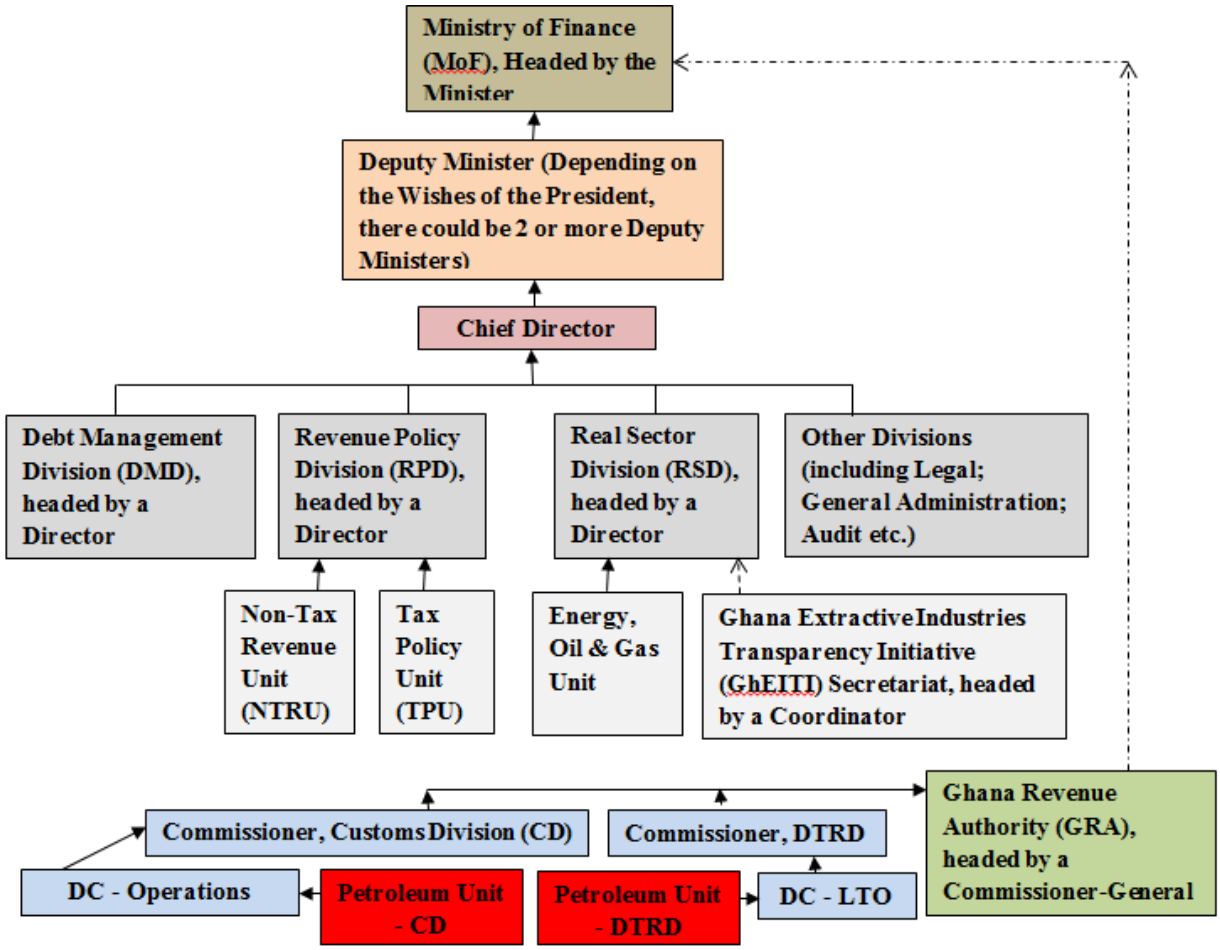
3.8 GOVERNANCE STRUCTURE OF TAX POLICY AND TAX ADMINISTRATION

The Ministry of Finance (MoF) provides a leadership role in the development of petroleum revenue management and tax policies, policy instruments, monitoring of the petroleum revenue management and tax legislations. The GRA, on the other hand, is the principal Ghanaian government agency responsible for mobilizing revenues for the government.

The units/divisions that govern and administer the oil and gas sector in Ghana are the Energy, Oil & Gas Unit of the Real Sector Division of the MoF, as well as the Petroleum Units of the Customs Division, and the Domestic Tax Revenue Division both of the GRA. The Petroleum Unit of the Customs Division monitors the output of the petroleum companies, whereas the Petroleum Unit of the Domestic Tax Revenue Division, which is situated in the LTO, handles the taxation of petroleum companies – corporate income tax, royalties, employee taxes and

withholding taxes. The current relationship and inter-linkages amongst the units/divisions are shown in Figure 3.1.

Figure 3.1: Diagram mapping out the current relationship and interlinkages amongst the Units/Divisions of the MoF and the GRA handling Oil and Gas Policy and Tax Administration



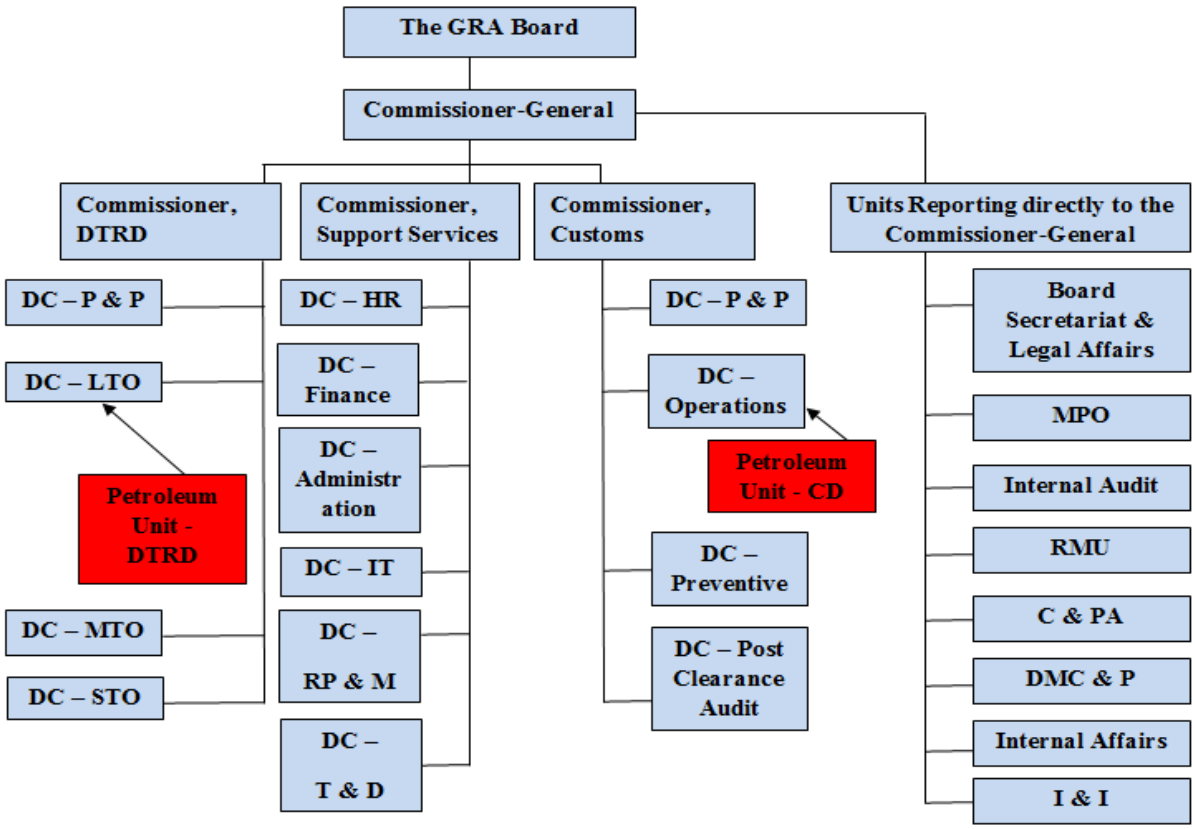
Source: Author's Own Compilation based on Ministry of Finance (2016).

3.8.1 The Petroleum Units in the Large Taxpayers Office (LTO)/Domestic Taxpayers Revenue Division and Customs Division of Ghana Revenue Authority

The Petroleum Units in the LTO of the Domestic Tax Revenue Division and the Customs Division, which were established in 2010 following commercial discoveries of oil and gas in 2007, are responsible for petroleum tax revenue administration in Ghana. These units are the Petroleum Tax Audit Unit, which works under the LTO of the Domestic Tax Revenue Division and the Petroleum Unit of the Customs Division, which deals with monitoring the quantities of petroleum produced in Ghana's oilfields, as well as the exports of the petroleum. Figure 3.2

shows the current organizational structure of the Ghana Revenue Authority, depicting the placement of the Petroleum Units.

Figure 3.2: Current Location of the Petroleum Units of the GRA on the GRA's Organizational Structure (adopted from p. 16 of the GRA 2nd Strategic Plan 2015-2017 and modified by Researcher)



Key:

DTRD – Domestic Tax Revenue Division

DC – P&P – Deputy Commissioner, Planning and Programmes

DC – LTO – Deputy Commissioner, Large Taxpayer Office

DC – MTO – Deputy Commissioner, Medium Taxpayer Office

DC – STO – Deputy Commissioner, Small Taxpayer Office

DC – HR – Deputy Commissioner, Human Resource

DC – IT – Deputy Commissioner, Information Technology

DC – RP & M – Deputy Commissioner, Research, Policy and Monitoring

DC – T&D – Deputy Commissioner, Training and Development

DC – P&P – Deputy Commissioner, Policy and Programmes

MPO – Modernisation and Programmes Office

RMU – Research and Monitoring Unit

C & PA – Communications and Public Affairs

DMC & P – Debt Management, Compliance and Prosecutions

I & I – Investigations and Internal Affairs

Source: Author's Own Compilation based on Ghana Revenue Authority (2016).

The Petroleum Unit in the LTO of the Domestic Tax Revenue Division is functionally responsible for auditing the books of taxpayers in the upstream, midstream, and downstream petroleum industry in Ghana. When an audit is to be performed, a member of staff of the Transfer Pricing Unit in the LTO of the Domestic Tax Revenue Division is attached to the audit team for purposes of determining and examining any transfer pricing issues that may arise. The taxation of upstream petroleum operations is currently regulated by the Income Tax Act, 2015 (Act 896) under Division I (Sections 63 to 76) of Part VI, taking into consideration tax exemptions granted and stability clauses agreed to in existing petroleum agreements modelled after the 2000 Model Petroleum Agreement of Ghana. The Petroleum Unit in the LTO/Domestic Tax Revenue Division of the Ghana Revenue Authority ensures that the requirements of the law with respect to taxation are met, and to this end, it assesses, collects and pays petroleum revenue into the statutorily designated account. This mandate extends to:

a. Face vetting of returns – examination of taxpayer returns to ensure that they have been properly completed;
b. Desk audit – in-house review of taxpayers' returns and records;
c. Field audit – examination of taxpayers' records at taxpayers' premises for confirmation;
d. Revenue accounting, reconciliation and reporting – collection of petroleum-related revenue and payment of same into designated accounts;
e. Petroleum revenue projection – estimates of revenue based on trend analysis;
f. Capturing and validation of tax audit reports is used to key-in audit processes and outcome into total revenue integrated processing system;
g. Taxpayer education – educating taxpayers on relevant tax laws and their application; and
h. Objections determination – receiving objections to tax assessments from taxpayers and determining the merit or otherwise of these objections.

In undertaking the above tasks, the unit is staffed with chief revenue officers, principal revenue officers, and senior revenue officers supervised by the Unit Head, who reports to the Deputy Commissioner in charge of the Large Taxpayers Office of the Domestic Tax Revenue Division.

3.8.2 The Petroleum Unit of the Customs Division of the Ghana Revenue Authority

The Petroleum Unit of the Customs Division of the GRA has the primary mandate to monitor and report on the daily production of crude oil and natural gas, as well as on the daily reports

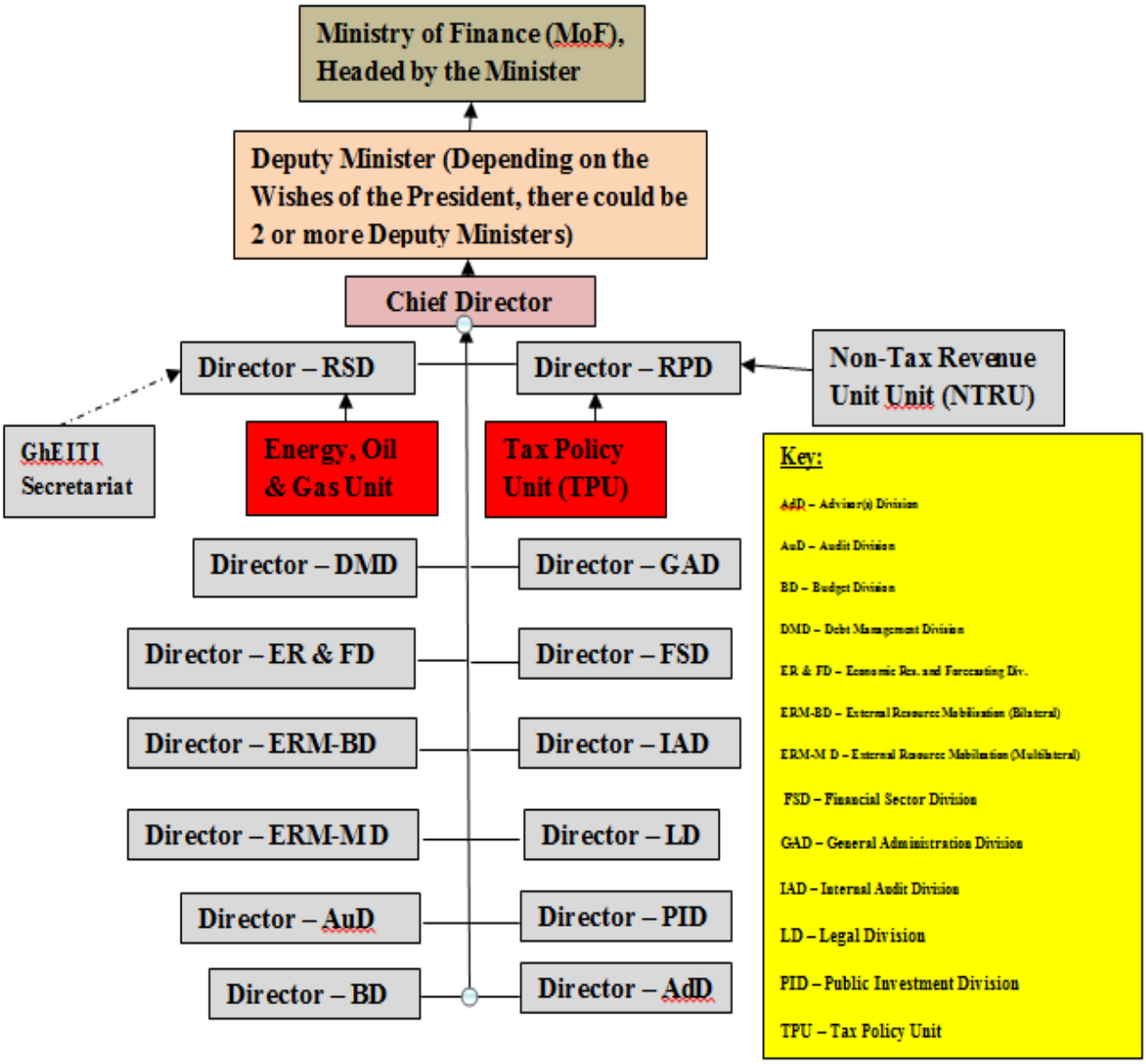
on quantities of petroleum exported. The unit also regulates boarding and clearance of oil tankers and generally performs preventive duties on oil producing facilities such as Floating Production Storage and Offloading facilities, as well as oil tankers. The unit has been actively involved in monitoring crude oil production since November, 2010, and appears to have successfully supervised all exports of crude oil from the producing oilfields in Ghana. Additionally, the unit has downstream responsibilities, which include registering new petroleum service providers (PSPs) into the GRA's system, as well as checking the authenticity of bank/property guarantees presented and the issuance of authorization letters to qualified PSPs.

The unit, which works under the Operations Department of the Customs Division (see Figure 3.2), is headed by an assistant commissioner, supported by an office staff strength of four (two of whom are offshore officers) and an operational staff of 39 officers, made up of 23 senior officers and 16 junior officers. The office staff provide administrative assistance and secretarial support and do not go on field operations. The operational staff, on the other hand, are permanent staff in Accra and Tema, on seats and units other than the Petroleum Unit. They are certified for offshore work and perform petroleum duties as boarding/export officers and resident officers when their services are required.

3.8.3 Energy, Oil & Gas Unit of the Real Sector Division of the Ministry of Finance

Petroleum tax revenue generation is based on clearly defined tax policy measures, and as such, there exists an Energy, Oil and Gas Unit within the Real Sector Division, which is responsible for defining tax policy measures to regulate the administration of petroleum tax revenues in Ghana. Put differently, the unit is mandated to coordinate petroleum receipts of the Republic of Ghana and manage (under guidance from the Minister of Finance) the utilization of petroleum revenue for national development, as shown in Figure 3.3**,** for location of the Energy, Oil and Gas Unit in the Real Sector Division and the Tax Policy Unit in the Revenue Policy Division of the Ministry of Finance, and for guiding other divisions and units relevant to the petroleum sector.

Figure 3.3: Location of the Petroleum Unit in the Real Sector Division and the Tax Policy Unit (TPU) in the Revenue Policy Division (RPD) of the Ministry of Finance and showing other Divisions and Units



Source: Author's Own Compilation based on Ministry of Finance (2016).

The Energy, Oil & Gas Unit is tasked to ensure compliance with the Petroleum Revenue Management Act, 2011 (Act 815) by:

a. annually estimating and projecting the petroleum Benchmark Revenue;
b. setting the priority areas for the Annual Budget Funding Amount (ABFA);
c. distributing petroleum revenue from liftings and other petroleum revenue received to the Petroleum Holding Fund (PHF) and the Ghana Petroleum Funds (GPFs), including the Ghana Stabilization Fund (GSF) and the Ghana Heritage Fund (GHF);

d. writing and publishing the Annual Report on the GPFs, including the GSF and the GHF, as well as the Reconciliation Report on the PHF;
e. publishing and gazetting of the quarterly petroleum receipts;
f. joining other stakeholders to negotiate oil and gas contracts for Ghana; and
g. generally accounting for the use of petroleum revenues and dealing with the broad spectrum of issues in the energy sector.

From the above, the Energy, Oil & Gas Unit of the Real Sector Division performs the core function of forecasting the petroleum tax and non-tax revenue accruing to the state. The unit also coordinates the distribution of petroleum revenues in the Ghana Petroleum Funds and sets the priority areas for the Annual Budget Funding Amount. To execute this mandate, the unit collaborates extensively with stakeholder institutions such as the Petroleum Units in the LTO/Domestic Tax Revenue Division and the Customs Division of the Ghana Revenue Authority, the GNPC, the Bank of Ghana and the Petroleum Commission. In particular, the unit works closely with the GNPC on liftings of crude oil and valuation of the liftings in determining the Equity Financing Share of the government, as well as determining the portion to be allocated to the GNPC. In this context, the GNPC usually consults the Real Sector Division on production trends, in case it will affect the government's budget.

The mandate of the Real Sector Division (according to the MoF's official website) is to initiate, formulate, implement and monitor policies and programs towards the achievement of the desired growth of the economy of Ghana, and poverty reduction by using highly motivated, competent and disciplined staff. Accordingly, the Real Sector Division measures the impact of real sector developments on growth, in particular, and the macro economy in general. Under the MoF's objective of formulating and implementing sound economic policies, the Real Sector Division undertakes the following:

a. to analyse, monitor, evaluate and advise on real sector policies, including agriculture, industry and services;
b. to undertake GDP projections and set sustainable growth targets for the relevant sectors of the economy;
c. to monitor and evaluate the performance of key sectors of the economy to ensure policy effectiveness;
d. to identify bottlenecks affecting the growth of sectors and propose corrective measures;

e. to ensure compliance with the Petroleum Revenue Management Act, 2011 (Act 815) by projecting the petroleum benchmark revenue projection on an annual basis;
f. to write and publish the Annual Report on the petroleum funds as well as the Reconciliation Report on the Petroleum Holding Fund;
g. to publish the quarterly petroleum receipts;
h. to account for the use of petroleum revenues;
i. to facilitate the mainstreaming of climate change issues into national planning, to promote sustainable development; and to mobilize resources for implementation of climate change and green economy policies, programs and projects in the country;
j. to monitor, review and analyse social sector performance, and assess the impact of government policy on the social sector; and
k. to write policy briefs on topical issues in the economy.

In executing its tax policy mandate, the Real Sector Division collaborates with the Petroleum Division of the MoF and the petroleum units in the LTO/Domestic Tax Revenue Division and the Customs Division of the GRA.

3.8.4 The Tax Policy Unit in the Revenue Policy Division of the Ministry of Finance

The Revenue Policy Division is one of several divisions of the MoF (Figure 3.3). Through the Tax Policy Unit of the MoF, the Revenue Policy Division broadly serves as the platform for developing and maintaining a tax system that:

a. provides the required revenue for financing essential expenditures without recourse to excessive borrowing;
b. encourages savings and investment; and
c. promotes social justice in the most efficient and equitable way possible.

In terms of petroleum revenue management, specifically, the Revenue Policy Division is responsible for, amongst other matters, the following:

a. reviewing policies on natural resource taxation;
b. compiling, monitoring, and analyzing natural resources data (Petroleum & Mining), including weekly tax revenue receipts;
c. working with relevant stakeholders on petroleum revenue issues;
d. conducting tax analysis and revenue forecasting;

e. forecasting petroleum revenue with the Real Sector Division;
f. monitoring and analyzing the revenue effects, the economic impact and the distributional consequences of changes in revenue policy;
g. collecting and collating economic and tax data for tax analysis;
h. reviewing and analyzing new tax policy measures;
i. coordinating and organizing pre-budget tax consultative meetings;
j. coordinating and organizing post-budget dissemination seminars on new tax policy measures;
k. generally coordinating tax policy research; and
l. performing any other assignments given by the Head of Unit/Director of the Revenue Policy Division.

The Tax Policy Unit of the Revenue Policy Division also advises on tax policy issues such as exemptions and liaises with the GRA to prepare tax bills for approval by Cabinet and Parliament.

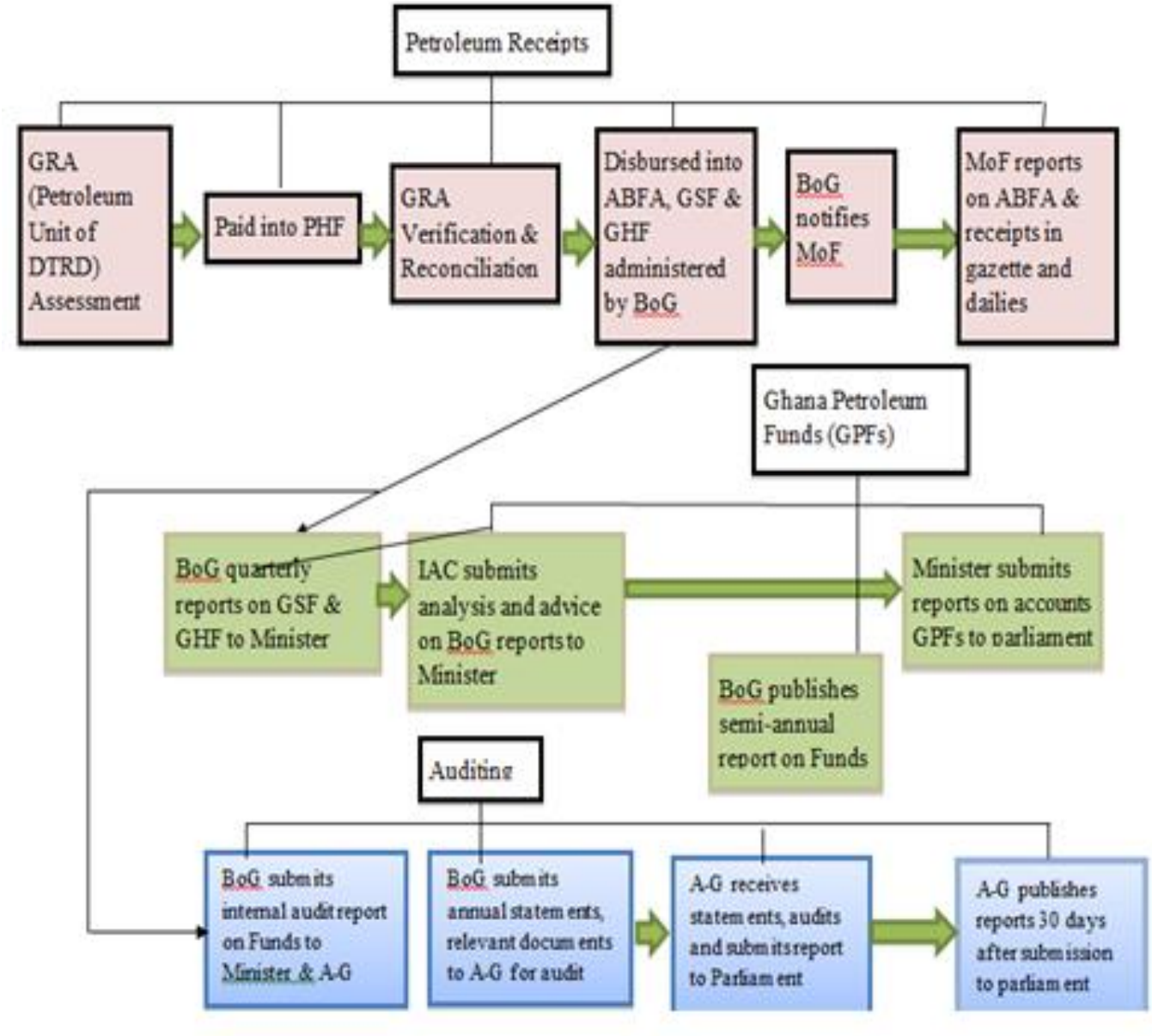
3.8.5 Reporting Stream and Administration of Petroleum Revenue in Ghana

The institutions involved in the reporting and administration of petroleum revenue in Ghana, as shown in Figure 3.4, are:

- Parliament, which enacted the Petroleum Revenue Management Act, setting out the overall framework for petroleum revenue management in Ghana. Parliament decides each year how much of the petroleum revenues will be spent through their approval of the Annual Budget Funding Amount (ABFA), as part of the national budgetary process.
- The MoF has the overall responsibility for the petroleum revenue management. It estimates the Benchmark Revenue and proposes to Parliament how much of these revenues are to be transferred to the Consolidated Account for budgetary purposes, also called the Annual Budget Funding Amount, and how much shall be saved in the Ghana Petroleum Funds. The Ministry of Finance develops the investment policy of the Ghana Petroleum Funds, on the advice of the Investment Advisory Committee, and is responsible for the overall management of the Ghana Petroleum Funds.
- The GRA assesses, collects and accounts for the petroleum revenue, which shall be deposited in the Petroleum Account before it is transferred to the budget and the Ghana Petroleum Funds.

- The Bank of Ghana holds and manages the petroleum funds. Transfers to the budget and the Ghana Petroleum Funds shall be made upon request by the MoF. The Bank of Ghana is responsible for the operational management of the Ghana Petroleum Funds and implements the investment policy determined by the MoF.
- The GNPC shall pay any amount payable as corporate income tax, royalty, dividends or other amounts due, in accordance with the Petroleum Revenue Management Act. In case some payment is made with petroleum instead of cash, the GNPC shall be reimbursed for the marketing costs.
- The Auditor-General is responsible for the external audits of the Petroleum Account and the Ghana Petroleum Funds. In case the audit is delegated to another entity, the Auditor-General is responsible for the procurement process. The Auditor-General submits an annual audit report to Parliament.

Figure 3.4: Reporting stream and administration of petroleum revenue in Ghana



Source: Author's Own Compilation based on Ministry of Finance (2016).

3.9 GHANA'S TAX ADMINISTRATION IN THE OIL AND GAS SECTOR

The importance of a good tax administration in the handling of the oil and gas sector stems from the fact that bad resource tax administration has been identified as being a significant risk. This is because bad resource tax administration leads to incompetence and corruption. This can then cause serious damage to government revenues and reputations, as well as serious problems for investors who require value for their investment (Calder, 2010).

Bad tax administration tends to magnify major risks associated with natural resources such as oil and gas being more likely to be wasted or misappropriated, if tax administrators fail to properly account for them, especially when poor administrative capacity leads to bad policy choices (Calder, 2010). Badly designed resource tax policy contributes significantly to weak tax administration, hence, the need for a good tax policy to ensure an effective and efficient tax administration (Calder, 2010).

3.9.1 Administrative Functions and Procedures in Oil and Gas Tax Administration

There is a need for the rules governing tax administrative functions in the natural resource sector to be clearly set out in the tax legislation and for license agreements to engender tax compliance (Calder, 2010). These rules should describe in great detail the rights and obligations of both taxpayers and the tax administrators. These rules are highlighted below.

3.9.1.1 Self-Assessment

This has been the basis of tax administration in Ghana in the oil and gas sector, which is under the ambit of the Petroleum Unit of the LTO of the Domestic Tax Revenue Division of the GRA. The self-assessment system of tax administration allows taxpayers in the oil and gas sector to assess themselves, based on their own estimates of their projected chargeable incomes. The estimated tax is required to be paid in four quarterly instalments, that is, on or before the end of March, on or before the end of June, on or before the end of September, and lastly on or before the end of December each year.

A Self-Assessment Form, DT 0102 Version 1.0, has to be completed and filed with the LTO of the GRA on or before the 31st of December each year, in respect of the ensuing year. Thus, for example, the Self-Assessment for 2015 had to be filed on or before 31 December, 2014. Therefore, under the self-assessment system of tax administration, the GRA does not issue any provisional assessment to the taxpayers in the natural resource sector.

It is worth mentioning that Ghana is doing well in the implementation of the self-assessment system, since self-assessment is regarded as a good basis for resource tax administration, as it increases transparency and reduces demands on administrative capacity. This is because taxpayers assess themselves, thus freeing tax administrators for routine administration, thereby allowing a separation of the tax assessment function from tax audit by the tax administration.

Penalties are imposed where a taxpayer understates the tax payable under its self-assessment. The penalty for this was, under the repealed Internal Revenue Act, 2000 (Act 592), as amended, the payment of 30 per cent of the difference between the tax in respect of the estimated chargeable income and the tax calculated on 90 per cent of the actual chargeable income, where the estimate is less than 90 per cent of the actual chargeable income. This is calculated after the taxpayer has filed the return and the actual chargeable income is ascertained from the returns.

The penalty has been raised to 125 per cent of the statutory rate (i.e., the Bank of Ghana rediscount rate), compounded monthly under Paragraph 51(3) of the Seventh Schedule to the Income Tax Act, 2015 (Act 896). The belief is that this is deterrent enough to prevent companies and investors from understating their self-assessment, which will in turn affect expected revenue inflows to the Government of Ghana. This is a necessary approach to securing revenue inflows because the statutory rate ranges between 17 per cent and 25 per cent, thus a penalty of 125 per cent amounts to a range of 21.25 per cent and 31.25 per cent. These ranges of the rate of penalty are equivalent to the lending rates of commercial banks in Ghana, thus companies and investors would not risk paying the penalties, i.e., substituting borrowing funds to invest with paying such penalties.

3.9.1.2 Routine Tax Administration Functions in respect of the Oil and Gas Sector

The routine tax administration functions of the Petroleum Unit of the LTO of the GRA are the registration of taxpayers, the processing of tax returns, the issuing of tax assessments and the collection of tax outstanding in the oil and gas sector. The oil and gas sector is specifically handled by the Petroleum Unit under the LTO of the Domestic Tax Revenue Division of the GRA. The Petroleum Unit of the LTO also handles the tax audit of taxpayers in the oil and gas sector.

3.10 CHALLENGES OF OIL AND GAS TAX ADMINISTRATION IN GHANA

There are a number of challenges confronting the GRA in its quest to administer the tax regime in the oil and gas sector. The earlier these challenges can be addressed; the more revenue can be harnessed from this sector for the growth and development of the country. A number of such challenges are discussed below.

3.10.1 Management and Control of Tax Assessments and Payments of Royalties and Taxes

The GRA faces challenges in the control and management of tax assessments and payments owing to the varied resource taxes from the oil and gas sector, which again have different filing and payment timelines. For example, whereas returns and payment of royalties are filed quarterly, employee taxes are payable monthly by way of withholding tax by employers. This is in addition to annual returns that must be filed where the employee has other sources of income aside from the employment income. Furthermore, although corporate taxes have quarterly instalment payments, filing of returns is upon an annual basis, and the same applies to companies operating in the oil and gas sector.

In addition to the above, the requisite forms used in filing the returns are complex and require some of the details in the financial statements of the taxpayers in the oil and gas sector. These financial statements again form part of the returns to be filed. This leaves taxpayers somewhat frustrated having to repeat information in the attached financial statements on the tax return forms. It appears repetitive, boring and time consuming, thus affecting voluntary tax compliance by taxpayers not stating the full and detailed information, but rather writing such statements as "information as per financial statements attached" instead of completing the form with the information requested.

3.10.2 Information Technology and Integration of Management Information Systems

The full integration of the management information systems of the LTO of the GRA with other agencies involved in the oil and gas sector, such as the Revenue Policy Division and the Real Sector Division, (both of the MoF), the Petroleum Commission, the Bank of Ghana and the GNPC, to mention but a few, is also a challenge. For example, there is no existing information technology integration system between the GRA and the Petroleum Commission to enable the GRA to monitor all the taxpayers in the oil and gas sector, to exact the taxes that are due.

In the same vein, there appears to be an absence of such a link between the GRA, the Petroleum Commission and the Ministry of Energy, to track the petroleum companies for purposes of knowing how much they have earned so that the appropriate taxes attached to their incomes can be exacted. This integration of management information systems is necessary, because then

the GRA will receive up-to-date information on businesses that have obtained licenses in the oil and gas sector and will capture them in the taxpayer database.

3.10.3 Management of Risk of Late Tax Payment

The timely inflow of the oil and gas revenues is critical for the growth and development of Ghana, hence the requirement to assess the risks of taxpayers resorting to late filing and payment of royalties and taxes. The difficulty that the GRA faces is how to accurately forecast the expected revenue inflows from royalties and corporate taxes, as well as employee taxes from the natural resource sector.

3.10.4 Capacity Needs of Staff of the Units/Division of the Ministry of Finance and the Ghana Revenue Authority

The functional responsibilities of the Petroleum Unit of the LTO reflect a broad set of tax audit-related tasks along the whole petroleum value chain. To meet these obligations, the unit should have access to a huge human resource base that is highly skilled in extractive industries (EI) tax auditing. However, the unit has a staff compliment of 15, out of which 11 are chief revenue officers, and the remaining either principal revenue officers or senior revenue officers. This means that all officers of the unit are senior officers, and that it is top-heavy. Held up against their mandate as outlined above, the unit appears to be seriously under-staffed, considering that upstream petroleum operations are fast expanding with new discoveries and the potential for on-stream production will follow suit. Another challenge for the unit is the distribution of experience of the staff.

The Petroleum Unit of the Customs Division, in the context of its upstream functional mandate of monitoring petroleum produced, is strategically placed such that the lack of adequate skills in the execution of its mandate can have devastating consequences on petroleum revenues accruing to the state. Extensive consultations that I had with the head of the unit revealed that the unit has a total staff strength of 44. The staff is made up of an operational staff of 40 officers, including the head of the unit and is further broken down into 23 senior officers and 17 junior officers. The unit is supported by 4 auxiliary staff members, making it a total staff strength of 44. Held up against its mandate as outlined above, the unit appears to be over-staffed. However, considering that upstream petroleum operations are fast expanding, the numbers may very well be sufficient going forward.

The functional responsibilities of the Energy, Oil and Gas Unit reflect a broad set of petroleum tax policy and revenue forecasting and management-related tasks. To meet these obligations, the unit should have access to a human resource base that is highly skilled in extractive industry tax policy, revenue forecasting and management. Yet, the unit has a staff of 5, out of which 4 are core petroleum staff and the remaining staff member is the Real Sector Division Director, who exercises supervisory control over all units of the Real Sector Division. It was also observed that while 3 staff members have some level of training in petroleum issues to boost their competence in executing their mandate, the Real Sector Division Director and 1 other member of staff have no petroleum-related training at all. Put together, not only do these facts not make for a good succession plan for the unit, but the unit, held up against the mandate outlined above, appears to be seriously under-staffed.

The Tax Policy Unit in the Revenue Policy Division also faces the same challenge of understaffing and lack of capacity in terms of in-depth technical competencies in oil and gas, to assist the MoF adequately with the needed tax policy directions.

3.11 CONCLUSIONS

This chapter highlighted the existing tax policy and tax administration issues in Ghana's oil and gas sector. Efforts have been made by the government to rectify some of the gaps in the fiscal legislation in the Income Tax Act, 2015 (Act 896). However, some amendments of provisions in the legislation still remain outstanding. Recommendations will be proposed as to how government may fill in the gaps in legislation to provide certainty in the fiscal policy framework.

The governance structure in the oil and gas value chain was also reviewed, showing the capacity constraints in the various units and divisions of the petroleum units of the GRA and the MoF that need urgent attention. Further discussions on oil and gas revenue management are undertaken in Chapter 5. Having examined the tax policy and administration structures and systems in this chapter, Chapter 4 will deal with the fiscal regime for oil and gas in Ghana, for which the tax policy and administration will serve as a guide. Ghana appears not to have learnt lessons from how it fared in its tax policy, legislation and administration of its minerals sector, to enable the country to avert similar shortfalls and gaps in the petroleum sector. This is because this chapter identified and highlighted some of the still nagging lapses in the tax legislation governing the oil and gas sector.

Issues of corporate tax rates, payment of rents and fees, assignment of interests and stability clauses in the mining sector should have provided a useful guide to Ghana's policy makers in addressing similar issues in the petroleum sector. The need for providing certainty in policy direction, to which the government can be committed, cannot be overemphasized, as it provides assurance to investors in the petroleum sector. The consolidation of tax provisions into a single law helps in reducing, if not eliminating, the challenges of interpretation of tax statutes. Alternatively, the government could ensure that the provisions in the tax legislation are synchronised with the provisions in the petroleum agreements, to address any possible gaps that may warrant different interpretation.

In Ghana, the Value Added Tax Act, 1998 (Act 546) and its successor, the Value Added Tax Act, 2013 (Act 870), exempts the petroleum sector from VAT. This position of Ghana is in line with the proposals made by Van Oordt *et al.* (2016) that one way in which to address the challenges of VAT in the oil and gas sector is to exempt the oil and gas sector from VAT. This is because without an exemption, where a petroleum operation registers for VAT, since the output will be zero-rated, the petroleum operator would perpetually be in a refund position, putting pressure on the Refund Account of the GRA. The exemption of the petroleum operators from VAT in Ghana is thus a good provision in the legislation.

It is evident from the above that Ghana has to design its own tax policy in respect of the oil and gas sector. This is due to the fact that each country has its own economic fundamentals, funding requirements in respect of the oil and gas sector, as well as the profile of international oil companies that express interest in engaging in the sector.

It is thus prudent that Ghana's petroleum contracts are hybrid models, which will be discussed in Chapter 4. The hybrid model is a blend of the production sharing contract/arrangement and that of the concessionary system, which systems are also to be discussed in the next chapter. Ghana's choice of the hybrid model is intended to give the country the best advantage of the different models. There is a need for the challenges identified with respect to the tax administration in the oil and gas sector to be addressed.

CHAPTER 4

THE FISCAL REGIME AND REVENUE MANAGEMENT OF OIL AND GAS IN GHANA

4.1 INTRODUCTION

In this chapter, I review the fiscal regime of the oil and gas sector in Ghana. I also examine the management of the oil and gas revenues. The issues discussed are taxes imposed and contained in the various legislation that regulate the oil and gas sector. As I indicated in section 3.2 in chapter 3, although some of the legislation have been repealed, a discussion on them is necessary as they are applicable to issues arising during the period they were in operation. These repealed laws are the Petroleum Income Tax Law, 1987 (P. N. D. C. L 188) and the Internal Revenue Act, 2000 (Act 592). I examine the various sources of revenue to government from the oil and gas sector, other than taxation. Furthermore, I look at the legislation governing the management of oil and gas revenues, to ascertain the adequacy or otherwise of the provisions in the legislation in harnessing for Ghana the much-needed revenue for development. Finally, the government's compliance and adherence to the provisions of the legislation governing the use of the oil and gas revenues are examined. This synthesises the Public Interest and Accountability Committee (PIAC) and other civil society organizations active in the oil and gas sector in Ghana.

4.2 THE FISCAL REGIME OF OIL AND GAS IN GHANA

Ghana's fiscal regime in the oil and gas sector is one of a hybrid system of production sharing and concessionary regime, which govern the contractual arrangements with the IOCs in the upstream production (Amoako-Tuffour and Owusu-Ayim, 2010). Under the Production Sharing Contracts (PSC), the IOCs pay the Government of Ghana royalties on gross production. The IOCs are allowed a pre-determined share of production for the recovery of their costs of investment in exploration, called cost oil, after which the remainder, which is known as profit oil, is shared between the IOCs and the Government of Ghana on agreed terms. The IOCs are, thereafter, also required to pay tax on their share of profit. The IOCs, under the concessionary system, are to bear all costs and risks associated with the exploration and development of the oil blocks. Ghana's adoption of the hybrid system means that the best aspects of the PSC and that of the concessionary system have been put together, to ensure that

the country receives the best advantage of both systems. The fiscal terms of the oil and gas sector are found in the various petroleum agreements signed between the Government of Ghana and the IOCs, and these terms are discussed below.

4.2.1 Fiscal Provisions in the Legislation on Oil and Gas

Part I of the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188), which was in operation from 1987 to 2015, provided for the imposition of tax and the ascertaining of chargeable income for tax purposes of every person carrying out petroleum operations (Section 1 of the Petroleum Income Tax Act, 1987).

4.2.1.1 Deductions Allowed in Ascertaining Chargeable Income (Petroleum Income Tax Act, 1987)

Section 2 of the Petroleum Income Tax Act, 1987 provides the details of the deductions to be allowed in computing the chargeable income of a person engaged in petroleum operations. The said section provided that the person is allowed deductions of all outgoings and expenses wholly, exclusively and necessarily incurred by such person including capital allowances, rentals, royalties, sums payable by way of interest, fees or charges upon any money borrowed by any such person, where the Commissioner-General is satisfied that such interest, fees or charges were payable upon capital employed for the purpose of petroleum operations. The proviso here is that where, in the opinion of the Commissioner-General, the rate of interest, fees or charges payable upon such loans, are excessive by reference to the commercial rate for similar loans generally prevailing at the time that the loan was made, the deduction shall be limited to such commercial rate.

This proviso is a very relevant and helpful tool in revenue protection in the law, as it prevents transfer pricing and upholds an arm's length dealing required by persons engaged in petroleum operations, with regard to borrowing for investment in their operations. Without such a provision, a person could arrange with a related party to secure loans at rates over and above the rates of comparable loans, thus leading to profit shifting, hence base profit erosion.

Other allowable deductions include any expense incurred for repair of premises, plant, machinery or fixtures employed for the purposes of petroleum operations, or for the repair or

alteration of any implements, utensils or articles so employed. The proviso to this expense caption is that if such premises, plant, machinery, fixtures, implements, utensils or articles are employed in part for domestic or private purposes, so much of any such expenses as may be determined by the Commissioner-General to be in respect of such purposes shall not be deducted. This provision is to ensure the protection of revenue, since it debars expenses that are not incurred wholly, exclusively and necessarily in the carrying out of petroleum operations.

Debts directly incurred in the conduct of petroleum operations and proved to the satisfaction of the Commissioner-General to have become bad or doubtful in the year of assessment, in respect of which the chargeable income is being ascertained, notwithstanding that such bad and doubtful debts were due and payable prior to the commencement of that year of assessment, are also allowed as a deduction. The first proviso to this deduction is that the deduction to be made in respect of doubtful debt shall not exceed that portion of the debt, which is proven to have become doubtful during the year of assessment or in respect of any particular debt, but shall include an amount deducted under Section 3(e) of Petroleum Income Tax Law, 1987in determining the chargeable income of a previous year of assessment. The second proviso is that all sums recovered during the same year of assessment on account of amounts previously deducted in respect of bad and doubtful debts shall, for the purposes of Petroleum Income Tax Law, 1987, be treated as income incidental to such operations for that year. This means that such sums shall be added to income and subjected to tax. The third proviso is that satisfactory proof be brought to the attention of the Commissioner-General that the debts in respect of which such deduction is claimed were either (1) included as a receipt from the carrying on of petroleum operations in the year of assessment in which they were incurred; or (2) advances made in the normal course of petroleum operations not falling within the provisions on deductions not allowed in respect of capital withdrawn or a sum of money employed or intended to be employed as capital.

Any contribution to a pension or provident fund or any other fund, which is approved by the Commissioner-General, is allowed as a deduction. However, the following provisos have to be adhered to before the deduction can be made. First, where the aggregate of the contribution of the employer and employee to any such fund, for any year of assessment exceeds 25 per cent of the remuneration paid by the employer to the employee for such year of assessment, the aggregate of the deductions to be allowed shall be 25 percent of such remuneration. In such a

case, the Commissioner-General shall determine the amount of the deductions to be allowed to the employer and the employees respectively. Second, where any such fund is first established and a special contribution is made thereto by the employer, whereby persons in his employment, whose employment commenced prior to the establishment of the fund may qualify for benefits there under, in respect of such prior employment, the Commissioner-General may, when approving the fund, authorize such deductions in respect of such special contribution as he may deem fit.

This provision on the deductibility or otherwise of contributions to a fund on behalf of employees requires an entire review in view of the coming into force of the National Pensions Act, 2008 (Act 766). This act was established to provide for pension reform in the Republic of Ghana by the introduction of a contributory three-tier pension scheme; the establishment of a National Pensions Regulatory Authority to oversee the administration and management of registered pension schemes and trustees of registered schemes, and the establishment of a Social Security and National Insurance Trust to manage the basic national social security scheme to cater for the first tier of the contributory three-tier scheme, and to provide for related matters. A review of the provision in Law 188 will help to protect revenue, as it will deter arbitrary funds from being established by persons in petroleum operations, since any such funds will have to be in line with the National Pensions Act, 2008 (Act 766).

It is further provided that any sums actually expended by a person in the education or training of citizens and nationals of Ghana in approved educational and technical institutions (including attachment with such person) in any aspects of petroleum operations, or in the provision of scientific and educational materials and equipment pursuant to the terms of a petroleum agreement, is allowed as a deduction. This is a good provision intended to ensure that there is skills training and capacity building of Ghanaians in the petroleum industry. This however requires a good monitoring mechanism, to ensure that Ghanaians are indeed given the opportunity to be trained as provided.

Sums representing a special carried interest allowance for that year of assessment, including in the event that production from any development and production area ceases, any amount which would have been recoverable from a special carried interest allowance, if production from such development and production area to which such allowance relates, had not ceased before the sum advanced in respect of the GNPC participation had been fully reimbursed, are allowed as

a deduction. Such other deductions as may be prescribed by any rule made under the provisions of any legislative instrument are also permissible to be deducted.

Last, any loss incurred by such persons during the year of assessment shall be allowed as a deduction, provided that, first, a deduction of a loss shall be made so far as possible in computing the amount, if any, of the chargeable income of the first year of assessment after that in which the loss was incurred, and, so far as it cannot be so made, then in computing the chargeable income of the immediately succeeding year of assessment and so on. Second, under no circumstances shall the aggregate deduction in respect of any such loss exceed the amount of such loss. Third, no deduction is allowed for losses incurred before the coming into force of Petroleum Income Tax Law, 1987. These provisos are necessary to restrict the amount of loss to be deducted, as well as to prevent the abuse of this provision by persons loading on their expenses to incur a loss for possible deduction.

This having been said, there is the need for a review of the provision on carryover of losses to set a limit to the period for such carry over, because as it stands, this implies that persons in petroleum operations can carry forward such losses indefinitely. There should therefore be a sunset clause for this incentive to ensure that IOCs are more proactive in managing their operations to make profit. An indefinite and unending allowable deduction for carryover of losses gives room for manipulation, especially in an industry in which the GRA has not yet built that much capacity to consistently monitor operations.

Section 68 of the Income Tax Act, 2015 (Act 896) has now set a limit to the loss carried forward to a maximum period of five years. This is welcome news as it would help to conserve revenue for the state. It is my view that Income Tax Act, 2015 (Act 896), in setting a limit to the loss carried forward, is in tandem with the often stated position that tax incentives, of which carry forward of losses is one, require sunset clauses to prevent abuse (Sunley *et al.,* 2003; Amoako-Tuffuor and Owusu-Ayim, 2010; Moolman.and Van der Zwan, 2016). The provisions in Act 896 notwithstanding, I am of the considered view that there is the need for consistent review and monitoring of the expenditure profile of the operators in the petroleum industry, to guide against deductions of expenses that cannot be substantiated.

4.2.1.2 Deductions not allowed in Ascertaining Chargeable Income

Section 4 of the Petroleum Income Tax Law, 1987 (P.N.D.C.L.188) does not allow for certain deductions for the purpose of ascertaining the chargeable income arising from petroleum operations. Similarly, Section 67(2) of Income Tax Act, 2015 (Act 896), does not allow certain deductions, showing that the provision not allowing certain deductions has been maintained, even with the change in legislation. These deductions are domestic or private expenses, and this is because they are not expenses incurred in the course of earning income (section 4(a) P. N. D.C L. 188). Any disbursement or expense not being wholly, exclusively and necessarily laid out or expended for the purpose of petroleum operations is also not allowed as a deduction, since it is not expended in the course of earning income (section 4(b) P. N. D.C L. 188). Another expenditure not allowed as a deduction is any capital withdrawn or any sum employed or intended to be employed as capital (section 4(c) P. N. D.C L. 188). This is not allowed as a deduction because it is an expenditure that qualifies for capital allowance; hence, it is to be written off over the useful life of the asset.

Any capital employed in improvements during the course of the petroleum operation is also not allowed as a deduction (section 4(d) P. N. D.C L. 188). This is so because capital allowance is granted in lieu of the cost of capital expenditures, to enable the person to recover the costs of investment over the period of the investment. It is also provided that any sum recoverable under an insurance policy or contract of indemnity is not deductible because initial premium payments were duly allowed as a deduction (section 4(e) P. N. D.C L. 188). Thus, allowing the sum recovered will amount to a double deduction, which will impact tax revenue negatively. It is worth mentioning that rent of or cost of repairs to any premises or part of a premises not paid or incurred for the purposes of petroleum operations is also not allowed as a deduction, since it has no connection to the income earned (section 4(f) P. N. D.C L. 188).

The disallowed expenditure that raises a legal issue has to do with any amounts paid or payable in respect of any income tax, profits tax or other similar tax, whether charged within Ghana or elsewhere (section 4(g) P. N. D.C L. 188). This raises a contestable issue, as value added tax, for example, is an indirect tax and the provision mentions “the amounts of money paid or payable in respect of an income tax, profits tax or any other similar tax, whether charged within the Republic or elsewhere.” Since the taxes specifically mentioned are direct taxes and not indirect taxes, “other similar taxes” should be construed to mean direct taxes. The position I

am espousing here is supported by *ejusdem generis*,[1] meaning "of the same kind, class, or nature".

Thus, the phrase, "any other similar tax" constitutes general words and they follow an enumeration of specific taxes, namely, income tax and profits tax, which belong to the same class of direct taxes, hence cannot include indirect taxes such as value added tax. I posit that if existing legislation does not intend to exclude indirect taxes, it is important that it states so expressly, to avert legal tax disputes upon interpretation that can affect revenue inflows during the pendency of such suits.

In further support of allowing indirect taxes as a deduction for tax purposes is the rule of interpretation of statutes known as *expressio unius est exclusio alterius. This* means "the express mention of one thing excludes all others". The phrase indicates that items not on the list are assumed not to be covered by the statute, thus when something is mentioned expressly in a statute, it leads to the presumption that the things not mentioned are excluded. In other words, when one or more things of a class are expressly mentioned, others of the same class are excluded, hence the mention of the class of direct taxes in Section 4(g) of the Petroleum Income Tax Law, 1987 (P.N.D.C.L. 188), which excludes the class of indirect taxes. Indirect taxes are thus allowed to be deducted as expenses incurred in earning income of a petroleum operator.

The depreciation of any fixed assets, including premises, buildings, structures or works of a permanent nature, are not allowed as a deduction (section 4(h) P. N. D.C L. 188). The reason for this is that once capital allowance is given in lieu, this provision is justified and rightly so. Lastly, any contribution to a pension, provident or other similar fund not within the terms stated under allowable deductions will not be allowed as a deduction (section 4(i) P. N. D.C L. 188). This provision needs a revision, considering the discussion above on the National Pensions Act, 2008 (Act 766).

[1] In the construction of statutes, the "*ejusdem generis* rule" is that where general words follow an enumeration of persons or things, by words of a particular and specific meaning, such general words are not to be construed in the broadest extent, but are to be held as applying only to persons or things of the same general kind or class as those specifically mentioned (Black, Interp. Laws, 141; Cutshaw v. Denver, 19 Colo. App. 341, Pac. 22; Ex parte Leland, 1 Nott & McC. (S.C.) 462; Spalding v. People, 172111. 40, 49 N. E. 99).

4.2.1.3 Capital Allowance Regime for the Petroleum Sector

The regime for capital allowances in the petroleum sector is found in the Schedule to the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188). Capital allowance is granted upon the petroleum capital expenditure incurred by a person carrying out petroleum operations, which is divided by five years, hence granting a straight-line method of computing capital allowance (Clause 2 of the Schedule to the Petroleum Income Tax Law, 1987 (P.N.D.C.L 188)). Clause 5 of the Third Schedule to the Income Tax Act, 2015 (Act 896) provides the same capital allowance, as it provides a 20 per cent on capital allowance expenditure by a petroleum operator on a straight-line basis, that is over a five-year period.

4.2.1.4 Fiscal Provisions in the Internal Revenue Act, 2000 (Act 592)

The Internal Revenue Act, 2000 (Act 592), contained provisions governing the petroleum sector up to the year 2015. The Internal Revenue Act, 2000 (Act 592) repealed the Income Tax Decree, 1975 (S.M.C.D. 5), hence a reference to provisions in the Income Tax Decree, 1975 (S.M.C.D. 5) in the Petroleum Income Tax Law, 1987 (P.N.D.C.L.188) has to be considered, along with the provisions of the Internal Revenue Act, 2000 (Act 592), since the Income Tax Decree, 1975 (S.M.C.D. 5) has been repealed and replaced with the Internal Revenue Act, 2000 (Act 592) (Section 168(1)(a)).

The above-mentioned introduction is important, as Section 39 of the Petroleum Income Tax Law, 1987 (P.N.D.C.L.188) provides for repeal and misapplication of other tax legislation. Included in the disapplication of other legislation are the Third Schedule to the Income Tax Decree, 1975 (S.M.C.D. 5) (Section 39(2) of the Petroleum Income Tax Law, 1987 (P.N.D.C.L. 188)); where no tax is charged, or withholding of tax required under the provisions of the Income Tax Decree, 1975 (S.M.C.D. 5) in respect of any income, or dividends paid out for any income, which is taken into account in ascertaining chargeable income or loss under the provisions of the Petroleum Income Tax Law, 1987, or which is excluded from gross income (Section 39(3) of the Petroleum Income Tax Law, 1987 (P.N.D.C.L. 188)); the Additional Profits Tax Law, 1985 (P.N.D.C.L. 122) now repealed, or the Capital Gains Tax Decree, 1975 (N.R.C.D. 347) (Section 39(4) of the Petroleum Income Tax Law, 1987 (P.N.D.C.L 188)).

It is noteworthy that the Capital Gains Tax Decree, 1975 (N.R.C.D. 347), has been repealed (Section 168 (1) (b) of Act 592) and the provisions thereof are found in Chapter 2 of the Internal Revenue Act, 2000 (Act 592).

With regard to the application of the Internal Revenue Act, 2000 (Act 592), the P.N.D.C.L.188 states that, except as specifically provided for in the Petroleum Income Tax Law, 1987, or under legislative instruments made under Section 41, the general laws of Ghana relating to tax administration, jurisdiction to impose tax and to try offences in respect of tax matters shall continue to apply to the matters provided for in the Petroleum Income Tax Law, 1987 (P. N. D. C. L. 188) (Section 39(5)).

4.2.1.5 Fiscal Provisions in the Income Tax Act, 2015 (Act 896)

The taxation of petroleum operations from 2016 is governed by the provisions in Part VI, Division I of the Income Tax Act, 2015 (Act 896). The significant provisions introduced include the taxation of dividend in the petroleum sector under Section 71(2), which provision hitherto did not exist. It also provides under Section 69 that a person is treated as having disposed of his or its petroleum interest when there is a change in the underlying ownership by five per cent or more. The consideration obtained is thus subject to tax and this is a good provision to secure revenue for the Government of Ghana.

The Income Tax Act, 2015 (Act 896) again provides, under Section 66(1)(d), for the taxation of a gain from the assignment or other disposal of an interest in the petroleum right, which is a significant provision to secure a hitherto revenue loss under the Petroleum Income Tax Law, 1987, where an assignment of interest led to a deferred tax revenue to the state. This provision now provides the Government of Ghana with an instant revenue inflow rather than a deferred one.

Another positive provision is found in Section 70 of the Income Tax Act, 2015 (Act 896), which provides for petroleum operators to establish a decommissioning fund into which contributions would be made by the operators. The purpose of the fund is to ensure that petroleum operators can decommission their petroleum operations and address any environment damage which they may cause during their operations. Contributions to the fund are exempt from tax, whereas any surplus remaining in the fund would be subject to tax after the decommissioning.

Despite the above positive provisions in the Income Tax Act, 2015 (Act 896) to secure revenue to the state, the provision in Section 66(10(g) which mentions that any amount derived which is incidental to the operation of the petroleum operator, and which should be added to the operator's income, is inimical to revenue mobilization from the petroleum sector. The phrase "incidental to" does not engender certainty because how does one determine what is "incidental to"? There is the need for clarity to ensure certainty in the revenue inflows.

4.2.1.6 Fiscal Provisions in the Petroleum (Exploration and Production) Act, 2016 (Act 919)

Fiscal provisions in the Petroleum (Exploration and Production) Act, 2016 (Act 919) are found in Sections 85, 86, 87, 88 and 89 and address the issues of payment of royalties, annual fee in respect of acreage, tax, bonus payments and additional oil entitlement respectively. These are all tax instruments that have been discussed earlier in Chapters 2 and 3. The key concerns I wish to discuss here are Section 85 on payment of royalties, Section 87 on tax and Section 88 on bonus payments. This is because these sections constitute key issues in this thesis.

Section 85(1) of Petroleum (Exploration and Production) Act, 2016 (Act 919) provides that the contractor shall pay to the Republic of Ghana royalty in respect of gross volume of petroleum produced and saved. Of concern here is the discretion given the minister responsible for petroleum under Section 85(3) to direct, in writing, for the royalty to be paid in cash other than in kind, as provided in the same section. This is too wide a discretion because there is no provision requiring the minister to seek the approval of Parliament in this regard. This concern is anchored on the provision of Article 174 of the 1992 Constitution of Ghana which states:

> (1) No taxation shall be imposed otherwise than by or under the authority of an Act of Parliament.
> (2) Where an Act, enacted in accordance with Clause (1) of this article, confers power on any person or authority to waive or vary a tax imposed by that Act, the exercise of the power of waiver or variation, in favour of any person or authority, shall be subject to the prior approval of Parliament by resolution.
> (3) Parliament may by resolution, supported by the votes of not less than two-thirds of all members of Parliament, exempt the exercise of any power from the provisions of clause (2) of this article.

It is evident from Article 174(2) that the minister has the power to vary a tax, though this requires the prior approval of Parliament. Indeed, under Article 174(3), Parliament may waive the requirement in Article 174(2), requiring the minister to seek Parliament's prior approval but even then, it must be supported by the votes of not less than two thirds of all members of

Parliament. The question is how secure are the revenue inflows if this discretionary power is abused or misapplied?

Under Section 87 of Petroleum (Exploration and Production) Act, 2016 (Act 919), a licensee, contractor, sub-contractor and the GNPC are required to pay taxes, including petroleum income tax and capital gains tax, in accordance with applicable enactments. The question I pose is, with the provision of stability clauses in almost all the petroleum agreements before the coming into force of Act 919, what is there to salvage in terms of revenue from petroleum? Especially so when Article 12.1 of these petroleum agreements before 2013, which I have discussed in detail in Chapter 3, as well as in Paragraph 4.3 below, bars the Government of Ghana from going after taxes that are not covered in the petroleum agreement? My observation is that the horses have left the stables before the thought of locking the gates to the stables. Ghana has lost some revenue before the thought of providing safeguards against revenue loss from the petroleum sector.

Section 88 on bonus payments begs the same questions posed in respect of Section 87 on tax. The additional question is: how many more oil and gas discoveries are being anticipated for the bonus payment to apply? Moreover, the provision is clouded in uncertainty when it states that a contractor shall pay a bonus to the Republic of Ghana as may be prescribed. Is it then not possible to prescribe the bonus payment in the law to ensure certainty? The provision continues to state that where the type and quantum of bonus is not prescribed, the bonus shall be paid as otherwise provided in accordance with the terms of a petroleum agreement. How secure is Ghana in earning revenue from bonus payments that will be provided in an agreement that is subject to negotiation? Does the Government of Ghana have the capacity and resource persons to negotiate on such terms?

4.3 FISCAL PROVISIONS IN SELECTED PETROLEUM AGREEMENTS

The fiscal provisions in the petroleum agreements are found in Article 12 of the agreements. There has been a significant improvement in the effectiveness of the provisions, which is good for Ghana, as steps have been taken to prevent the loss of revenue that hitherto was occasioned by the provisions in the earlier agreements, namely agreements signed prior to 2013. Whereas the earlier agreements pre-dating 2013 provided a kind of fiscal enclave for the IOCs, such that owing to the stability clauses, no changes in fiscal legislation could affect them, the agreements

after 2013 did not create such an enclave. Unfortunately, no challenge of the pre-2013 oil and gas agreements in the courts has ever occurred, hence the issue of its provisions overriding the laws of Ghana has not yet been tested in the courts.

4.3.1 Corporate Tax, Tax upon Assignment of Interest and Rental Payments on Petroleum Operations

Contrary to the earlier agreements, the petroleum agreements signed in the year 2013 (that is the Petroleum Agreement amongst the Government of the Republic of Ghana, the Ghana National Petroleum Corporation, the GNPC Exploration and Production Company Limited and the AGM Petroleum Ghana Limited in respect of the South Deepwater Tano Contract Area dated 10th September 2013; and the Petroleum Agreement amongst the Government of the Republic of Ghana, the Ghana National Petroleum Corporation, COLA Natural Resources and MEDEA Development Limited in respect of the East Cape Three Points Contract Area of September, 2013) have the following provisions governing the fiscal regime:

Article 12.1 provides as follows:

> Subject to applicable laws and regulations as the same may be amended from time to time, the tax, duty, fee and other imposts that shall be imposed by the state or any entity or any political subdivision on contractor, its sub-contractors or its affiliates in respect of works and services related to petroleum operations and the sale and export of petroleum shall include but not be limited to the following.

This is, indeed, a marked departure from the earlier agreements based upon the model petroleum agreement, which sought to create a fiscal enclave by restricting the taxes applicable to the petroleum sector to only the taxes stated in Article 12. From the above rendition, it means that petroleum operators may be subject to changes in the fiscal regime in Ghana from time to time.

The following taxes are then provided for in Article 12.1:

a. Corporate income tax at the rate of 35 per cent with the chargeable income being calculated in accordance with the Petroleum Income Tax Act, 1987 (P.N.D.C.L.188);
b. The vexing issue of taxation of assignment of interest is also now addressed more clearly as follows:

> Notwithstanding Article 12.1(a), a tax in respect of income and/or gain (in either case, calculated in accordance with Ghanaian law) resulting from the direct or indirect sale, transfer or assignment of:
>
> (i) a partial or the entire interest in this agreement;
> (ii) assets acquired or used in petroleum operations under this agreement; or
> (iii) shares of contractor,
>
> at the rate determined by Ghanaian law in effect at the time of the sale, transfer or assignment.

In as much as an attempt is made here to address the issue, the uncertainty still remains when the rate of tax applicable is not stated, but left to the Ghanaian law in effect at the time of the sale, transfer or assignment. It is rather better now, as the Income Tax Act, 2015 (Act 896) in Section 66(1)(d) provides that "a gain from the assignment or other disposal of an interest in the petroleum right with respect to which the operation is conducted" shall be included in the income of a person from petroleum operations and taxed. In this way, one is certain that since the corporate income tax rate is 35 per cent, then that is what will be applicable to the gains arising out of an assignment of an interest or a part thereof.

c. Payments for rental of government property, public lands or for the provision of specific services requested by the contractor from public enterprises; provided, however, that the rates charged to the contractor for such rentals or services shall not exceed the prevailing rates charged to other members of the public who receive similar services or rentals.
d. Surface rentals are also payable by the contractor to the state, and it varies as per agreement, and is calculated per square kilometre of the contract area remaining at the beginning of each contract year as part of the contract area, in the amounts as set forth below:

Phase of Operation	**Surface Rentals per Annum**
Initial Exploration Period	USD 50 per sq. km.
1st Extension Period	USD 100 per sq. km.
2nd Extension Period	USD 100 per sq. km.
Development & Production Area	USD 200 per sq. km.

It is noteworthy that these rentals shall be pro-rated where the beginning of a period and the end of a period or the creation of a development and production area occurs during the course of a calendar year.

4.3.2 Withholding Tax upon Petroleum Operations

Under Article 12.2 of the agreement in respect of the East Cape Three Points Contract Area, the following is provided:

> Save for withholding tax at the rate provided for under applicable law from the aggregate amount due to a resident sub-contractor or non-resident sub-contractor, the contractor shall not be obliged to withhold any tax in respect of tax from any sum due from the contractor to any sub-contractor in respect of work and services for or in connection with this agreement.

In respect of the South Deepwater Tano Contract Area, the following addition is included: "Notwithstanding the foregoing, the withholding of tax in respect of services provided to the contractor by an affiliate of any company comprising the contractor shall be waived, provided such services are charged at cost".

The question remains as to who determines what 'cost' is, even more so in the ever-rising case of transfer pricing as a major concern in international taxation? I posit that this is another avenue for loss of revenue to the state that needs urgent attention. This apprehension is premised on the observation that most IOCs have affiliates, associates and sub-contractors in which they hold shares, hence making it possible for costs to be uploaded amongst the parties, which practice will impact on profits. High upload of costs, which will be non-arm's length, can lead to low profits, or possible losses in related entities, hence low revenue to the government or none, if it is a loss position. The uploaded costs are then transferred to other associates outside Ghana, leading to transfer pricing abuse.

4.3.3 Indirect Taxes upon Petroleum Operations

There is no application of indirect taxes on petroleum operations, either by way of import duties, export duties or VAT. It is provided that, subject to the local purchase obligations, the contractor and sub-contractors may import into Ghana all plant, equipment and materials to be used solely and exclusively in the conduct of petroleum operations, without payment of customs duties and taxes upon imports, save administrative fees and charges (Clause 12.3 and 12.4 of the agreement in respect of the South Deepwater Tano Contract Area and the East Cape Three Points Contract Area respectively). The contractor shall not be liable for any export tax upon petroleum exported from Ghana, and no duty or other charge shall be levied on such exports. More so, vessels and other means of transport used in the export of contractors' petroleum from Ghana shall not be liable for any tax, duty or other charge, by reason of their

use for that purpose. The contractor shall not be liable to pay VAT in respect of plant, equipment and materials, and related services supplied in Ghana, to be used solely and exclusively in the conduct of petroleum operations. Foreign national employees of contractors or their affiliates, and of their sub-contractors, shall be permitted to import into Ghana, free of import duty, their personal and household effects in accordance with Section 22.7 of the Ghana National Petroleum Corporation Law, 1983 (P.N.D.C.L. 64), with the provision that no property imported by such employee shall be resold by such employee in Ghana.

The above provisions are too sweeping to be incentives that seek to protect government revenue, as they rather narrow the tax base from which the state can earn tax revenue. The intent of the government could be premised on attracting investors into the oil and gas sector of the economy. Unfortunately, it has dire revenue loss consequences. The only provisos are that the GNPC shall have the right of first refusal for any item imported duty free, which is eventually later sold in Ghana, and it is only when the GNPC does not exercise its right of purchase that the contractor may sell to any other person. I do not find this a credible solution to such exemptions, since it leaves questions to be answered. The question that still begs an answer is: "Who monitors all these duty-free purchases and imports, to ensure that revenue is not lost?" This is all the more reason for the advocacy that the Income Tax Act should be the only legislation to provide for the effective and efficient taxation of petroleum operations, and not provisions in the agreements that seek to virtually give all away to international oil companies who come in as contractors with affiliates and sub-contractors.

4.3.4 Taxation of Employees in Petroleum Operations

Interestingly, even with respect to taxation of employees, there are leakages of revenue in that expatriate employees are exempt from the payment of tax on their incomes earned if they work in Ghana for a period not exceeding 30 days. This loss of revenue arises because the Ghana Income Tax Law, as applicable generally to individuals who are not employed in the petroleum industry, does not apply to these expatriates. The tax revenue that could otherwise have been received from the incomes of expatriate employees of contractors, their affiliates and their sub-contractors is lost. They are only subject to the General Income Tax Law if they are resident in Ghana for more than 30 continuous days or 60 days in aggregate in any calendar year. This is the provision in Article 12 of the Model Petroleum Agreement of Ghana, which is the basis on which all the agreements are drawn. Since Parliament is the only body mandated under Article

174(1) of the Constitution to impose taxes, and also has the power to waive or vary a tax under Article 174(2), there is no constitutional breach. This is so because petroleum agreements are ratified by Parliament under Article 75 of the Constitution, thus making them on par with an Act of Parliament.

The loss in revenue is evident in that in the Internal Revenue Act, (2000), which affected the petroleum sector till 2015, as well as the Income Tax Act, 2015 (Act 896) which is currently the Ghana Income Tax Law, a foreign national employee who is in the country for less than 183 days is non-resident for tax purposes. In such an instance, the applicable tax rate on the income of such an employee is 20 per cent final tax. It would have been expected that the period of stay for the determination of the tax residence status of such employees should have been maintained at 183 days and not reduced to 30 days. Additionally, my expectation is that such an employee should also be subject to the 20 per cent final tax, to enable the government to earn revenue, and also to create a level playing field for the taxation of expatriate employees.

4.3.5 Contributions to a Decommissioning Fund

The Minister of Energy is required to issue guidelines for contractors to make contributions to a decommissioning fund on estimated costs of abandonments in proportion to their participating interest. Such contributions shall be allowed as a deduction from the assessable income for the year of assessment in which the contributions commenced. In the year of assessment in which the decommission has been completed, in accordance with an approved decommission plan, the surplus funds shall be treated as chargeable income and subject to tax, and any amount remaining thereafter shall be subject to an additional oil entitlement at the highest rate at which the contractor paid Additional Oil Entitlement (AOE) during the period of contributions to the relevant decommissioning fund. Any surplus thereafter shall revert to the contractor.

This is a laudable provision that should raise revenue for the state, but the usual question still lingers: how is this going to be monitored to ensure transparency and accountability? This will ensure the protection and resuscitation of the environment, since the policy rationale behind the provision for a decommissioning fund is to enable the IOCs to raise funds internally from their profits to do so. This policy is thus not a revenue generation measure by the Government

of Ghana, but a policy direction to secure and protect the country against environmental degradation occasioned by oil and gas production activities in Ghana.

4.4 REVENUE FROM OIL AND GAS IN GHANA

The revenue inflows from the oil and gas sector in Ghana are from the following sources:

4.4.1 Royalty on Gross Production of Crude Oil

Royalty is the payment for the right to take oil or gas from the land or sea and it is levied as a percentage of the gross value of oil or gas produced, irrespective of profitability of the contractor. The rate of royalty in Ghana ranges from 5 per cent to 12.5 per cent of gross production of crude oil, and 3 per cent of gross volume of gas production, but depends upon each contractor's petroleum agreement.

4.4.2 Carried Interest or State Initial Interest

Carried interest entitled the state to at least 10 per cent interest in any petroleum agreement up until 2015. With the enactment of the Petroleum (Exploration and Production) Act 2016, (Act 919), this was revised in Section 10(4) of the act to a minimum of 15 per cent. The state is thus exempted from contribution towards any costs incurred at the exploration and development stage. The Ghana National Petroleum Corporation holds this interest on behalf of the state. The 15 per cent interest of the state is thus 'carried' during the exploration and development phases, in other words, all risks of exploration and development are borne by the international oil company's equity (Amoako-Tuffour and Owusu-Ayim, 2010).

4.4.3 State Additional Interest

In addition to the state's initial interest (i.e. carried interest), the Ghana National Petroleum Corporation shall have the option, in respect of each development and production area, to acquire an additional interest of an agreed percentage in the petroleum operations in such development and production areas, by contributing the corresponding proportionate share to all the development and production costs incurred after the date of commercial discovery, in respect of such development and production area, or make arrangements satisfactory to the contractor to that effect. The percentage that the state is allowed to take up varies for each

contract and is not a fixed percentage. This entitles the GNPC to additional interest in any distribution of petroleum or revenue to interest holders.

4.4.4 Petroleum Income Tax

Corporate income tax from petroleum operations is essentially the tax payable upon the income derived from oil and gas production and is calculated at the rate of 35 per cent. This corporate tax rate is 10 per cent higher than the existing corporate tax rate for other businesses.

4.4.5 Additional Oil Entitlement

The additional oil entitlement (AOE) is an additional profit tax based upon the rate of return achieved. The state is entitled to additional crude oil, aside from the 15 per cent carried interest, if the contractor achieves a specified after-tax inflation-adjusted rate of return with respect to such development and production area as at that time. The contractor's rate of return is calculated upon its net cash flow in accordance with a formula specified in the petroleum agreement. The AOE is meant to ensure that the state shares in an excess profit accruing to contractors.

4.4.6 Surface Rental

Contractors are obliged to pay surface rentals for blocks assigned to them for petroleum operations. Surface rentals payable to the state are, in general, as follows:

Table 4.1 Surface rental charges for an oil block in Ghana

Phase of Operation	**Surface Rental per annum**
Initial Exploration Period	USD 30 per sq. km
1st Extension Period	USD 50 per sq. km
2nd Extension Period	USD 75 per sq. km
Development and Production Area	USD 100 per sq. km

Source: Author's own construct.

4.4.7 Other Rentals

These consist of payment for use of government property, public lands, and specific services provided by public enterprises, at not more than "commercial rates", that is the charges shall

not exceed the prevailing rates charged to other members of the public, who receive similar services or rentals.

4.5 GOVERNMENT OF GHANA'S SHARE OF OIL AND GAS REVENUES

The announcement of the discovery of oil in commercial quantities in Ghana took place in 2008, following which there were heightened expectations of the government and the people of Ghana that Ghana was going to attain increased economic growth and development (CEPA, 2010). Ghana was subsequently ushered into the oil and gas economy in the fourth quarter of 2010, specifically in November, 2010, with the first oil extraction. CEPA (2010) states that the estimated quantities and exports of oil from Ghana's Jubilee Fields were expected to make Ghana a net exporter of oil from the year 2011, hence an expectation to generate an exportable surplus of at least USD 1.0 billion per annum between 2011 and 2015. This excluded projection of discoveries to be made of other oil wells for the next thirty years.

Table 4.1 shows the projections made on Ghana's oil production from the Jubilee Oil Fields. These projections show that the expected production of oil was going to be increased from 106,900 barrels per day in 2011 to 120,500 barrels per day in 2015, which output then declined from the year 2016 to 2017 (CEPA, 2010).

Table 4.2: Projections of oil output, gross revenue and government revenues from Jubilee Oilfields for Ghana

	Expected Output (000 bpd)	Gross Revenue (USD million)	Capital and Operating Costs (USD million)	Government Revenue (USD million)
2008	-	-	397.8	-
2009	-	-	1,094.5	-
2010	-	-	1,094.5	-
2011	106.9	2,925.0	1,108.9	899.7
2012	120.5	3,300.0	1,268.3	1,010.8
2013	120.5	3,300.0	350.3	1,083.0
2014	120.5	3,300.0	350.3	1,483.8
2015	120.5	3,300.0	350.3	1,796.3
2016	101.4	2,775.0	327.0	1,804.1
2017	89.0	2,437.5	312.1	1,587.4
2018	79.5	2,175.9	300.4	1,400.4

2019	69.9	1,912.4	288.8	1,213.3
2020	61.6	1,687.4	278.8	1,053.0
2021	56.1	1,536.8	272.1	945.7
2022	50.7	1,387.6	265.5	839.4
2023	46.6	1,275.1	260.5	759.3
2024	43.8	1,200.1	257.2	705.8
2025	41.1	1,125.1	253.9	652.4
2026	38.4	1,050.1	250.6	599.0
2027	35.6	975.1	247.2	545.5
2028	34.3	937.6	245.6	518.8
2029	32.9	900.1	243.9	492.1
TOTAL	**1,369.8**	**37,499.8**	**9,818.5**	**19,389.8**

Source: World Bank Country Report No. 47321 GH; Economy-wide impact of oil discovery in Ghana, November 30, 2009, p. 21.

It is evident from Table 4.2 that the expected government revenue from the Jubilee Oil Fields was USD 899.1 million in 2011. This was expected to increase consistently year-on-year until it reached a peak of USD 1,804.1 million in 2016, before declining steadily to a low amount of USD 429.1 million in 2029. This shows that inasmuch as other oil reserves may be found, if the current oil output from the Jubilee Fields is not well managed, Ghana is likely to suffer the ill effects of the oil curse. The expected revenues to the government should be compared with the actual inflows, to ascertain any variances that would then show whether the expectations were too high.

Following this, an analysis of petroleum receipts for 2016 and 2017 is examined, to show whether government achieved its expected revenues as exhibited in Table 4.3.

Table 4.3: Analysis of petroleum receipts, 2016-2017

ITEM	**UNIT million**	**2016**	**2017**
Jubilee Royalties	USD	57.85	84.26
Jubilee Carried and Participating	USD	149.94	218.38
TEN Royalties	USD	-	51.60
TEN Carried and Participating Interest	USD	-	147.06
Surface Rentals	USD	0.47	1.57
Corporate Income Tax	USD	29.55	36.96
PHF income	USD	0.07	0.06

Gas Royalties	USD	0.38	-
Gas Carried and Participating Interest	USD	8.90	4.27
Total Petroleum Receipts	**USD**	**247.18**	**540.41**
	GHS	**972.55**	**2,334.12**

Source: Ministry of Finance/Bank of Ghana (2018).

Table 4.3 shows actual petroleum receipts in the years 2016 and 2017 from the Jubilee Fields and reveals that the expected government revenue, as indicated in the World Bank Country Report, was not attained in the 2016 and 2017 years. Government revenue expected in 2016 was USD 1,804.1 million as against actual receipts of USD 247.18 million, showing a variance of USD 1,556.92 million. A shortfall again occurred in 2017 where the government revenue expected was USD 1,587.00 million, whereas actual receipts was USD 540.41 million, showing a variance of USD 1,046.99 million. The variance recorded over the period supports how this high expectation from oil and gas discovery and production was dashed.

4.6 ASSESSMENT OF THE MANAGEMENT OF REVENUE SOURCES IN GHANA

The prudent management of oil and gas revenues is key to ensuring that Ghana derives maximum benefits from its vast natural resources. This discussion thus examines the legislation in place for the management of revenues from the petroleum sector. This is because the discovery of oil and gas brings with it the challenges of how the revenue from the resource should be managed, to ensure that the find is a blessing rather than a curse for the economies concerned. The discovery of oil in commercial quantities off the coast of Ghana took place in June 2007, with the lift of the first oil from the Jubilee Field occurring in December 2010 (PIAC Annual Report, 2011).

4.6.1 Managing the Oil and Gas Revenue in Ghana

As discussed earlier in Chapter 2 (Sections 2.9.1 to 2.9.3), the “resource curse” refers to a situation where countries with large endowments of natural resources, such as oil and gas, often perform worse in terms of economic development than do countries with fewer resources (Humphreys, Sachs and Stiglitz, 2007). Opportunities indeed exist for accelerated growth and development in an oil and gas economy, but only when the challenges confronting oil revenue management are surmounted. Whereas countries in the developed world, such as Norway, have

shown enterprise in their oil revenue management, experiences in some African countries, such as Nigeria, show that properly managing resource windfalls remains a challenge for many developing countries (Center for Policy Analysis, 2012).

The need for strong, vibrant and independent institutions to manage resource revenues is key to achieving development since resource rents, if not properly managed, may lead to a greater risk of conflict (Fosu, 2013b). Thus, as Ghana prides itself as one of the democratic regimes in Africa, it is necessary to guard against conflict in the wake of the oil and gas production. This is because resource rents abound in the oil and gas sector. Ghana needs to guard against the potentially corrosive nature of resource rents, so as not to follow the route and experiences of Nigeria, as discussed under section 5.5.1 in chapter 5 (Fosu, 2013b).

With the correct investment strategy, non-resource export sectors can benefit from increased natural resource earnings, and indeed, it is possible to avert the infamous "Dutch Disease" by generating growth in sectors that are central for poverty alleviation, but that are in practice non-tradable (including food production), alongside real exchange rate depreciation (Sachs, 2006).

To channel the revenue from oil and gas to productive sectors, to avert the resource curse, Ghana needs to concretize its democratic achievements by putting checks and balances on the executive arm of government, to stem the tide of corruption and not allow corruption to fester. It is therefore imperative for Ghana to allow structures and institutions to operate effectively and efficiently, without let or hindrance, especially by politicians (Fosu, 2013b). It is thus prudent to reduce the resource rents in the hands of the government, if the risk of the resource curse challenge is to be avoided in Ghana, so that the country does not suffer the fate of Nigeria.

This discussion on oil and gas revenues is pertinent in the wake of debates on issues such as whether natural resource-rich countries even need aid. Collins (2000) and Arezki and Banerjee (2014) demonstrate that the much-vaunted concept of foreign aid is not and should not, in fact, be circumscribed by huge discoveries of oil and gas in developing economies. The study reviewed the oil-aid relationship and the effects of supplanting foreign assistance with oil revenues, and posed questions such as:

a. Could the growing numbers of large oil discoveries in low-income countries and the massive in-flow of oil revenue therefore, reduce the need for, or circumscribe the flow of foreign aid to such economies?

b. Could such revenues effectively replace foreign aid without problems? (Collins, 2000; Arezki and Banerjee, 2014).

The approach to the question is refreshingly novel and realistic: the writers have tested the thesis that huge oil discoveries in developing economies, considered as an indicator of growth, do not serve as an alternative to foreign aid *per se* (Staicu and Barbulescu, 2017; Arezki and Banerjee, 2014).

The argument above brings to the fore a new thinking: that notwithstanding the commonsensical thesis to the contrary, there exists no statistically significant relationship between giant oil discoveries and changes in development aid. Arezki and Banerjee (2014) attempt to show, amongst other things, that although there exists no clear evidence of a correlation between foreign aid (in the sense of development assistance) and economic performance, advanced economies have continually disbursed huge sums of monies to support the budgets of developing economies towards the alleviation of poverty, and the promotion of the general welfare of society (Davies, 2007; Arezki and Banerjee, 2014). They maintain that "major donors disbursed USD 127 billion; two-thirds of which went to low-income countries in Africa and Asia" in 2012 alone. They chronicled the strategic reasons as to why donors may wish to continue providing aid to include:

a. ensuring access by advanced economies (donor countries) to oil and energy produced by the recipient nations; and
b. ensuring hefty profits for oil companies in donor countries by leveraging aid for contracts to extract oil in recipient countries (Arezki and Banerjee, 2014).

At the same time, they recognize the existence of mixed reactions regarding the utility or otherwise of economic impact of donor aid, and its accompanying strings, upon recipient economies. While conceding the potential of foreign aid to retard growth, they nevertheless recognize that oil and gas discoveries can, and often have, negative effects (Arezki and Banerjee, 2014; Toukuu and Kuusaana, 2015). After chronicling some of the traditional reasons why oil-rich economies often perform poorly, they conclude that foreign aid can still play a constructive role in oil-rich developing economies, if aid programs are properly aimed at diversifying the economy and strengthening institutions that would ensure good resource governance and revenue management. They further identify democracy as an important catalyst for receiving foreign aid (Arezki and Banerjee, 2014; Cameron and Stanley, 2017).

Consistent with earlier studies, they maintain that low-income democracies receive more aid than non-democracies, following giant oil discoveries. They suggest that oil discoveries further deepen relationships between donors and recipient countries when political systems are considered viable over the long run (Alstine *et al.*, 2014; Arezki and Banerjee, 2014; Bermeo, 2016).

It is obvious from the findings above that to be successful in oil revenue management, it is important to incorporate a robust mechanism to build capacity for enhanced macroeconomic management of oil revenue. This enables countries to tackle instability caused by oil price volatility and to manage uncertainty about the value of the resource – two crucial elements of oil revenue management (Sharma and Strauss, 2013; Arezki and Banerjee, 2014). The mechanism to be incorporated should also include a government's non-oil budget balance, before any interest payments, as the main metric to assess the scale of government expenditure and the injection of oil revenue into the economy, since this will increase fiscal sustainability in the long term and reduce vulnerability in the short term (Asiama, Akosah and Owusu-Afriyie, 2014; Arezki and Banerjee, 2014).

It is worthwhile to discuss the perspectives on oil revenue management and the challenges associated therewith, before discussing Ghana's oil and gas revenue management position. This is because the revenues from oil have specific provision made for them in legislation.

4.6.2 Challenges of Oil Revenue Management

The challenges of oil revenue management can be summarized by the core questions of the timing of spending *vis-à-vis* allocation of the spending, subject to the constraint of oil price volatility.

Timing of spending has to do with determining current spending versus future spending, that is how much revenue should be spent now and how much should be saved for the future for the benefit of future generations. Since oil is a non-renewable natural resource, it depletes as production goes on year-on-year. All things being equal, that will lead to reduced revenue inflows to the Government of Ghana. This is the challenge for government as it tries to structure its spending levels between the current year and in the future.

The greatest challenge is whether a government would avoid the risk of using its revenue from the oil to fund the recurrent expenditure in its budget, instead of investing in long-term capital expenditure to impact other productive sectors. Related to this challenge of use of revenue from oil is the need for transparency, which is worth addressing. How prepared are governments to abide by the Extractive Industries Transparency Initiative (EITI), which places emphasis on full disclosure and publication of reports on revenue and their use?

Responsible handling of revenue from natural resources can be a source of wealth, economic growth and stability for a country. However, the volatility, uncertainty and exhaustibility of these revenues, and the fact that they largely originate from abroad, is a challenge to policy (OECD, 2009).

Many oil-producing countries have found it difficult to rein in government expenditure over time and decouple it from the short-term volatility of oil revenues leading to occasional boom-bust cycles. Thus, in practice, many countries have found oil to be more of a curse than a blessing. Despite the oil wealth, many oil-producing countries have a poor growth record (Gelb, 1988; Fatas and Mihov, 2003).

To surmount the above challenges, there is a need for properly designed fiscal rules, ones that can have large benefits in terms of reduced volatility, inter-generational equity, building buffers for bad times, policy credibility and sustainability of priority expenditures. The rules should be transparent, make economic sense in view of a country's circumstances, and be simple to understand and monitor. It is important to make the breach of fiscal rules costly, to prevent them from being overrun, as the rules can be particularly useful in allocating spending in countries that may be subject to political bias.

The challenge of the previously mentioned resource curse syndrome cannot be overemphasized. The issue of weak governance and high levels of corruption, which can reduce economic growth rates, is also worth addressing (Centre for Policy Analysis, 2012).

Another challenge is how to safeguard the rest of an economy against the weight of the oil sector, i.e. oil revenue-led exchange rate depreciation (Dutch Disease), industry competitiveness and agriculture.

4.7 GHANA'S LEGISLATION REGARDING PETROLEUM REVENUE MANAGEMENT

In Ghana, the Petroleum Revenue Management Act, 2011 (Act 815) is the law that oversees the management of petroleum revenues, as is evident in the long title to the Act. The Act states: "An Act to provide the framework for the collection, allocation and management of petroleum revenue in a responsible, transparent, accountable and sustainable manner for the benefit of the citizens, in accordance with Article 36 of the Constitution and for related matters."

It is instructive to note that this is the law that regulates government's collection, allocation and management of petroleum revenue derived from upstream and midstream petroleum operations (Section 1(1) of the Petroleum Revenue Management Act, 2011 (Act 815)). Thus, where there is conflict between the provisions of the Petroleum Revenue Management Act, 2011 (Act 815) and any other enactment, or the terms, conditions and stipulations in a petroleum authorization in respect of the collection, allocation and management of petroleum revenue, the provisions of the Petroleum Revenue Management Act, 2011 (Act 815) shall prevail (Section 1(2) of the Petroleum Revenue Management Act, 2011 (Act 815)).

4.7.1 Governance and Institutional Framework of the Petroleum Revenue Management Act, 2011

The Parliament of Ghana receives and deliberates on the quarterly/annual reports of the Ghana Petroleum Funds (Section 48 of the Petroleum Revenue Management Act, 2011 (Act 815)). The Ministry of Finance and the Bank of Ghana Investment Advisory Committee (IAC) are responsible for the fiscal revenues and investment policies in upstream and midstream petroleum operations, as well as the custody and management of all funds created under the Petroleum Revenue Management Act (Sections 25, 30 and 40 of the Petroleum Revenue Management Act, 2011 (Act 815)). The Bank of Ghana is itself responsible for the day-to-day operational management of the Petroleum Holding Fund, the Ghana Petroleum Funds and subsequently the Ghana Petroleum Wealth Fund under the terms of an operations management agreement (Sections 25(d) and 26 of the Petroleum Revenue Management Act, 2011 (Act 815)).

The GRA is charged to secure all petroleum revenues. Section 3(5) of the Petroleum Revenue Management Act, 2011 (Act 815) provides that petroleum revenue due to the Petroleum

Holding Fund shall neither be treated as part of the normal tax revenue for purposes provided for in the relevant laws of Ghana, nor used as the basis for the determination of any statutorily earmarked funds. However, compliance challenges exist. The capacity of the GRA's staff to deal with some of the tax implications is not only weak, but questionable. The Public Interest and Accountability Committee (PIAC) is an independent statutory body created to protect public interest through oversight monitoring of the management of petroleum revenues by the relevant executing institutions (Sections 51-57 of the Petroleum Revenue Management Act, 2011 (Act 815)). Kolstad and Wiig (2009) observe that there is evidence of positive correlations between greater transparency and reduced corruption in the extractive industries. Similarly, De Renzio *et al*. (2009) found evidence of correlation between greater transparency and budget transparency and human development. I find this evidence relevant and important, as they make the establishment of the PIAC welcome news, as they would guard against corruption by ensuring transparency in the use of the oil and gas revenues.

Established pursuant to Section 51 of the Petroleum Revenue Management Act, 2011 (Act 815), the PIAC comprises representatives from all stakeholders, including government, the Ghana Extractive Industry Transparency Initiative (GHEITI), the Ghana Bar Association, the Association of Ghana Industries and the Ghana Chamber of Commerce, policy think tanks, the Trade Union Congress, the media, traditional leaders and religion-based organizations. The PIAC was established to increase transparency by opening up the decision-making process to public debate, and moving the process towards more prudent and equitable management of petroleum resources in Ghana. By introducing the PIAC alongside other budget transparency and accountability initiatives contained in the Petroleum Revenue Management Act, 2011 (Act 815), the act aims at ensuring the timely disclosure of revenue information or allocation procedures as a means for reducing discretionary government spending. This has the effect not only of improving fiscal performance, but of reducing corruption and poverty. The PIAC aims specifically at:

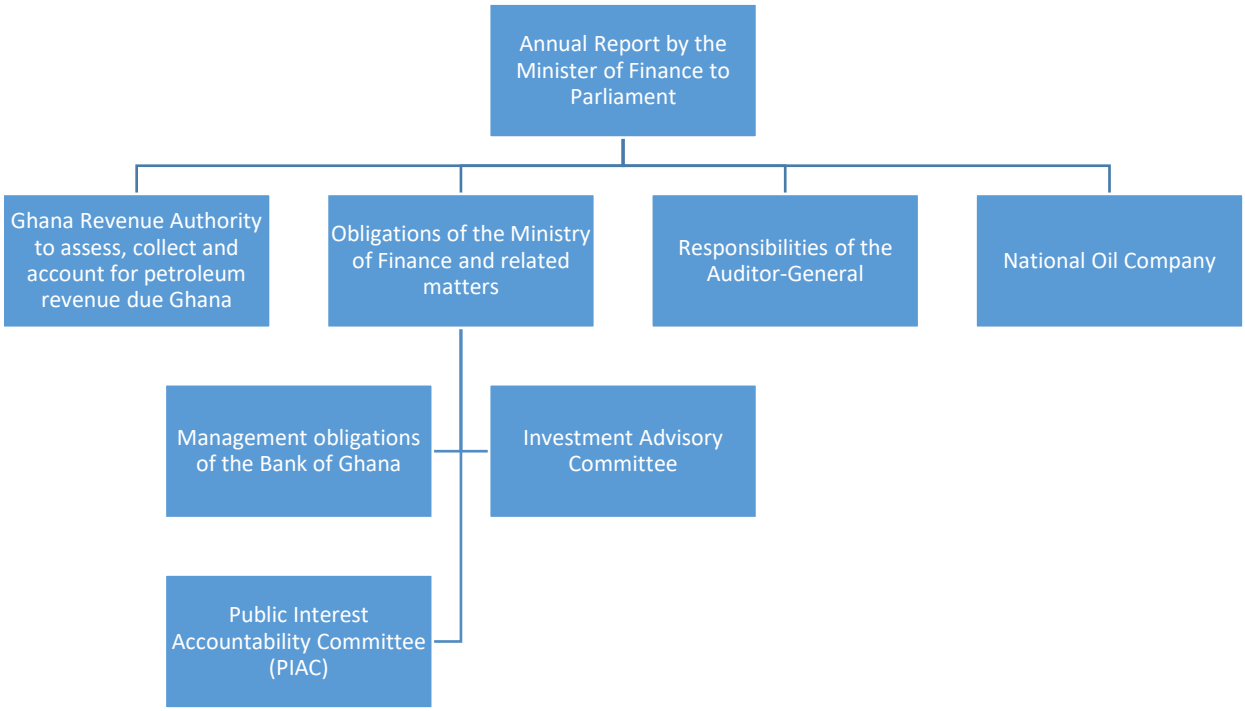
- monitoring and evaluating compliance with the act by the government and other relevant institutions in the management and use of petroleum revenues;
- providing a platform for public debate upon spending prospects of petroleum revenues in line with development priorities; and
- providing an independent assessment of the management and use of revenues (Section 52 of the Petroleum Revenue Management Act, 2011 (Act 815)).

A key accountability and transparency requirement of the Petroleum Revenue Management Act, 2011 (Act 815) is for the PIAC to, *inter alia*:

- publish a semi-annual and an annual report by the 15th September and 15th March of each year, to be posted on the committee's website as well as published in daily newspapers, and delivered to Parliament and to the President of the Republic; and
- hold public meetings at least twice each year to report on its mandate to the general public (Section 56 of the Petroleum Revenue Management Act, 2011 (Act 815)).

Thus, public disclosure and critique of information about the use of oil revenue is a mandatory requirement of the Petroleum Revenue Management Act, 2011 (Act 815) that empowers the public to ensure transparency, probity and accountability, the very key principles underlying the global transparency and accountability agenda.

Figure 4.1: Structures and Institutions responsible for Oil and Gas Revenue Collection and Management



Source: Ministry of Finance (2010).

The institutional framework under the Petroleum Revenue Management Act, 2011 (Act 815) as shown in the diagram above is outlined below:

a. The Minister of Finance is required, under Section 48 of the Act, to present an annual report to Parliament.
b. The GRA is mandated, under Section 3 of the Act, to assess, collect and account for petroleum revenue due to Ghana.
c. Obligations of the Ministry of Finance and related matters are provided for under Sections 25, 28 and 44(2) of the Act. Under these obligations are found the following oversight roles:
    - Management obligations of the Bank of Ghana as provided for under Section 26 of the Act;
    - The Investment Advisory Committee whose functions are spelt out under Sections 25(d), 27(2), 29, 30 to 40 of the Act;
    - The PIAC whose role is provided for under Sections 51 to 57.
d. Responsibilities of the Auditor-General are provided for under Sections 45, 46 and 47.
e. The GNPC also has its roles set out in Sections 6(d), 7(2)(b), 7(3) and 20(2) of the Petroleum Revenue Management Act, 2011 (Act 815).

Institutions outside the Petroleum Revenue Management Act, 2011 (Act 815) that promote transparency and accountability in petroleum revenue management in Ghana include the Ghana Extractive Industries Transparency Initiative (GHEITI), as well as foreign institutions. From the creation of the Kimberley Process Certification Scheme (KPCS), established by UNGA Resolution 55/56 for the regulation of trade in "conflict diamonds", through to the Publish What You Pay (PWYP) Coalition, to the Extractive Industries Transparency Initiative (EITI), global actors such as bilateral and multilateral donor organizations, multi-national organizations, governments and their law and policy makers, private companies, non-governmental organizations, the media and civil society organizations across the world have embarked on a global campaign for improving the economies of resource-rich countries, including Ghana, through the good governance of the revenues accruing from those resources.

Transparency initiatives have, over time, been generally regarded as social rights (Barrett, 2010). PWYP is a global network of civil society organizations that are united in their call for oil, gas and mining revenues to form the basis for developing and improving the lives of citizens in resource-rich countries, whereas the EITI is a global standard to promote open and accountable management of natural resources. It seeks to strengthen government and company

systems, inform public debate and enhance trust. In each implementing country, it is supported by a coalition of governments, companies and civil society working together.

4.7.2 Petroleum Holding Fund

The Petroleum Holding Fund, which is a designated public fund, is established at the central bank, namely the Bank of Ghana, to receive and disburse all petroleum revenue due to the state (Section 2 of the Petroleum Revenue Management Act, 2011 (Act 815)). The Ghana Revenue Authority is mandated to assess, collect and account for the petroleum revenues by paying directly into the Petroleum Holding Fund. This should be done by the fifteenth day of the ensuing month after the month in which the petroleum revenues are collected from the various entities required to pay them over to the state (Section 3(1) and (2) of the Petroleum Revenue Management Act, 2011 (Act 815)).

It is important to note that the petroleum revenue is not to be treated as part of the normal tax revenue (Section 3(5)(a) of the Petroleum Revenue Management Act, 2011 (Act 815)). Secondly, it is not to be used to provide credit to the government, public enterprises, private sector entities or any other person or entity. Finally, it is not to be used as collateral for debts, guarantees, commitments or other liabilities of any other entity (Section 3(5)(a) of the Petroleum Revenue Management Act, 2011 (Act 815)). This is significant to prudent petroleum revenue management because it serves to preserve the revenue streams from petroleum, as well as to insulate the revenue from excessive borrowing by the government.

The provisions above are meant to ensure that petroleum revenues are not treated as tax revenues and thus added to the consolidated fund from which government spending is financed. This is because the normal tax revenues are disbursed based on the budgetary allocations in the annual budget statements of the government, whereas the petroleum revenues are to be regarded as windfall gains to be invested. Alternatively, portions of these petroleum revenues are to be invested in high interest yielding instruments that would create wealth for the current generation, as well as generations yet unborn. The petroleum revenues are also not to be treated as funds from which the government can borrow to finance its current expenditure. This is not permitted in the Petroleum Revenue Management Act, 2011 (Act 815), to secure the petroleum revenues. It is also clear from the provisions above that the Petroleum Revenue Management Act, 2011 (Act 815) does not allow the government to borrow against the petroleum revenues, i.e. using the petroleum revenues as collateral against any government borrowing or other

commitments. The idea is to ensure that the petroleum revenues are not tied to any such constraints, thus freeing them for the intended investments for generations today and those unborn.

The revenues from petroleum operations that are expected to accrue to the Petroleum Holding Fund are as follows.

a. Royalties from oil and gas, additional oil entitlements, surface rentals, other receipts from any petroleum operations and from the sale or export of petroleum.
b. Any amount received from direct or indirect participation of the government in petroleum operations.
c. Corporate income taxes in cash from upstream and midstream petroleum companies.
d. Any amount payable by the national oil company as corporate income tax, royalty, dividends, or any other amount due in accordance with the laws of Ghana; and
e. Any amount received by government directly or indirectly from petroleum resources not covered above, including, where applicable, capital gains derived from the sale or ownership of exploration, development and production rights (Section 6 of the Petroleum Revenue Management Act, 2011 (Act 815)).

4.8 A SYNTHESIS OF THE PIAC AND OTHER REPORTS: PETROLEUM REVENUES

A key to prudent management of petroleum revenues is transparency and accountability. It is in this regard that the reports of the PIAC are of importance to be analysed. As a body with oversight into the management of the petroleum revenues, the PIAC reports cover issues of transparency and accountability with regard to the disbursement of the petroleum revenues. The reports on petroleum revenues by other policy think tanks such as the Africa Centre for Energy Policy (ACEP) are also analysed.

4.8.1 Public Interest and Accountability Committee Reports

One of the most innovative provisions in the Petroleum Revenue Management Act, 2011 (Act 815) is the establishment of the PIAC under Section 51, with the obligation to publish semi-annual and annual reports to, amongst other things, give an independent assessment of the management and use of petroleum revenues. Since the inauguration of the PIAC on 15th September 2011, the PIAC has issued a number of reports, at least six reports in of which three

are annual reports for 2011, 2012 and 2013 and three are semi-annual reports in respect of the 2012, 2013 and 2014 financial years are discussed in this research. In all of these reports, with the exception of the 2011 Annual Report, the PIAC has sought to fulfil its mandate by providing a detailed overview of the implementation status of its recommendations contained in previous reports. Additionally, the PIAC has been analysing crude oil production and lifting for the various years; authenticating the accuracy or otherwise of petroleum revenues; assessing statutory transfers to the GNPC, the annual budget and the GPFs from the PHF as specified by the Petroleum Revenue Management Act, 2011 (Act 815); assessing the performance of the GPFs; and generally analysing the utilization of petroleum revenues. The PIAC does this by relying on petroleum receipts reported by the Minister of Finance, the GRA, the Bank of Ghana and the participating oil companies.

It is instructive that the Minister of Finance, in 2011, in accordance with Section 21(5) and (6) of the Petroleum Revenue Management Act, 2011 (Act 815), prioritized the following four areas to benefit from the use of the Annual Budget Funding Amount:

a. Roads and other infrastructure;
b. Capacity building (including oil and gas);
c. Amortization of loans for oil and gas infrastructure; and
d. Agriculture modernization.

It would appear from a cursory review of PIAC reports that these four priority areas and the Ghana Petroleum Funds established under the Petroleum Revenue Management Act, 2011 (Act 815) have consistently received some proportion of petroleum revenue in accordance with the Petroleum Revenue Management Act, 2011 (Act 815). In the 2015 Budget Statement (p. 25-31, Paragraph 93-109), for example, the Minister of Finance, Mr. Seth E. Terkper, on behalf of the President of Ghana, reported that total petroleum receipts between January and September 2014 were USD 780.07 million (GHS1,358.18 million), which was allocated/disbursed as follows:

Table 4.4: Allocation/Disbursement of petroleum receipts, January – September, 2014

	GNPC (USD million)	GHF (USD million)	GSF (USD million)	ABFA (USD million)
Equity Financing Cost	36.38			
Net Carried and Participating Interest	100.54			
Transfers		100.90	253.43	306.80
Total	**136.92**	**100.90**	**253.43**	**306.80**

Key:
GNPC – Ghana National Petroleum Corporation
GHF – Ghana Heritage Fund
GSF – Ghana Stabilization Fund
ABFA – Annual Budget Funding Amount

Source: Budget Statement and Economic Policy of the Government of Ghana for the 2015 Financial Year.

The same is true of the Annual Budget Funding Amount, which totalled USD 306.80 million (GHS 888.6 million), out of which GHS 270.51 million (30.44%) was disbursed to the four priority areas as follows:

a. GHS 260.66 million (96.36%) to roads and other infrastructure;
b. GHS 0.0 (0.0%) to capacity building (including oil and gas);
c. GHS 0.0 (0.0%) to amortization of loans for oil and gas infrastructure; and
d. GHS 9.85 million (3.64%) to agriculture modernization (p. 30, Paragraph 105 of 2015 Budget Statement).

With the 7-year slump in the agricultural sector in Ghana, as shown in Table 4.5 below, it was expected that Ghana would invest more of its oil revenue in the agricultural sector, to halt the declining contribution of the sector to Ghana's GDP, as well as to help to revamp the sector.

Table 4.5: 7 Year slump in the agricultural sector's contribution to Ghana's GDP

Year	Agricultural Sector's Contribution to GDP (%)	Percentage decline (%)
2009	31.8	-
2010	29.8	2
2011	25.3	4.5
2012	22.9	2.4
2013	22.4	0.5
2014	21.5	0.9
2015	21.0	0.5

Source: Budget Statement and Economic Policy of the Government of Ghana for the 2015 Financial Year.

Section 23(3) and (4) of the Petroleum Revenue Management Act, 2011 (Act 815) requires all subsequent amounts in excess of a predetermined cap on the GSF to be allocated as transfers into the Contingency Fund or for debt repayment approved by Parliament. Consistent with this requirement, a total amount of USD 305.69 million (that is, USD 176.49 million in the first quarter, USD 14.70 million in the second quarter and USD 114.50 million in the third quarter) was withdrawn from the Ghana Stabilization Fund for the first three quarters of 2014. These amounts were in excess of the applicable caps for the various quarters, after having assessed the amount standing in the Ghana Stabilization Fund by the end of each quarter (p. 30-31, Paragraph 107 of the 2015 Budget Statement).

Table 4.6: Disbursements of excess amount in Ghana Stabilization Fund

	Contingency Fund (USD million)	Retirement of Domestic Market Instruments (USD million)	Retirement of Part of 2017 Eurobond (USD million)	Balance in Debt Service Account (USD million)
Amount	17.43	64.82	150.00.	56.00

Source: Budget Statement and Economic Policy of the Government of Ghana for the 2015 Financial Year.

The establishment of the Contingency Fund is in line with Articles 175 and 177 of the Constitution, and the Debt Service Account for debt repayment is also in line with Section 23(4) of the Petroleum Revenue Management Act, 2011 (Act 815).

For the 2015 fiscal year, the Government of Ghana estimated the total revenue from oil that would accrue to the 2015 Budget at GHS 4,203.7 million (i.e. the equivalent to 3.1% of GDP) (p. 39, Paragraph 140 of the 2015 Budget Statement). The benchmark price, which is calculated as a 7 year moving average in line with the Petroleum Revenue Management Act, 2011 (Act

815), was estimated at USD 99.3760 per barrel, up from USD 93.3373 per barrel in 2014, due primarily to relatively higher historical price levels, starting from 2010 (p. 43, Paragraph 162 of the 2015 Budget Statement).

Similarly, the 2015 crude oil benchmark output is estimated at 37,242,186 barrels, up from 33,955,644 barrels in 2014 (p. 44, Paragraph 169 of the 2015 Budget Statement). Based upon these estimates, the total projected petroleum receipts for 2015 were pegged at USD 1,236.37 million as shown below:

Table 4.7: Total projected petroleum receipts for 2015 in USD

	Amount (USD million)
Saltpond Royalties	0.18
Jubilee Royalties	185.05
Carried and Participating Interest	479.60
Corporate Tax	485.94
Surface Rentals	1.45
Gas	84.15

Source: 2015 Budget Statement, Paragraph 171.

The revenues in Table 4.7 were allocated/disbursed as per Table 4.8 below:

Table 4.8: Allocation/Disbursement of petroleum receipts projected for 2015

	GNPC (USD million)	**GPF (USD million)**	**GSF (USD million)**	**ABFA (USD million)**
Equity Financing Cost	87.60			
Net Carried and Participating Interest	117.60			
Transfers		309.35	0.00	721.82
Total	**205.20**	**309.35**	**0.00**	**721.82**

Source: Budget Statement and Economic Policy of the Government of Ghana for the 2015 Financial Year.

The Ghana cedi equivalent placed the amount disbursed to the Ghana National Petroleum Corporation at approximately GHS 697.7 million, the Annual Budget Funding Amount at GHS 2.5 billion, whilst GHS 1.1 billion was disbursed to the Ghana Petroleum Funds. The Annual

Budget Funding Amount was projected to be spent on the four priority areas in the following proportions:

a. USD 47.0 million to expenditure and amortization of loans for oil and gas infrastructure;
b. USD 555.61 million to roads and other infrastructure;
c. USD 89.85 million for agriculture modernization; and
d. USD 29.4 million for capacity building including oil and gas in Paragraph 174 of the 2015 Budget Statement.

In a separate statement to Parliament (Terkper, 2014) on the implications of the fall in crude oil prices on the 2015 Budget, Ghana's Minister of Finance, on 12th March, 2015, hinted at a fiscal deficit estimated at GHS 10.0 billion (7.5% of GDP), up from the 2015 Budget target of GHS 8.8 billion (6.5% of GDP) (Paragraph 27 of the 2015 Budget Statement) and noted: "…it is not likely that the benchmark price estimated for 2015 will be realized. As a result, it has become necessary to critically examine the estimates of petroleum revenues in the 2015 Budget and assess the likely impact of such an examination upon the budget." (Paragraph 14 of 2015 Budget Statement).

In the circumstances, the Government of Ghana based its re-assessment upon the IMF forecast of USD 52.8 per barrel in price of crude oil (Paragraph 15 of 2015 Budget Statement), signifying a likely shortfall in petroleum revenues, to re-estimate total petroleum receipts for 2015 at GHS 1.5 billion (1.1% of GDP), compared with the 2015 Budget estimate of GHS4.2 billion (3.1% of GDP). As the Finance Minister put it, "…the difference of GHS 2.7 billion is 64.4 per cent lower than the 2015 Budget target" (Paragraph 16 of the 2015 Budget Statement).

Consequently, transfers to the GNPC from government carried and participating interest in oil was reduced from the 2015 Budget estimate of approximately GHS 697.7 million to a re-estimated amount of GHS 468.9 million (Paragraph 25 of the 2015 Budget Statement). With this in mind, it was feared that the remaining GHS1.0 billion (0.8% of GDP) of re-estimated total petroleum receipts would not be sufficient to cover the Annual Budget Funding Amount of GHS 2.5 billion in the 2015 Budget.

The Government of Ghana therefore proposed to revise downwards the periodic payments out of the Annual Budget Funding Amount. These payments are made to ministries, departments

and agencies (MDAs) and metropolitan, municipal and district assemblies (MMDAs). The downward revision requires the approval of Parliament. Although necessary for stabilizing the economy, this would undoubtedly have a serious effect upon the Ghana Petroleum Funds, particularly the Ghana Stabilization Fund, as government was likely to draw down from it not less than an amount of GHS487.2 million, on a quarterly basis, as a measure to protect social spending and finance the deficit gap consistent with Section 12 of the Petroleum Revenue Management Act, 2011 (Act 815). Similarly, the effect upon Annual Budget Funding Amount disbursements in 2015 to the four priority areas would undoubtedly be affected.

Meanwhile, the 2014 distributions, as reported in the 2015 Budget, were yet to be assessed and reported upon by the PIAC. It would seem that the distribution of the Annual Budget Funding Amount, was consistent with provisions of Section 21(4) of the Petroleum Revenue Management Act, 2011, which specifies that a minimum of 70 per cent of each year's Annual Budget Funding Amount should be used for public investment expenditures, either in accordance with a long-term national development plan (where it exists) or the priority areas listed in Section 21(3) of the Petroleum Revenue Management Act, 2011 (Act 815) (PIAC, 2013). For the period January-September 2014, two of the four priority areas: capacity building (including oil and gas) and amortization of loans for oil and gas infrastructure, received zero percentage (0%) respectively from the Annual Budget Funding Amount. Aside that, proportions of petroleum revenue transferred into the Annual Budget Funding Amount have consistently been advanced to all four priority areas in previous years.

To illustrate the above, total petroleum receipts from all revenue sources in 2013 amounted to USD 846.77 million (GHS 1,645.59 million), compared to the 2012 actual receipts of USD 541.62 million (GHS 979.32 million) representing an increase of 56.3 per cent in revenue from the petroleum sector (PIAC, 2013). Of this amount, the allocation/disbursement was as per Table 4.9.

Table 4.9: Allocation/Disbursement of petroleum receipts for 2013

	GNPC (USD million)	GHF (USD million)	GSF (USD million)	ABFA (USD million)
Equity Financing Cost	68.32			
Net Carried and Participating Interest	154.10			
Transfers		105.31	245.73	721.82
Total	**205.20**	**105.31**	**245.73**	**721.82**

Source: Author's own construct.

The remaining USD 273.20 million (GHS 543.78 million) representing 32.26 per cent of total petroleum receipts was transferred to the Annual Budget Funding Amount account, which was subsequently disbursed to the four priority areas as follows:

a. Roads and other infrastructure received an amount of GHS 372.07 million, representing 68.42 per cent;
b. Amortization of loans for oil and gas infrastructure received GHS 137.92 million representing 25.4 per cent;
c. An amount of GHS 13.60 million representing 2.5 per cent was spent on agriculture modernization; and
d. The remaining GHS 20.18 million, representing 3.71 per cent, was spent on capacity building (PIAC, 2013).

The petroleum revenues accruing to the Government of Ghana in 2013 brought to USD 1.833 billion the total petroleum revenue from the onset of oil production in Ghana to the end of the 2013 fiscal year, out of which the Annual Budget Funding Amount received a total of USD 726.7 million, representing 39.66 per cent; the GNPC received a total amount of USD 661.2 million, representing 36.08 per cent, whilst the Stabilization and the Heritage Fund received an amount of USD 317.42 million (17.32%) and USD 126.95 million (6.93%) respectively (PIAC, 2013).

Table 4.10 shows total Government of Ghana expenditure in the four prioritised areas under Section 21 of the Petroleum Revenue Management Act, 2011 (Act 815) for the period 2011-2013.

Table 4.10: Application of the ABFA by the Government of Ghana: 2011-2013

S/N	Priority Area	2011 Amount (GHS million)	2012 Amount (GHS million)	2013 Amount (GHS million)	Total Amount (GHS million)	%
1	Expenditure and Amortization of Loans for Oil and Gas Infrastructure	20.00	100.00	137.92	257.92	19.51
2	Agriculture Modernisation	13.15	72.47	13.60	99.23	7.50
3	Roads and Other Infrastructure	227.64	232.40	372.07	832.12	62.94
4	Capacity Building (including Oil and Gas)	0.75	111.96	20.18	132.89	10.05
	TOTAL	**261.54**	**516.83**	**543.78**	**1,322.16**	**100**

Source: Ministry of Finance, 2012-2014.

The figures in the table above show that approximately 63 per cent of the Annual Budget Funding Amount was disbursed to the construction of roads and infrastructural development, whereas 20 per cent was disbursed to amortize loans for the oil and gas infrastructure. Ten per cent of the Annual Budget Funding Amount was disbursed to support capacity building interventions, and only a meagre 7.5 per cent was disbursed to cater for the modernization of the agricultural sector (PIAC, 2013). Agriculture, being the backbone of the nation, should have attracted higher funding for the sustained growth and development of Ghana. Moreover, modernization of agriculture requires capital intensive investment, especially if Ghana is to move from the traditional methods of farming using hoes and cutlasses to the use of agricultural machinery, including tractors and combine harvesters. Again, the need for the construction of dams, to provide water supply for year-round farming cannot be overemphasized.

Table 4.11: Distribution of 2016 petroleum receipts

	GNPC (USD million)	GHF (USD million)	GSF (USD million)	ABFA (USD million)
Equity Financing Cost	58.11			
Net Carried and Participating Interest	30.39			
Transfers		12.65	29.51	115.60
TOTAL	**88.50**	**12.65**	**29.51**	**115.60**

Source: Ministry of Finance/Bank of Ghana (2017).

In Table 4.11 it can be observed that a total of USD 42.16 million was transferred into the GPFs in 2016, compared to USD 21.67 million for the same period in 2015. The increase was attributed to the amendment of the Petroleum Revenue Management Act, 2011 (Act 815), which allows for constant transfers into the GPFs, irrespective of the amount. Out of the amount transferred, the GHF received USD 12.65 million, against USD 6.50 million in 2015, while the GSF received USD 29.51 million against USD 15.17 million in 2015 (p. 27, Paragraph 119 of the 2017 Budget Statement). The ABFA of USD 115.60 million was disbursed to the priority areas as follows:

Table 4.12: Disbursement of ABFA in 2016

Priority Areas	Utilization (GHS million)
Expenditure and Amortization for Loans in Oil and Gas Infrastructure	-
Roads and Other Infrastructure	199.45
Agriculture	
Agriculture Modernization	27.67
Capacity Building (Including Oil and Gas)	83.04
Total Spending in Priority Areas	**310.16**
Transfer to Public Interest and Accountability Committee	0.97
Total ABFA Spending	**311.13**

Source: Ministry of Finance (2017).

From Table 4.12 it can be observed that spending on road and other infrastructure declined from GHS 260.66 million in 2015 to GHS 199.48 million in 2016. Agriculture modernization received an increased amount of GHS 27.67 million in 2016, from the amount of GHS 9.85

million which it received in 2015. This depicts the government's resolve to grow the agriculture sector of the economy. Capacity building, which includes the oil and gas sector, received GHS 83.04 million in 2016, unlike in 2015 when no disbursement was made in that area. This is occasioned by the government's resolve to build capacity in local content participation in the oil and gas sector. No disbursement was made to the amortization of loans for oil and gas infrastructure in 2016, or in 2015. A significant and new disbursement is that to the PIAC of GHS 967,000.00, which sought to assist the PIAC in its oversight functions over the use of the revenue from oil and gas.

For the period 2017 to 2019, the medium-term benchmark revenues from the oil and gas sector were indicated in the 2017 Budget Statement as shown in Table 4.13.

Table 4.13: Medium-term petroleum receipts

ITEM	2017	2018	2019
	USD million		
LOCATION OF PETROLEUM RECEIPTS	**515.67**	**70.22**	**1,034.68**
Transfer to National Oil Company (NOC)	**273.59**	**263.62**	**251.48**
o/w Equity Financing	228.28	183.82	126.79
o/w 30% share of Net Carried & participating Interest	45.31	79.80	124.69
Benchmark Revenue (BR)	**242.08**	**446.60**	**783.20**
o/w Annual Budget Funding Amount	169.46	312.62	548.24
o/w Transfer to the Ghana Petroleum Funds	72.63	133.98	234.96
o/w Ghana Stabilization Fund	50.84	93.79	164.47
o/w Ghana Heritage fund	21.79	40.19	70.49

Source: Ministry of Finance (2017).

The revenue receipts in Table 4.12 are based on the 2018 and 2019 crude oil price estimated at USD 56.84 per barrel and USD 56.60 per barrel, respectively. This generates total revenue of USD 710.22 million and USD 1,034.68 million for 2018 and 2019, respectively, which brings the Benchmark Revenue to USD 446.60 million and USD 783.20 million for 2018 and 2019 (after allowing for the GNPC's allocation), respectively (p. 49, Paragraph 215 of the 2017 Budget Statement).

In conformity with Section 21(6) of the Petroleum Revenue Management Act, 2011 (Act 815), which requires that the priority areas for the spending of the Annual Budget Funding

Amount, in the absence of a long-term national development plan, shall be reviewed every 3 years, the government proposed a change in the priority areas. The priority areas for the period 2014 - 2016 were:

- Expenditure & Amortization of Loans for Oil and Gas Infrastructure;
- Roads Infrastructure;
- Agriculture Modernization; and
- Capacity Building (Including Oil and Gas).

For the 2017-2019 period the government proposed the following priority areas:

- Agriculture;
- Physical Infrastructure and Service Delivery in Education;
- Physical Infrastructure and Service Delivery in Health; and
- Road, Rail and other critical Infrastructure Development.

The government's reason for the revision of the priority areas, according to the Minister of Finance, is to give focus to infrastructure development in critical areas of the economy (p. 48, Paragraph 214 of the 2017 Budget Statement).

Table 4.14: Distribution of January – September 2018 petroleum receipts

	GNPC (USD million)	**GHF (USD million)**	**GSF (USD million)**	**ABFA (USD million)**
Equity Financing Cost	149.72			
Net Carried and Participating Interest	73.71			
Transfers		97.14	226.65	176.33
TOTAL	**223.43**	**97.14**	**226.65**	**176.33**

Source: Ministry of Finance/Bank of Ghana (2018).

The year 2018 showed increased revenue receipts for the period January to September as depicted in Table 4.13, leading to increased amounts in distribution to the Annual Budget Funding Amount (USD 176.33 million), the GHF (USD 97.14 million); the GSF (USD 226.65 million) and the GNPC receiving USD 223.43 million. This increase in revenue receipts is explained by the coming on board of the oil and gas production from the Tweneboa-Enyenra-

Ntomme (TEN) Fields and the Sankofa-Gye Nyame Fields, to add to the revenue receipts from the Jubilee Fields (p. 45, Paragraph 187 of the 2019 Budget Statement).

The priority areas of disbursement of the Annual Budget Funding Amount (ABFA) are as shown in Table 4.15. The disbursement was in accordance with the government's revised priority areas, as indicated earlier.

Table 4.15: 2018 ABFA utilization by priority area

No.	Priority Area	ABFA Utilization (Jan-June) GHS million
1.0	Agriculture	34.66
2.0	Physical Infrastructure and Service Delivery in Education	417.05
3.0	Physical Infrastructure and Service Delivery in Health	11.26
4.0	Road, Rail & Other Critical Infrastructure Development	142.63
5.0	Sub-Total	**605.60**
6.0	Public Interest and Accountability Committee (PIAC)	1.00
7.0	**Grand-Total**	**606.60**

Source: Ministry of Finance (2018).

From Table 4.15 it is evident that agriculture continued to receive increased disbursement, having received GHS 34.66 million. The same can be said of the PIAC which received GHS 1 million, although road, rail and other critical infrastructure saw a reduction to GHS 142.63 million. The new priority areas received significant amounts as is evident for physical infrastructure and service delivery in education (GHS 417.05 million), to enable government to implement its flagship program of free senior high school education in the country. Physical infrastructure and service delivery in health also received GHS 11.26 million.

The PIAC, in pursuance of its mandate as an accountability body under the Petroleum Revenue Management Act, 2011, has consistently detailed its findings and recommendations on the management of petroleum revenues. As a result, several bad governance measures have been spotted and good ones identified over the years. In its first annual report (PIAC, 2012) for instance, it came to light that, amongst a host of others, a compensating error occurred in the transfers to the Ghana Heritage and Stabilization Funds, resulting in the Heritage Fund being under-funded to the tune of GHS 9 million and the Stabilization Fund being over-funded by

the same amount (PIAC, 2012), contrary to the dictates of the Petroleum Revenue Management Act, 2011. Issues such as the following, as required by the Petroleum Revenue Management Act, 2011, were additional findings of the PIAC (PIAC, 2012):

a. Non-compliance with the formulae for establishing the benchmark revenue.
b. Over-estimation of the benchmark revenue due to the inclusion of corporate taxes that were unlikely to materialize.
c. Non-compliance with institutional obligations under the Petroleum Revenue Management Act, 2011.
d. Improper lodging of payments for the Petroleum Holding Fund.
e. The non-existence of neither a long-term development plan nor an operational management agreement with the Bank of Ghana for the management of the Ghana Petroleum Funds.

Similarly, whereas revenues in 2011 only came to 53 per cent of the projected amount, those of 2012 were even lower due to non-collection of projected corporate taxes (PIAC, 2013). The decline in total petroleum receipts, mainly due to a substantial decline in corporate income tax from oil companies, is becoming recurrent. This is one of the reasons cited by Ghana's Minister of Finance for the deficit gap in the 2015 Budget that requires revision, to ensure economic stability. The argument is that recent oil price volatility forecast losses for some of the companies, as their production costs will likely outstrip their revenues, which means that projected total petroleum receipts will decline from the 2015 Budget estimates, and ultimately affect projected corporate income tax as well (Paragraph 17 of the 2015 Budget). Additional findings included:

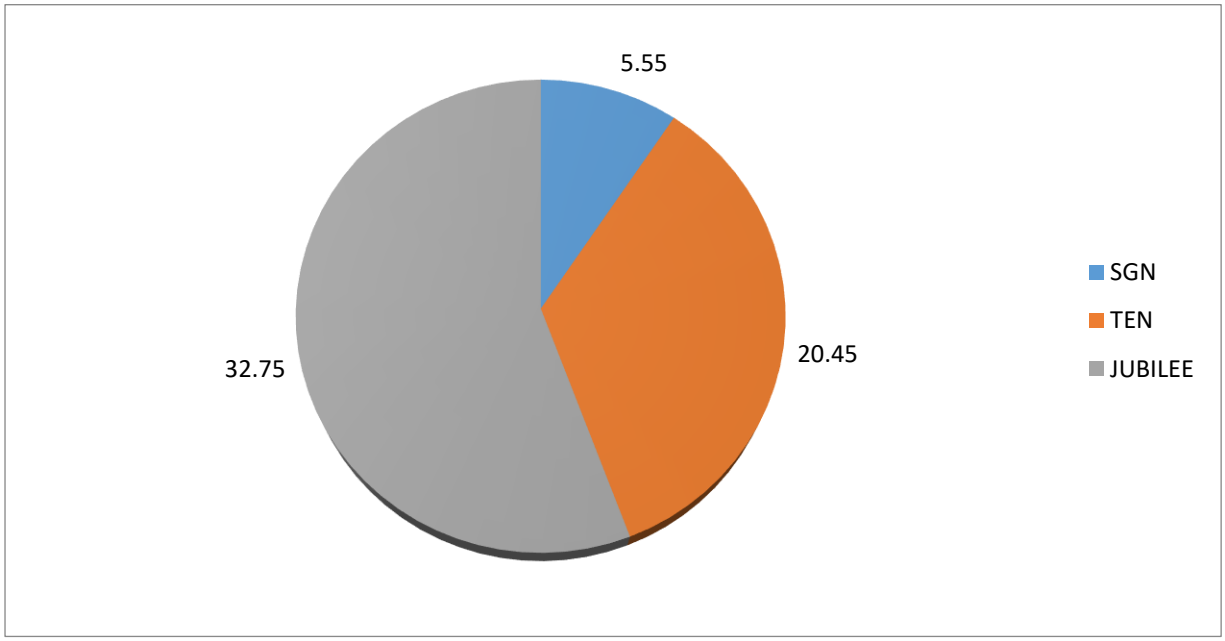
a. over-estimation of the benchmark revenue,
b. improper accounting for revenues,
c. overspill in respect of Ghana's share of crude,
d. non-compliance with the Petroleum Revenue Management Act, 2011 requirements to transfer excess revenue into the Ghana Petroleum Funds,
e. under-spending of the Annual Budget Funding Amount allocation, and
f. non-payment of surface rental fees into the Petroleum Holding Fund by some oil companies, amongst others (PIAC, 2012).

In the 2013 PIAC Report, the PIAC revealed the recurrence of spreading Annual Budget Funding Amount funds thinly over a wide range of projects that made little impact on the

economy, and called for the formulation of a bipartisan long-term national development plan to guide the efficient and effective utilization of petroleum revenue (PIAC, 2013). After questioning the utility of government spending on some national projects, the PIAC recommended that the Government of Ghana: "…should conduct an immediate evaluation of the effectiveness and impact of all the projects and programs that have been funded with revenues from the petroleum sector to help inform the citizenry and also provide the basis for spending allocations in the future (PIAC, 2013)."

The PIAC in its 2017 Annual Report made the following findings: petroleum production in Ghana was up by 82% in 2017 compared to 2016. Average daily production of crude oil from the Jubilee Field was 89,726 bopd compared to 73,995 bopd in 2016. The TEN Field had its first full year of production, realising an average of 56,034 bopd. First oil was pumped from the SGN Field in May 2017, with an annualised daily average of 14,947 bopd. Total crude oil production in 2017 is shown in Figure 4.2 with SGN producing 5.45 million barrels; TEN producing 20.45 million barrels and Jubilee producing 32.75 million barrels. Ghana thus reversed the falling production volumes of 2015 and 2016 which were 102,498 bopd and 88,489 bopd respectively, with daily production of 160,707 in 2017 (PIAC, 2017).

Figure 4.2: 2017 Crude Oil Production (In Millions of Barrels)



Source: Public Interest Accountability Committee (2017).

The PIAC also found that revenue accruing to the Petroleum Holding Fund also increased, with the total amount received into the PHF for 2017 being USD 539.83 million, 36 per cent more than the 2016 figure of USD 396.17 million. The increase in revenues, according to the PIAC, is explained by the higher production volumes and improved crude prices in 2017. The PIAC also found that the inflows into the PHF would have been much higher if the Ghana National Gas Company (GNGC) had paid the GNPC for the supply of raw gas. The GNGC's failure or inability to pay for gas supplied by the GNPC since 2014, has led to an accumulated outstanding debt of USD 230.32 million dollars. The PIAC is aware that the GNGC has not paid the GNPC's invoices due to the Volta River Authority's inability to pay its outstanding debt, which the PIAC assessed to be over USD 750 million as at the end of 2017 (PIAC, 2017).

An amount of USD 13,518,852.98, which was wrongfully paid into the GRA account instead of to the PHF during the period, is yet to be transferred into the PHF as required by the Petroleum Revenue Management Act, 2011, hence leaving the PHF short of funds that could have been invested by the GHF or distributed under the ABFA (PIAC, 2017). Expenditure as reported by the MoF does not conform to the requirement to spend at least 70 per cent of the ABFA on capital expenditure. The MoF must, therefore, comply with the provisions of Section 21(4) of the Petroleum Revenue Management Act, 2011 (Act 815) in respect of public investment expenditure.

The PIAC again observed that an amount of GHS332.29 million of the ABFA's GHS 736.03 million allocation was utilized, leaving GHS 403.74 million unutilized as at the end of 2017. When added to the 2016 balance of GHS 77.73 million, the total ABFA brought forward to 2018 stands at GHS 481.47 million. The fact that the ABFA allocation was not fully utilized, even though the entire amount had been budgeted for, suggests budget non-compliance on the part of the MoF. Parliament should take steps to ensure that the minister complies with the budget as approved. All unspent ABFA allocations in a particular financial year must be returned to the PHF (PIAC, 2017).

This exercise is obviously a learning curve. Not only does it serve to inspire confidence and trust in the governance of petroleum revenues; it also serves as a mechanism for checks and balances, at least from the perspective of civil society and community-based organizations.

4.8.2 Other Reports

From the beginning of the Fourth Republic in 1992 to date, Ghana has grown from strength to strength in the enhancement of its democratic credentials, and respect for civil society organizations and the media by the political elite has reached its pinnacle. Civil society organizations and the media have seized the opportunity to make an impact in diverse areas of national concern, including revenue management in the extractive industries. For instance, both civil society organizations and the media have representation on the PIAC in their separate capacities (Section 54(1) of the Petroleum Revenue Management Act, 2011 (Act 815)) and have established credible partnerships with government and other development partners in developing all oil and gas legislation since 2007, when oil was discovered. In Ghana today, it is inconceivable for government to make any key decision affecting the use of revenues accruing from the oil and gas resources without consulting civil society organizations and the media.

This is so because the PIAC consists of thirteen (13) members including:
(a) a member to represent independent policy research think tanks nominated by the think-tanks, (b) a member to represent civil-society organizations and community-based organizations nominated by civil society
(c) a member each nominated by:

(i) the Trade Union Congress,
(ii) the National House of Chiefs,
(iii) the Association of Queen Mothers,
(iv) the Association of Ghana Industries and Chamber of Commerce,
(v) the Ghana Journalists Association,
(vi) the Ghana Bar Association,
(vii) the Institute of Chartered Accountants,
(viii) the Ghana Extractive Industries Transparency Initiative; and
(ix) Christian groups, namely the National Catholic Secretariat, the Christian Council and the Ghana Pentecostal Council on a rotational basis,
(x) the Federation of Muslim Councils and Ahmadiyya Mission on a rotational basis, and (xi) the Ghana Academy of Arts and Sciences (Petroleum Revenue Management (Amendment) Act 2015, (Act 893)).

This is the extent of the involvement of civil society organizations and the media in the monitoring of the use of the oil and gas revenues.

In light of disturbing revelations from PIAC reports, leading think tanks and non-governmental organizations (NGOs) have recently cautioned that Ghana may be heading for the resource curse in the management of its petroleum resources at present revenue management indicators. The Africa Centre for Energy Policy (ACEP) is particularly vociferous in this regard. The ACEP is a policy think tank that works to influence energy sector policies in Ghana and Africa by providing professional analysis of energy policy issues, training, advisory services and policy advocacy for the efficient and transparent management of Africa's energy resources. Another influential NGO is the Civil Society Platform for Oil and Gas (CSPOG). The ACEP, in its public interest report on oil and gas revenue management in Ghana for the period 2011-2013, reiterated most of the observations contained in the PIAC reports and opined that:

> … there is demonstrated evidence of inefficiency in the use of petroleum revenue… Furthermore, the Government of Ghana has exploited weaknesses in the Petroleum Revenue Management Act to increase its spending of petroleum revenues meant for savings in the Stabilization Fund. The provision that allows the Minister of Finance the discretion to cap the Stabilization Fund and to use any excess revenue for debt repayment or contingency fund has been exercised capriciously (Adam, 2014:46).

In an earlier report, the ACEP (2013) demonstrated how a good law such as the Petroleum Revenue Management Act, 2011 may not stop oil money from going down the drain. After a careful evaluation of the application of the Petroleum Revenue Management Act, 2011 on certain projects and the accompanying impact of oil wealth on the economy, the ACEP also concluded:

> … that oil revenues have not been managed efficiently so far as the projects evaluated are concerned. This is due to multiple factors including, but not limited to, poor project selection, project delays, operational lapses, and low absorptive capacity as a result of the high social and economic cost of investments. Thus, the spending of the Annual Budget Funding Amount has not yet met the standard of efficiency (ACEP, 2013:29).

In both reports, the ACEP has argued that if Ghana is to avoid the miseries that have plagued many resource-rich developing countries, the country must revise its notes and follow the right path in spending or investing its petroleum revenue.

4.9 CONCLUSIONS

This chapter reviewed the fiscal regime of Ghana's oil and gas, as well as its management of the oil and gas revenues. This enables the study to proceed and discuss the comparative analysis of the fiscal regime of Ghana with those of the United Kingdom, Norway, Canada and Nigeria, in to examine Ghana's choice of fiscal regime in Chapter 5. This may assist the Government of Ghana to determine whether there is still room for any appraisal of the fiscal regime for oil and gas in Ghana, to ensure that the expected revenue inflows are indeed received and well utilized.

The need for certainty in the legislation on the fiscal regime for Ghana's oil and gas is observed to be necessary if Ghana is to harness its fair share of the revenue from the petroleum sector. Provisions identified to require a review include Section 66(1)(g) of the Income Tax Act, 2015 (Act 896), the safeguarding of Section 68 of Act 896, an amendment to the Transfer Pricing Regulations, 2012 (L.I. 2188) and a reform of Article 12.1 of the petroleum agreements, as well as a review of Section 71(3) of the Income Tax Act, 2015 (Act 896), to ensure that expatriates are subject to tax, as are all taxpayers not in the petroleum sector.

Ghana's oil and gas revenue inflows are of recent origin with very little being invested, thus a comparative analysis of the revenue management is not a focus of the next chapter. This is because the periods of comparison and the timeframe of the investment periods required for any meaningful analysis are not compatible amongst the selected countries, to ensure a fair examination.

The fiscal regime, which Ghana adopted for its oil and gas sector, has allowed the country to benefit from the positive impact of revenue inflows from royalties and corporate income tax, as well as the state receiving its share of oil.

Although the Petroleum Revenue Management Act, 2011 (Act 815) is in place, compliance with its provisions leaves much to be desired. Considering the revelations of the misapplication of, and the inadequate allocation of the petroleum revenues to the identified critical sectors of the economy, especially the agricultural sector, there is a need for the Government of Ghana to remain focused in complying with the provisions of the Petroleum Revenue Management Act, 2011 (Act 815). This is one sure way to avert the "oil curse", since the judicious use and

application of the revenues as directed in the Petroleum Revenue Management Act, 2011 (Act 815) will address the macroeconomic challenges which the country faces.

CHAPTER 5

COMPARATIVE FISCAL REGIMES AND REVENUE MANAGEMENT OF SELECTED OIL AND GAS PRODUCING COUNTRIES

5.1 INTRODUCTION

This chapter draws on the oil and gas sector legal framework and literature of selected countries, to evaluate and highlight the main challenges facing their fiscal regimes and to proffer policy options for Ghana, looking into the future. The primary aim of the chapter is to assess whether Ghana is achieving the balance between the government's objectives of maximizing the generation of tax revenue against that of attracting investment. This chapter reviews four different, but established petroleum fiscal regimes. These will then be compared with the fiscal regime of Ghana. This comparison is based on the factors that shape the design of petroleum fiscal regimes discussed below. The countries chosen are the United Kingdom, Norway, Canada and Nigeria.

The selection of these countries is based on the following factors. With the exception of Norway, the remaining countries belong to the Commonwealth of Nations, as does Ghana, and thus, have some commonalities in respect of their tax regimes. Ghana's tax regime is similar to that of the United Kingdom. Moreover, tax cases in court are resolved with references to these Commonwealth countries (Wijnen, 2013). Another reason is that the United Kingdom, Norway, Canada and Nigeria have a long history of oil and gas exploration and production, and hence have established and/or possibly put in place more mature systems in the extraction, governance and accountability of their oil and gas resources than Ghana. Of particular importance is the comparative assessment of the fiscal regimes of Nigeria and Ghana, two Sub-Saharan African countries with very diverse oil sectors, but also with some striking commonalities. Nigeria's regime is studied because the country is a mature oil-producing nation, and its oil industry is one of the oldest in Sub-Saharan Africa with possible lessons for Ghana.

The United Kingdom and Norway are two mature oil-producing countries with strong common historical interests in hydrocarbon exploration along the North Sea continental shelf. The long history of petroleum exploration and production by the two states makes a comparison of their

fiscal regimes and revenue management standards pertinent for frontier Ghana. The UK North Sea is particularly important due to the lessons deducible from the history of its fiscal regime, as one of the world's most unstable and frequently altered regimes. Secondly, it is generally relevant and applicable to oil production world-wide, because experiences can be shared on how and when to alter the fiscal regime.

The chapter is structured so that attention is focused on the source of the research questions that the thesis seeks to answer as stated in Chapter 1. Although the chapter presents a broader world view of oil and gas fiscal regimes across the selected jurisdictions, it places a premium particularly on comparative law and policy issues of taxation and revenue management. The underlying question examined in this chapter is: what lessons can Ghana learn from the fiscal regimes and revenue management practices of these selected countries?

The comparative study of fiscal regimes in oil producing countries generally tends to focus on the broader theory and practice of comparative tax law scholarship. The case of the selected countries is not any different. To set the tone for the discussion, however, it is significant to attempt to put into historical context the legal character of the fiscal regimes in each of the selected countries. In comparing the fiscal regimes, I am mindful of the fact that the tax systems in each of the selected jurisdictions are deeply rooted in their peculiar culture, history and socio-political *milieu*. I consider below the selected countries one after the other.

5.2 THE UNITED KINGDOM

The United Kingdom is a non-OPEC oil producing country. It is one of the jurisdictions in Western Europe where onshore oil and gas exploration dates back to antiquity. During these earlier attempts, the United Kingdom produced some oil, albeit in non-commercial quantities. It was however in 1973, that the first major and largest of Western Europe's onshore oil fields was discovered in Wytch Farm, Dorset. On the offshore front, exploration commenced in 1964 and significant discoveries, such as the first major discovery, occurred in 1965 and was named the West Sole Gas Field, while the development of the North Sea Fields commenced around the same time in the mid-1960s.

The North Sea oil was largely influenced by political considerations such as security of energy supply and job-creation potential for solving unemployment challenges, especially in Scotland (Nakhle, 2008). These considerations, in addition to extreme oil price volatility, informed

successive governments in the 1960s and 1970s to insist on securing the state's 'share' by a robust and demanding tax regime, subject to future revisions as and when oil prices skyrocketed, rather than by direct ownership. Thus, throughout the 1970s and 1980s, the petroleum fiscal regime of the North Sea was largely influenced by oil price volatility and the need for the United Kingdom to maintain a fair share of the oil proceeds, while attracting investment to the North Sea continental shelf.

5.2.1 Fiscal Regime

The nature and character of the petroleum fiscal regime originates from a July 1974 Labour Government White Paper, entitled "United Kingdom Offshore Oil and Gas Policy". The principles espoused in the White Paper were later formally legislated through the Oil Taxation Act of 1975, which surprisingly stressed private involvement, rather than state monopoly of the industry. The fiscal regime required the following three main tax instruments: (1) royalty; (2) petroleum revenue tax (PRT) and (3) corporation tax (CT).

Prior to 1975, there were two elements to the United Kingdom North Sea fiscal regime: royalty charged at 12.5 per cent and corporation tax charged at 50 per cent. The required royalty of 12.5 per cent was charged on a half-yearly basis and fixed on the gross revenues of each field with a deduction for conveying and treating costs, which represents the cost of bringing the petroleum ashore and its initial treatment. Subsequent developments saw the abolition, in 1983, of royalty on fields that received development consent after 1983. The royalty regime, between the fourth quarter of 2002 and the first quarter of 2003, was totally abolished.

The 1975 regime varied from the pre-1975 corporate tax rate of 50 per cent upwards to an initial 52 per cent on company net profits, which was the uniform rate applicable to all categories of industries in the United Kingdom. Both exploration and development costs were deemed deductible, except that exploration costs were fully deductible at the time expended, while development costs were made subject to various tax depreciation allowances. Contrary to normal company corporate tax applications, a company engaged in petroleum operations in the United Kingdom's continental shelf is subject to a ring fence arrangement. Consequently, a company could neither use its losses from other activities to reduce the profits originating from within this continental shelf ring fence, nor set losses and capital allowances inside the ring fence against income arising outside the ring fence. The exception is that losses and capital allowances inside the ring fence may be set against income arising outside the ring fence. By

the end of 1986, the broader requirements of the United Kingdom industry influenced a sharp reduction of corporate tax that applied on oil activity in the North Sea to 35 per cent (Nakhle, 2010; Riley and Chate, 2014). Further reforms took place in 2002 when a 10 per cent supplementary charge on profits subject to corporate tax was introduced to be calculated on the same basis as normal corporate tax, although deduction on financial costs was not guaranteed. A further 100 per cent capital investment allowance was introduced against both the corporate tax and the supplementary charge. Oil price volatilities and increase in public spending led the United Kingdom Government to increase the level of the supplementary charge by another 10 per cent.

In 2002, the United Kingdom Government introduced a 10 per cent supplementary charge on profits subject to corporate tax. This charge was calculated on the same basis as normal corporate tax, but there was no deduction for financing costs. Additionally, a 100 per cent capital investment allowance was introduced against both corporate tax and the supplementary charge, with effect from 1 January, 2006.

In addition to royalties and corporate tax, which are pre-1975 elements, the Oil Taxation Act of 1975 introduced the Petroleum Revenue Tax (PRT) as an additional tax, and sets out the main regulations governing the administration of petroleum taxation in the United Kingdom. Consistent with the Oil Taxation Act of 1975, PRT was initially charged on a half-yearly basis at the rate of 45 per cent on the value of oil and gas produced. PRT is a special petroleum profits tax related to separate geological and technically determined fields assessed equally on a field-by-field basis under a "ring fence" arrangement (Nakhle, 2008; Tordo, Johnston and Johnston, 2009; Nakhle, 2010; Tordo, Tracy and Arfaa, 2011). The fundamental aim of introducing PRT was to capture economic rent from commercially viable and profitable fields, while shielding less profitable projects from tax burdens. To this extent, three major allowances/reliefs were introduced, namely: (1) uplift, (2) oil allowance and (3) safeguard. A good summary of the nature and purpose of these reliefs is that given by Nakhle (2008:54) as follows:

> Uplift, which is an additional allowance of 75 per cent to capital expenditures (CAPEX), so companies will not start paying PRT until they have at least recovered 175 per cent of their CAPEX…Oil allowance, which allows one Mt of oil per annum to be exempt from PRT up to a cumulative maximum of ten Mt. As a result, PRT is unlikely to be payable on fields with reserves of less than 100 mmbbls. The oil allowance was introduced to help the development of marginal fields…Safeguard, which limits the PRT liability in any chargeable period to 80 per cent of the amount by

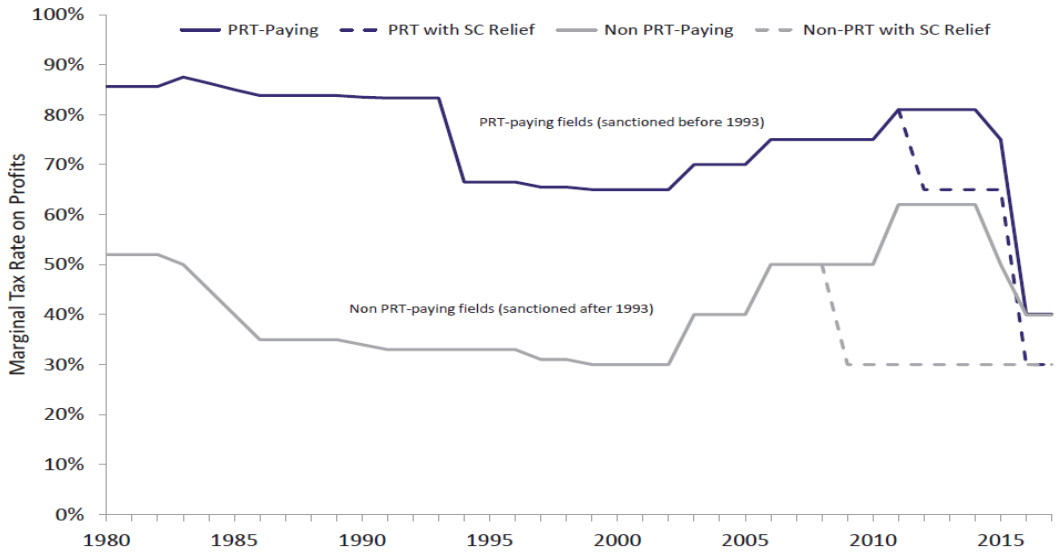
> which cumulative gross profit exceeds 15 per cent of cumulative expenditure. Safeguard was introduced to ensure that, while it applies, PRT – calculated after taking account of all other reliefs – does not reduce a participator's return on capital in any chargeable period to 15 per cent or less. As such, the safeguard limits PRT liability for a part of the field's life and allows fields to achieve a certain level of return on investment before they incur any PRT liability.

In 1978, the United Kingdom Government tightened up the PRT to 60 per cent to increase its level of total tax take when oil prices increased. Other measures taken by the government include reducing the uplift allowance to 35 per cent, as well as reducing the oil allowance from one Mt to 500,000 tonne per year, with a maximum allowance of 5 Mt. While further upward adjustment in the rate of PRT occurred in 1980 to 70 per cent, the tax was drastically reduced to 50 per cent on existing fields and abolished on all fields receiving development consent after April 1993. Incentives for exploration and appraisal drilling were also removed at the same time in 1993. The PRT was thus effectively abolished (Zhang, 1997; Nakhle, 2008; Kemp, 2013; Kemp and Stephen, 2016).

The United Kingdom petroleum fiscal regime remains volatile as its structure keeps changing. As of June 2014, the fiscal regime comprised two elements: (1) "ring fence" corporation tax (RFCT), and (2) supplementary tax and PRT (HMRC, 2014). The "ring fence" corporation tax is calculated the same way as the standard corporation tax, applicable to all companies but with the addition of a "ring fence" and the availability of 100 per cent first year allowances for virtually all capital expenditure. The ring fence prevents taxable profits from oil and gas extraction in the UK and its North Sea petroleum activities from being reduced by losses from other activities or by excessive interest payments. The rate of tax on ring fence profits, which is set separately from the rate of mainstream corporation tax, was 30 per cent. The Supplementary Charge is an additional charge, which stood at a rate of 32 per cent (increased from 20 per cent from 24th March 2011), on a company's ring fence profits (but with no deduction for finance costs). A "field allowance" removes from the charge to supplementary charge a slice of production income from qualifying small or technically challenging new fields. Finally, the rate of PRT, which is a field-based tax charged on profits arising from oil and gas production from individual oil and gas fields given development consent before 16 March 1993, stood at 50 per cent. The year 2016 saw a reduction in the number of taxes paid by United Kingdom continental shelf fields from three to two. Much of PRT was proposed to be abolished by the Chancellor in the March 2016 Budget – the PRT having been permanently

zero-rated from 1 January 2016 with supplementary charges reduced to 10 per cent from the 2015 rate of 20 per cent (O&G UK, 2016).

Figure 5.1: Historic Upstream Tax Rates in the United Kingdom



Source: O&G UK (2016: p. 77).

Further reductions to the Supplementary Charge in 2016 reduced the headline rate of tax paid on United Kingdom oil and gas production from 50 -75 per cent to a flat rate of 40 per cent across all fields (Kemp and Stephen, 2016). The United Kingdom petroleum fiscal regime is now made up of two taxes: (1) Ring Fence Corporation Tax (RFCT) and (ii) Supplementary Charge (SC). RFCT is a tax on company profits computed in a similar way to normal CT, but levied at a higher rate of 30 per cent. It is currently 50 per cent higher than the 20 per cent CT rate applicable to the rest of the UK between 2016 and 2017. There is, however, a 100 per cent first year capital allowance as well as some enhanced loss flexibilities to reflect the high levels of investment and project life cycles typical of the UK continental shelf (O&G UK, 2016). Conversely, SC is an additional layer of corporate taxation computed like RFCT, but finance costs are not deductible. The rate is chargeable at 10 per cent from 1 January, 2016, having halved from 20 per cent in 2015 and 32 per cent before then (O&G UK, 2016).

Furthermore, while PRT has now been effectively abolished for income and profits, the tax remains relevant for the purposes of generating tax relief on future losses, especially arising from decommissioning. PRT paid by a field in the past is refundable on a last in, first out (LIFO) basis at the rate of tax levied on profits in the respective period.

Similar reforms were made in the 2015 Budget, which transformed and simplified the tax allowance regime by moving away from bespoke Field Allowances, which have been replaced with the Investment Allowance. O&G UK (2016) summarizes the important features of the current allowance regime as follows:

> (i) The Investment Allowance (IA) – this is a basin-wide capital investment-based allowance against a company's SC liability. It is available for all capital investment incurred on or after 1 April 2015 at a rate of 62.5 per cent. If a company has access to the allowance, only RFCT will be levied on its profits, reducing the effective tax rate to 30 per cent; and
>
> (ii) 100 per cent first year Capital Allowances – for almost all investment expenditure incurred on the UK continental shelf, an immediate deduction against RFCT and SC is available within the year, making the regime a true cash-flow tax.

Additionally, current reforms permit any of a company's expenditure (whether capital or operating) that cannot be relieved in the year it was incurred to be carried forward for an unlimited period until the company returns to having taxable profits. Similarly, a company can claim up to ten instances of Ring Fence Expenditure Supplement (RFES) that enhances the cash value of the loss by 10 per cent per period claimed (O&G UK, 2016).

5.2.2 Revenue Management

The revenue allocation management in the United Kingdom was shared amongst England, Scotland, Wales and Northern Ireland. The formula for public spending was based on the Barnett Commission Report introduced in 1978. By 2007, Scotland's *per capita* public spending had risen above that of the rest of the United Kingdom, which helped to silence some of the complaints. The complaints were that the revenue allocation formula did not reflect the spending needs of Wales; the formula lacked objective justification and was rather based on political and administrative convenience. According to Stevens (2011), the North Sea oil production declined after the late 1990s which led to a decline in revenue allocation. Therefore, in Scottish thinking, apart from the opportunity that the sector presented, revenues had been stolen from the Scots.

5.2 NORWAY

Oil and gas exploration drilling in the Norwegian continental shelf commenced in 1966, just two years after the commencement of exploration activities in the United Kingdom continental

shelf. Similarly, oil was first commercially discovered in the Norwegian continental shelf in 1967, two years after the commercial discovery of oil in the UK continental shelf. These occurrences are not just coincidental; the two counties are geographically proximate to each other and initially experienced similar production trajectories (Lindøe, Baram and Renn, 2013; O&G UK, 2016). This partly explains why the petroleum fiscal regimes of the two countries are often compared. The other reason is that Norway, like the UK, operates a concessionary fiscal regime.

5.3.1 Fiscal Regime

The foundation of the Norwegian petroleum fiscal regime rests with the Taxation of Subsea Petroleum Resources Act of 1965, Section 2, which requires the application of the general rules of taxation to petroleum activities. Considering that the Norwegian continental shelf was a frontier province with uncertain prospects at the time, the Taxation of Subsea Petroleum Resources Act of 1965 introduced tax reliefs in the form of reduced rates to increase the competitiveness of the province and to give it a comparative advantage over that of the North Sea concessions under the jurisdiction of neighbouring countries. This facilitated a massive exploration program, leading to the discovery of the first commercial field (Ekofisk Field) in 1969. During this period, royalty was applied at a 10 per cent flat rate.

Subsequent discoveries and commencement of production in 1971 effectively de-risked the Norwegian continental shelf and served as the basis for revision of the fiscal regime in 1972 in favour of increased government take. The privileges under the 1965 Tax Act were abolished, and the industry paid taxes on the same basis as other Norwegian business enterprises for the next four years. The royalty rate was however revised to a range between 8 to 16 per cent applied on a sliding scale (depending on production). In 1975, however, external market pressures arising partly from significant increases in oil prices led the Norwegian Government to reconsider the fiscal regime. An expert committee was established in this regard, which proposed the enactment of a new Petroleum Tax Act to replace the 1972 revised regime. The resultant Petroleum Tax Act introduced (i) the Special Tax, and (ii) the Norm Price system for determining the tax value of crude oil produced. The rate of Special Tax was set at 25 per cent, giving a marginal tax rate in the range of 76 per cent. Uplift was introduced as a relief against the Special Tax, with 10 per cent of cost price of production and pipeline installations over 15 years (Bustneshi, 2018). To avoid transfer pricing issues on sales between related companies,

the new act also required crude oil sales to be valued at Norm Price, an administratively fixed price (Bradley and Mead, 1998; Readhead, 2018).

In 1980, due to oil price increases, the special tax rate was increased from 25 per cent to 35 per cent, only to be reduced to 30 per cent in the mid-1980s in reaction to decreasing oil prices at the time (Berger, Cappelen, Knudsen and Roland, 1988; IMF, 2000). Depreciation was accelerated (allowing it to commence in the year of investment, rather than when the asset was taken into use), while a production allowance was introduced to replace uplift for new projects (Osmundsen *et al.*, 2014). Major reforms also took place in 1987 (royalty was further abolished for all fields receiving development approval from 1 January 1986), 1992, 2000 through 2005 to 2007, all intended to secure a fair share of the economic rent while incentivizing investors to inject capital into the Norwegian continental shelf (Tordo *et al*., 2011).

Lund (2014) posits that the Norwegian petroleum fiscal regime is based mainly on corporate income tax (CIT) and special petroleum tax (SPT). While CIT applied at a rate of 28 per cent as of 2008 down from the 1992 rate of 50.8 per cent – which was the general income tax that applied to all companies operating in Norway - SPT applied to offshore production income at 50 per cent (Nakhle, 2008). The Norwegian SPT, unlike PRT in the UK, is not deductible for CIT purposes. Furthermore, depreciation for capital expenditures is allowed on a six-year straight-line basis, for both CIT and SPT purposes (Nakhle, 2008). This effectively equates SPT deductions and depreciation when dealing with CIT, except that an additional uplift applies in the case of SPT. Similarly, for all fields approved before 1986, while the SPT uplift is an extra 100 per cent on expenditures incurred for each asset used in production and pipeline transportation, a rate of 5 per cent over six years applies to fields whose development plan was accepted after 1 January, 1986 (Nakhle, 2008).

While allowing at most 50 per cent losses from operations on the Norwegian continental shelf to be offset against profits from producing fields, the Norwegian fiscal regime requires the application of the ring fence principle in calculating SPT (Daniel, Keen and McPherson, 2010; Osmundsen *et al.*, 2014). Additionally, both the SPT and CIT allow losses to be carried forward, implying that no tax is paid unless all losses have been absorbed (Lund, 2014). The fiscal regime also allows the deduction of abandonment costs at a rate equal only to the effective tax rate (Tordo, 2007; Lund, 2014). Finally, the Norwegian fiscal regime allows for

losses from operations on the Norwegian continental shelf to be offset against profits from producing fields (Noord and Vourc'h, 1999; Alnæs and Haugland, 2017).

5.3.2 Revenue Management

To devise a means of managing the newly found resources, Norway debated the issue at the national level. The outcome was an agreement that government should slow development. The government decided that the best way to benefit was to encourage the development of a world-class oil industry service capability. Norway has thus developed a world-class oil and gas industry that benefits the Norwegian economy (Stevens, 2011).

Norway decided that petroleum revenues would not engulf the rest of the economy and that there would be enough savings. To manage the excess revenues, the Government Pension Fund–Global was established as a petroleum fund in 1990 by the Act on the Government Petroleum Fund (Act 36, 1990), and received its first revenues in 1996. It was transformed into the Government Pension Fund in 2005 to emphasize its role in financing future pensions. The central government's net cash flow from petroleum was transferred in its entirety to the Government Pension Fund – Global (GPFG) via the state budget (Skancke, 2003).

The GPFG is seen as a fiscal management tool to ensure transparency on the use of petroleum revenues. The GPFG mechanism is designed to provide a strong link between the accumulation of assets in the Petroleum Fund and fiscal policy. The GPFG's inflows constitute the central bank net cash flows from the petroleum activities and the return on GPFG investment is added to the GPFG. The GPFG's expenditure consists of an annual transfer to the Treasury corresponding to the amount of petroleum revenue used in the fiscal budget, to cover the non-oil deficit. Money is thus accumulated in the GPFG when there is a government budget surplus, including oil revenue.

Furthermore, the Petroleum Fund law stipulates that the Ministry of Finance is to ensure the management of the Petroleum Fund. Within the strategic guidelines set by the Ministry of Finance, the operational management of the fund is delegated to the Norges Bank. Thus, an agreement has been reached which regulates the relationship between the Ministry and the Norges Bank. The Norges Bank reports on the fund's performance by providing details on total returns, benchmark returns and attribution of the excess return and managements costs. In addition, the Norges Bank submits quarterly reports to the Ministry of Finance containing the

main return and cost data. It also reports to an independent company assigned by the Ministry, to analyse the actual against budgeted returns. The company's reports are made public through the internet together with reports of the central bank. The Auditor-General is appointed by and reports directly to Parliament, to ensure parliamentary control of the fund operations. The Auditor-General is also responsible for auditing the fund and its management (Norwegian Petroleum Directorate, 2016).

5.3.3 Assessment of Norway's Petroleum Fiscal Regime

The Norwegian petroleum fiscal regime initially adopted royalty as one of the fiscal instruments of taxation in its concessionary fiscal regime (Skancke, 2003). Given that royalty, unlike both CIT and SPT, is required to be paid before any return is made on investment, the initial adoption of royalty as a fiscal instrument obviously raked in early revenues for the Norwegian Government. However, a royalty remains largely regressive and not targeted at economic rent, although it is administratively simple. This may have been one of the factors that influenced Norway in the year 2000 to jettison the royalty (Osmundsen, 2010). By abolishing the royalty, the Norwegian Government effectively removed a fiscal distortion and completely aligned government and investor incentives as a catalyst to shore up investor appetite in the Norwegian continental shelf.

Overall, the current petroleum fiscal regime of the Norwegian State is, to a large extent, based on taxation of net profits with a high marginal tax rate of 78 per cent, comprising 28 per cent general income tax and an additional 50 per cent Special Tax on income from petroleum production and pipeline transportation activities. This makes the Norwegian petroleum fiscal regime not only simple and clear, but reduces the burden of cost-audit on the Norwegian oil regulator (Ryggrik, 2010).

A careful review of the system shows that the Norwegian petroleum fiscal regime has been prudently designed to provide neutrality, so that an investment project which is profitable for an investor before tax, will remain profitable after tax. This way, the government can navigate its way in securing a fair share of the economic rent, while attracting the needed investment for the Norwegian continental shelf.

The other important observation is that the Norwegian petroleum fiscal regime has been relatively stable in recent years, despite oil price volatilities. Although it generates a return to the state through a concession tax regime, the tax rate of 78 per cent has been stable in the long term, compared to the drastic variations in tax rates in the UK, ranging from 30 to 81 per cent over the last 20 years, which have increased uncertainty and deterred investment (O&G UK, 2016). The Norwegian state also has a greater stake in operations through a 67 per cent equity share in the largest producer, Statoil, via the state-owned company Petoro, which manages substantial assets on behalf of the Norwegian Government, with a portfolio representing around one-third of the country's oil and gas reserves (O&G UK, 2016). This also contrasts sharply with that of the UK, where there is no direct state ownership in assets, resulting in a more hands-off approach to regulation of the industry. Together, these factors represent an important competitive edge for the Norwegian continental shelf over the UK continental shelf. Although the Norwegian fiscal regime has witnessed important changes at regular intervals, such changes have not been material and there is no cause to suppose that any material changes to the fiscal system would occur anytime soon (Norwegian Petroleum Directorate (NPD), 2016). Norway's fiscal regime is therefore likely to remain stable for the foreseeable future.

Finally, the Norwegian system of cash refunds for the fiscal value of exploration costs in company tax returns has proved effective in attracting new players to the Norwegian continental shelf (Engen, 2007). The obvious reason lies in the substantial reductions in the capital required for making a commitment by directly refunding about three-quarters of exploration expenditure. This implies that even companies not in a taxpaying position can conveniently engage in Norwegian continental shelf activities and receive the government's part of the investment

5.4 CANADA

Petroleum exploration activities in Canada date back to 1850, when the geologist, Thomas Sterry Hunt of the Geological Survey of Canada, reported seepages of crude oil in the swampy "gum beds" of Enniskillen Township, Lambton County, Ontario (CCEI, 2004). Since then, exploration activities steadily increased, pioneered by the International Mining and Manufacturing Company – the first registered oil company in North America. By 1858, a year before 'Colonel' Edwin Drake found a practical way to produce large quantities of crude oil in Pennsylvania in the United States, the International Mining and Manufacturing Company, owned by James Miller Williams, was reportedly producing and refining significant quantities

of crude oil from its 15-metre-deep well in Petrolia (CCEI, 2004). It has been strongly canvassed by Canadian scholars and industry practitioners that crude oil was already being produced from wells in Ontario several years before the emergence of the modern petroleum industry following 'Colonel' Drake's 1859 discovery in the United States (CCEI, 2004).

5.4.1 Fiscal Regime

The nature and character of Canada's petroleum fiscal regime is deeply rooted in the governance structure of the country. Given that Canada is a federal state, ownership of natural resource rights is held partly by the provinces, but largely by the Crown/federal government (Plourde, 2010). A classic example can be found in the western Canadian province of British Columbia. The Crown owns almost 100 per cent of producing oil and gas rights (CNWP, 2011). Similarly, in the Yukon, the Crown owns the majority of subsurface rights. Again, in the Northwest Territories and Nunavut, as well as the northern offshore, the federal government is the owner of the majority of petroleum and natural gas resource rights. In other provinces such as Alberta and Saskatchewan, the province owns approximately 80 per cent of petroleum and natural gas resource rights; the remaining rights are classified as "freehold rights" (Taylor *et al*., 2004; CNWP, 2011). Freehold rights are rights owned by private individuals or companies. As such, depending on the area of exploration, royalties fall under provincial, or territorial or federal jurisdictions (Martin, 1975; Gault, 1985; CNWP, 2011). With the exception of the Yukon, natural resources in areas that are not provinces or not subject to special agreement (e.g. the Atlantic Accord and the Canada-Nova Scotia Offshore Accord) fall under federal jurisdiction (Hudec and Penick, 2003; Studin, 2009; CNWP, 2011). Federal royalties apply to these Crown lands, categorized as 'frontier' and 'reserve' lands.

Royalties on frontier lands are prescribed under the Canada Petroleum Resources Act (CPRA), while those on reserve lands come under the Indian Oil and Gas Act. Under the CPRA and the Frontier Lands Petroleum Royalty Regulations (FLPRR), the royalty applicable to oil and natural gas consists of a 1 per cent royalty on gross revenue at start-up, increasing by 1 per cent every 18 production months to a maximum of 5 per cent or until payout is reached (Holroyd and Dagg, 2011). After payout, the royalty is calculated at the greater of 30 per cent of net profit (gross revenue – allowed operating costs - allowed capital costs = net profit) or 5 per cent of gross revenues (Watkins, 2001; Mintz and Chen, 2012; Dobson, 2015). The frontier lands royalty regime permits operating and capital costs to receive 10 per cent and 1 per cent uplifts respectively, after project commencement to recognize indirect expenses (CNWP, 2011;

Cameron and Stanley, 2017). Where allowed capital costs are incurred before a project commences, it receives an uplift based on the inflation index. In what is termed an Investment Royalty Credit, any un-recovered costs (prior to royalty payout) are given a return allowance equal to the long-term government bond rate plus 10 per cent (CNWP, 2011; Mintz and Chen, 2012; Tordo, 2017). Royalty payout is said to be attained when cumulative gross revenues exceed cumulative operating costs, capital costs, gross royalties paid and a return allowance (Watkins, 2001; CNWP, 2011; Boadway and Dachis, 2015; Shaffer, 2016). Payout is calculated on a working interest basis, by project. The Investment Royalty Credit was phased out through the 2008 amendments to the FLPRR, though some companies may continue to claim expenses incurred while the program was in effect (CNWP, 2011).

The royalty regime applicable to reserve lands is too varied to be studied, due primarily to a provision of the Indian Oil and Gas Act, which allows for a variation in the royalty payable by entering into a special agreement, usually with the consent of the Chief and Council of the respective native bands for which the particular reserve land was set apart (Wälde, 2008; CNWP, 2011). This has resulted in special royalty agreements for nearly all land dispositions since the mid-1980s.

Corporate income tax is another feature of the Canadian federal fiscal regime. The general federal corporate income tax rate was 16.5 per cent for 2011, reduced to 15 per cent for 2012 and subsequent years. Although capital tax and surtax for all corporations previously existed, these were abolished in 2006 and 2008 respectively (Chen and Mintz, 2011; CNWP, 2011; Hegemann, Kunoth, Rupp and Sureth-Sloane, 2016).

General deductions allowed to corporations include operating expenses, capital cost allowance, interest expense, resource expenses and general and administrative expenses, as well as Crown royalties. Provincial taxes are however, not deductible. In the case of capital cost allowance, the regime provides, amongst others, a 25 per cent write off rate on a declining balance basis for oil and gas equipment (Ketchum, Lavigne and Plummer, 2001; Mintz, 2010; Siu, Picciotto, Mintz and Sawyerr, 2015). In the case of resource expenses, any of the following three groups of expenses, namely, (i) Canadian Exploration Expenses (CEE); (ii) Canadian Development Expenses (CDE); and (iii) Canadian Oil and Gas Property Expenses (COGPE), can be carried forward indefinitely. According to the CNWP (2011), CEE (which can generally be deducted against income at up to 100 per cent of the balance) includes certain intangible costs incurred

to determine the ‘existence, location, extent or quality’ of a crude oil or natural gas reservoir not previously known to exist (Tordo, 2009). On the other hand, CDE (which can be deducted at up to 30 per cent per year on a declining balance basis) generally includes the costs (to the extent such costs are not CEE) of drilling, converting or completing a well, building a temporary access road or preparing a site; while COGPE (which can be deducted at up to 10 per cent per year on a declining balance basis), generally includes the cost of acquiring rights to explore for, drill or extract oil or natural gas, or to acquire an oil or natural gas well or other resource property (Ross, 1988; Taylor, Bramley and Winfield, 2005).

Since 2008/2009, small Canadian-controlled private corporations enjoy a reduced tax rate of 11 per cent on the first Canadian dollar (CAD) 500,000 of their qualifying income. This reduced rate stands to be phased out if the Canadian-controlled private corporation achieves a taxable capital between Canadian dollar (CAD) 10 million and Canadian dollar (CAD) 15 million (CNWP, 2011).

On the provincial front, the fiscal regime in each province plays a critical role in determining the competitiveness of the province’s petroleum industry, while at the same time providing a return for that province and for the development of their resources, as well as tax revenue for the province (Plourde, 2010; Campbell, 2013). Similar to the federal fiscal regime, the provinces generally follow a royalty system that aims to strike the right balance between returning a share of the profits to the resource owner, while encouraging the development of the resource to create jobs and economic growth (Campbell, 2013; Dobson, 2015; Mansour and Nakhle, 2016).

Depending on the province in which the oil and gas activity is taking place, provincial income tax rates are within a range of 10 per cent to 16 per cent of the corporation’s taxable income. The powers of the provinces to tax derive from Section 92 of the Constitution Act of 1982 (Courchene, 1984; Feehan, 2014; Siu, Nalukwago, Surahmat and Valadão, 2014). The Constitution Act of 1982 requires a corporation that has permanent establishment in more than one province to allocate taxable income to each of the provinces, calculated on the weighted average of revenue, salaries and wages ‘reasonably attributable’ to the respective provinces (Weiner, 1999; Feehan, 2014).

In provinces where certain mineral rights are owned by private individuals or companies (i.e. “freehold rights” arising from freehold leases), “freehold royalties” are nevertheless paid to the right holder (McGuire and Pak, 2005; Kaplinsky, 2012). However, the province in which jurisdiction the private right holder has his property reserves the right to levy “freehold mineral taxes” on privately held freehold leases. For federal income tax purposes, royalties, unlike provincial income taxes, are fully deductible in computation of federal income tax (McGuire and Pak, 2005; Kaplinsky, 2012).

5.4.2 Revenue Management

The Alberta Government established a Heritage Fund to manage its oil wealth to shield the economy from instability, and provide a buffer for future generations. After 36 years, the fund contains about USD 15 billion (Hoffman, 1996). Practically, Alberta has no sovereignty wealth fund set aside and the revenues flowing into government coffers are inadequate, hence the province has run deficits for the last three years. The education, health care, and other public services in Alberta are under-funded. The province is amongst the provinces with the highest inequality and poverty in Canada.

The federal government has the authority to impose an oil export tax or levy special oil companies to capture a greater share of the economic rent or impose a carbon tax rate of 15 per cent. The allocation powers of the oil revenue management between the federal government and provinces are outlined in Section 91 and 92 of the country’s Constitution.

5.4.3 Assessment of Canada’s Petroleum Fiscal Regime

Given the unique features of Canada’s petroleum fiscal regime, it is useful to examine some aspects of the regime that can have useful lessons for Ghana in reforming its petroleum fiscal regime. At the outset, it is pertinent to recognize that Canada operates a federal state with some level of fiscal legislative powers, devolved to its provinces. The political governance structure of Canada provides a far-reaching implication for the extent of central government participation in the ownership of mineral rights, as well as its legislative role in shaping the petroleum fiscal regime.

Firstly, the ownership rights of minerals in Canada are shared amongst the federal government, provincial government and territories and even individuals, to a lesser extent. The result is that

prospective oil and gas investors look to any of these right holders for authorization to mine the resource.

Another important factor is that Canada's petroleum fiscal regimes have to do with the non-existence of a state-owned national oil entity. Canada does not currently have a state-owned national oil entity. The lack of a state-owned national entity promotes extensive province participation in the oil and gas sector. Thus, Canada devolves some legislative and taxing powers to its provinces.

The Canadian petroleum fiscal regime is based on a mixture of royalty and corporate income tax. While royalty operates to rake in early revenues to federal and provincial governments, its regressive nature makes it a less attractive tax instrument because it is not targeted at economic rent. Moreover, Canada's petroleum fiscal regime is relatively stable. Despite oil price volatilities in recent years, neither the federal nor provincial governments of Canada have distorted the structure of the fiscal regime by resorting to *ad hoc* fiscal measures.

Additionally, there is certainty on what tax instruments either federal or provincial governments can introduce, and even though the provinces can enact their own laws and can design their own provincial fiscal regimes, the literature and practice show that the provincial governments largely replicate federal tax instruments. This promotes administrative simplicity, especially for royalties, and further enhances the stability of Canada's fiscal regime.

The other important factor to note is that Canada has no direct state ownership in assets of its petroleum industry, making state participation in the oil industry somewhat challenging.

5.5 NIGERIA

Nigeria discovered oil in the early 1970s and, by 2012, the country was Africa's largest oil producer (Brazilian *et al.*, 2013). Nigeria is regarded as a rentier state, which implies that the country depends on oil resources for the majority of its income (Karl, 2004). Nigeria's non-oil-based revenue is less than a third of its income (Budina, Pang and Wijnberger, 2007; Itumo, 2016). The oil sector still remains central to the Nigerian economy and accounts for approximately 90 per cent of the country's exports (Pinto, 1987; Agbaeze, Udeh and Onwuka, 2015).

5.5.1 Fiscal Regime

The evolution of Nigeria's petroleum fiscal regime originates from two British colonial laws, namely, the Petroleum Ordinance of 1889 and the Mineral Regulation (Oil) Ordinance of 1907 (Omorogbe, 1987). The first concession agreement was granted under the 1907 Ordinance to a German company in 1908, albeit contrary to the dictates of the 1907 Ordinance itself, which required oil exploration to be restricted to only British subjects and British controlled companies (Omorogbe, 1987). However, exploration activities of the German company did not survive World War I. Consequently, no further exploration took place in Nigeria until 1938 when the Shell D'Arcy Petroleum Development Company (the first predecessor of the modern Shell Petroleum Development Company of Nigeria (SPDC)) was awarded a concession grant to explore oil throughout the entire mainland of Nigeria (Omorogbe, 1987). This concession effectively granted the Shell D'Arcy Petroleum Development Company an early monopoly on the exploration of oil in Nigeria.

Following this early monopoly of oil exploration, Nigeria's first commercial oil discovery was made by Shell in 1956 at Oloibiri in Bayelsa State (Kwaghe, 2015; Donwa, Mgbame and Julius, 2015). In 1958, however, Shell D'Arcy – producing 5,100 barrels per day from the country's first oil field, enabled Nigeria to join the ranks of oil producers in that year (Ayodele-Akaakar, 2010). This set the pace for other oil companies such as Mobil and Chevron/Texaco to enter the Nigerian oil exploration environment (Omorogbe, 1987). Notwithstanding the emergence of these and other new entrants, Shell remains, by far, the most dominant oil company in Nigeria – holding the largest acreage in the country from which it produces some 39 per cent of the nation's oil (Frynas, 1998; Manby, 1999).

Although various legislation was enacted after independence to alter the colonial Ordinances, the enactment in 1969 of the Petroleum Act and the accompanying Petroleum (Drilling and Production) Regulations (L.N. 69 of 1969) were what effectively caused the remaining vestiges of the colonial petroleum fiscal regime to disappear and ushered in more modern regulatory and fiscal regimes. Principally, Section 1(1) of the Petroleum Act of 1969 vested ownership and control of petroleum in the federal state. Under Section 2(1) of the Petroleum Act, companies incorporated in Nigeria can be granted one of three rights:

a. a license, to be known as an oil exploration license to explore for petroleum;
b. a license, to be known as an oil prospecting license to prospect for petroleum; and

c. a lease, to be known as an oil mining lease, to search for, win, work, carry away and dispose of petroleum.

Yahaya and Bakare (2018) confirm the importance attached to resource rents and royalties by the Federal Government of Nigeria as fundamental components of the country's petroleum fiscal regime. Furthermore, Ogbonna (2012) asserts that the major features of Nigeria's petroleum fiscal regime encompass fiscal instruments such as resource rents and royalties, petroleum profit tax, licensing fee and other incidentals.

The important centrality of resource rents and royalties is deeply rooted in relevant provisions of the Petroleum (Drilling and Production) Regulations (L.N. 69 of 1969). Regulation 60 provides for resource rents, dividing them into two categories – those paid on an existing oil exploration license, and those payable on an oil prospecting license or oil mining lease. While a minimum rent of NGN 500 is required annually for every year an exploration license is in force, annual rents payable on an oil prospecting license are USD 10 for each square mile. Mining leases attract rents payable at USD 20 for each square kilometer of the first ten years of the lease, then USD 15 for the remainder.

Royalties are provided for under Regulations 61 and 62 of the Petroleum (Drilling and Production) Regulations (L.N. 69 of 1969). Under the regime, royalties in Nigeria are charged at a rate per centum based on the chargeable value of crude oil produced under a license or lease, and vary according to the location or place of production (onshore versus offshore), and the depth of water in the area of production (Oshionebo, 2011). The current royalty regime for non-production sharing contract areas is structured as follows:

- 20 per cent for onshore areas;
- 18.5 per cent in areas up to 100 metres water depth;
- 16.5 per cent in areas up to 200 metres water depth;
- 12.5 per cent in areas from 201 to 500 metres water depth;
- 8 per cent in areas from 501 to 800 metres water depth;
- 4 per cent in areas from 802 to 1 000 metres water depth; and
- 0 per cent in areas beyond 1000 metres water depth.

Royalties charged as part of onshore and shallow offshore production sharing contracts are slightly lower than those listed above:

a. onshore areas -

- 5 per cent for areas producing below 2000 bpd;
- 7.5 per cent for production between 2000 to 5000 bpd;
- 15 per cent for production between 5000 and 10000 bpd; and
- 20 per cent for production above 10000 bpd.

b. Offshore areas -

- 2.5 per cent for production below 5000 bpd in water depths up to 100 metres; and
- 1.5 per cent for production below 5000 bpd in water depths between 100 and 200 metres.

In addition to the resource rent and royalties is the petroleum profit tax, a special dispensation to govern corporate income taxation of oil companies operating (other than refineries) in Nigeria, including local and foreign oil producers (Ayoade, 2010). Equivalent to corporate income tax charged to non-oil sector companies, the petroleum profit tax as a fiscal instrument is based on the Petroleum Profits Tax Act, (1990) (PPTA).

Ayoade (2010) and Madugba, Ekwe and Kalu (2015) summarize the computation of tax under the PPTA in a four-stage process as follows:

a. All income derived from petroleum operations must be ascertained;
b. Expenses permitted to be deducted under Section 10 of the PPTA must be effected to determine adjusted profits;
c. Establishing assessable profits by subtracting loss sustained in previous accounting periods from the present adjusted profit of the present accounting period; and
d. Deducting capital allowances granted on fixed assets from assessable profits to determine chargeable profits on which the appropriate [tax] rate can be levied.

Deductions allowed for petroleum profit tax include rents for lands or buildings, non-productive rents, royalty paid, administrative expenses and capital expenditure such as tangible or intangible expenses from the appraisal of an exploration well (Madugba, Ekwe and Kalu, 2015). Similarly, income generated from the transportation of chargeable oil from ocean going oil tankers operated by or on behalf of the oil producing company from Nigeria to another overseas destination, are excluded. In appropriate circumstances, however, especially in the case of petroleum investment allowance, a cap is set on allowances to the lesser of either the

aggregate amount computed or a sum equal to 85 per cent of the assessable profits of the accounting period less 170 per cent of the total amount of the deduction allowed (Petroleum Profit Tax Act, Cap. 354 LFN, 1990).

Petroleum profit tax is currently rated at 85 per cent of chargeable profits, though new oil companies are charged a rate of 67.5 per cent for the first five years of production, and 85 per cent afterwards (Ayoade, 2010).

Another feature of Nigeria's petroleum fiscal regime is the existence of a number of one-time fees such as a signature bonus at the completion of a successful bid, a production bonus (generally limited to instances where a production sharing agreement is in place), various application fees for licenses or other applications, terminal dues (which are meant to facilitate the "evacuation of oil from export terminals"), commission paid to the central bank on taxes under the PPTA, royalties, and rents to the foreign exchange accounts of the Bank and federal tax authorities (Ayoade, 2010).

State participation is also an important feature of Nigeria's petroleum fiscal regime. State participation began in Nigeria as a requirement of the country's membership of OPEC in 1971, leading to the establishment in the same year of the Nigerian National Oil Corporation (NNOC) – the precursor to the current Nigerian National Petroleum Corporation (NNPC). This was established with an initial mandate to undertake exploration and marketing of oil and related activities in the petroleum industry. Omorogbe (1987) maintains that the Federal Government of Nigeria, through this arrangement, succeeded in enhancing state participation as part of its fiscal regime by three important interventions, namely: (1) negotiating equity participation agreements of 35 per cent with Elf, Shell-BP191, Mobil and Gulf Concessions; (2) assigning to the NNOC in 1972 "all areas in the country not covered by existing licenses and leases, [as well as] concession areas…held by the oil companies which might be surrendered from time to time"; and (3) halting the issuance of new concessions. Cloaked with this arrangement, the state-owned oil company had the mandate to partner with international oil companies for oil exploration purposes. The result is the steady adoption of a variety of contractual vehicles for oil and gas activities in Nigeria, including production sharing agreements, which is the dominant contractual vehicle in Nigeria, followed by contractual joint venture arrangements, and service contracts, which are less commonly used.

Other features that impact the Nigerian petroleum fiscal regime include a limited range of incentives. Firstly, a unique measure that was developed by Nigeria in response to the decline in oil prices and the rise in cost of production in the 1980s was the Memorandum of Understanding (MOU), which provided incentives to joint venture partners in exchange for certain work commitments (Atsegbua, 1993; Ayoade,2010). As a result of the high exploration and production cost at the time, investor appetite for petroleum activity was low, leading to reduced revenues for the federal government (Ayoade, 2010; Eneh, 2011; Onye, 2012). Although the MOU survived for about two decades with occasional revisions in 1991 and 2000, the incentive package was effectively jettisoned by 2007, giving rise to concerns that investor appetite for injecting further capital in Nigeria's oil basins could be negatively impacted – particularly in the context of rising cost of oil production (Emoyan, Akpoborie and Akporhonor, 2008; Ayoade, 2010, Ojide *et al.*, 2012).

The PPTA also avails oil companies of some incentivizing deductions, including not limiting the deductions of an oil company to a particular project. Although production sharing agreements provide for ring fence deductions on a project-by-project basis (Ayoade,2010; Idubor, Asada and Adefi, 2015), oil companies can apply deductions available in the PPTA, broadly as a result of judicial interpretation of the term "petroleum operations". This endorsed the deductions regime in the PPTA for all oil companies and expanded the scope of deductions available to oil companies substantially, to include any "statutory or contractual obligation to incur an expense", whether that expense was 'incidental to petroleum operations' and/or not, provided it was 'wholly, exclusively, and necessarily' incurred (Odusola, 2006; Ayoade, 2010; Gboyega, Søreide, Le and Shukla, 2011).

Other incentives available to oil companies in Nigeria include:

a. Tax holidays offered by the Nigerian Investment Promotion Commission to companies that qualify for "pioneer status" – these tax holidays are limited to the first year that a company commences production. In the case of qualifying foreign companies, they must have incurred capital expenditures of at least NGN 5 million (Akinyomi and Akinyomi, 2011; Fawowe, 2013; Central Bank of Nigeria, 2013); and
b. Oil and gas export free zone – this zone, which encompasses three oil and gas service centers around the ports of Onne (near Port Harcourt), Calabar and Warri, was established by the Oil and Gas Export Free Zone Act No. 8 of 1996 to manage,

control and co-ordinate all the activities within the zone. The zone provides facilities to support the export of crude oil. Incentives and fiscal measures approved by government that favour and encourage large investments in the zone include: exemption from "personal income tax", full repatriation of capital and profit, no foreign exchange restrictions, 100 per cent foreign ownership, and no pre-shipment inspection of goods imported into the zone (Ayoade, 2010; Chete, Adeoti, Adeyinka and Ogundele, 2014; Ogbuigwe, 2018).

5.5.2 Revenue Management

The Nigerian constitutional structure makes the federal government the custodian of all bonuses, royalties and rents accruing from mineral resources in Nigeria on behalf of the 36 constituent states, 774 local government areas, and the federal capital territory of Abuja (Akinola, 2018). The federal revenue collecting organizations include the Federal Inland Revenue Service, which collects corporate income taxes; the Nigeria Customs Service, which is responsible for collecting excise and import duties; the Nigerian National Petroleum Corporation, which is charged with managing the government's participation interests in oil exploration and production; the Department of Petroleum Resources, which collects signature bonuses and royalties; and the Central Bank of Nigeria, into which the collected revenues are deposited (Eme, Chukwurah and Iheanacho, 2015; Olaoye, Ogunleye and Solanke, 2018; Yahaya and Bakare, 2018).

The list of major centrally collected revenues excludes personal income tax, which, except for the federal government-retained income tax of Abuja residents, the national military, police and diplomatic personnel, is collected and retained by the states under a uniform national income tax law.

Section 162 of the 1999 Constitution sets out the basic guidelines for the intergovernmental sharing of the major centrally collected revenues, which includes the revenue from oil and gas. It provides for the payment of the revenue into a Federation Account, which is to be allocated, according to an Act of the National Assembly. The allocation is based on a proposal submitted to the assembly, acting on the recommendation of the Revenue Mobilization Allocation and Fiscal Commission. The allocation is made amongst the federal territory, the states and the localities (Suberu, 2008).

It is worth noting that any such act of the National Assembly has to be in accordance with the Constitution, thus shall take into account the allocation principles of population, equality of states, internal revenue generation, land mass, terrain, as well as population density. There also exists a principle of deviation, which requires that not less than 13 per cent of the revenue accruing to the Federation Account from any natural resources shall be set aside before any distribution from the Federation Account.

Currently, revenues in the Federation Account are distributed in the proportions of 48.50 per cent to the federal government, 26.72 per cent to the states, 20.60 per cent to the local government councils and 4.18 per cent to centrally-controlled special funds (Sylvester and Ade, 2017). The authors further indicate that the Federation Account revenues available to the subnational governments are shared amongst the states and amongst the localities on the basis of the following indices and weights: equality, i.e. equal shares to each state or locality, 40 per cent; population 30 per cent; social development needs 10 per cent; land mass and terrain 10 per cent; and internal revenue generation effort 10 per cent.

Sylvester and Ade (2017) also note that these constitutional and statutory provisions notwithstanding, federal revenue sharing has remained one of the most intractable and controversial issues in Nigeria. They find two issues to have been especially contentious, namely the weighting of the derivation principle and the administration of the Federation Account. The derivation principle is seen as the most contentious issue in Nigeria's fiscal federalism since revenue allocation in the Nigerian Federation has historically been dominated by this principle (Ikeji *et al.*, 2012).

Ikeji *et al.* (2012) find that Section 140 of the 1963 Constitution for the First Republic, just as it was in the 1960 Constitution, not only provided for the payment by the Federation to each region a sum equal to 50 per cent of the proceeds of any royalty received by the Federation in respect of any minerals, including oil, extracted in that region, but also provided that the continental shelf of a region shall be deemed to be part of that region. As oil revenues became the predominant source of national income in the 1970s, however, Nigeria's military rulers progressively deemphasized the derivation rule until it was effectively expunged from the revenue sharing scheme in April 1979 and replaced with a special grants account for the amelioration of the environmental problems of oil producing areas and other national ecological disasters (Ikeji *et al.*, 2012). The authors indicate, nonetheless, that the period since

the end of the first phase of military rule in October 1979 witnessed the gradual revival of the derivation rule in response to growing restiveness and agitations in the Niger Delta.

Revenue management policies in Nigeria have been implemented by the government in the form of a National Resource Fund. To regulate oil revenue management, the government established the Nigeria Sovereign Investment Authority to manage the fund, which is a savings fund financed by the government to enable it build a savings and investment base from the country's oil wealth (Van Ingen, Wait and Kleynhans, 2014). The authors further note that, Nigeria has followed an oil price fiscal rule policy in accordance with its annual national budget plans beginning in 2004 which is strictly driven by a reference oil price regime. This fiscal rule requires Nigeria to peg its budget benchmark lower than the global oil price, to insulate the national budget from shocks and price fluctuations (Van Ingen, Wait and Kleynhans, 2014).

Nigeria's Sovereign Wealth Fund is made up of three different funds, namely the Stabilization Fund, the Future Generation Fund and the Nigeria Infrastructure Fund. The Stabilization Fund seeks to safeguard the country against budgetary deficits; the Future Generation Fund provides savings for the country's future generations and the Nigeria Infrastructure Fund protects investments in the infrastructure development of the country. Van Ingen, Wait and Kleynhans (2014) indicate that the Stabilization Fund is the smallest of the Nigeria Sovereign Investment Authority's pools of capital, with a 20 per cent allocation of funds, which is used to finance the country's administrative units at the federal, state and local government level. The authors again identify that USD 300 million is set aside for investment in identified key infrastructure projects, such as the construction of a second bridge across the Niger River and the on-going rehabilitation of the Nigerian railway project. The balance is allocated for similar investments in self-financing social infrastructure, such as electricity, roads, health and education. Nigeria's fiscal policy thus targets only 25 per cent of total earnings annually, while the country's national budget receives 75 per cent of its revenue directly from oil sales.

It is evident from the analysis above that this approach to fiscal policy does obviously expose the country's economy to fluctuations, shocks and impulses from the global oil market. The policy also creates a vulnerability to sharp declines in world oil prices below the country's budget benchmark, which could have severe negative consequences for the financing of the country's budget.

5.5.3 Assessment of Nigeria's Petroleum Fiscal Regime

The Nigerian petroleum fiscal regime is highly influenced by the country's over-dependence on oil revenue. According to Thomas and Treviño (2013), oil accounts for over 90 per cent of Nigeria's exports and provides close to 80 per cent of the federal government's budgetary revenue. In this current rate of dependence, Nigeria needs to take fiscal steps that can support a sustained level of resource dependence without distorting the broader fiscal policy of the country, if it is to escape the paradox of resource abundance. A careful study of the current petroleum fiscal regime however seems to suggest that the country is not contemplating to reverse the current trend. Not only is the fiscal regime comparatively strict, it also burdens investors with a number of other additional fees that are not present in other countries, while limiting incentives to only those available in the PPTA (Sunley *et al.,* 2003). To continue attracting a fair share of the economic rent while stimulating investment in Nigerian oil basins, the federal government must incentivize the industry while reducing or maintaining current levels of revenue to the state. Strengthening indigenous capacity and diversifying the Nigerian economy could also reduce the country's over-reliance on oil revenues.

In addition, Nigeria is a mature oil producing country, yet it remains unresponsive to important issues that usually affect the project economics of mature basins. The fiscal regime remains complex and suited for increasing government takeover of the length of the country's resource horizon. This entrenches Nigeria's dependency on oil revenue, but also impacts negatively on the investment prospects in the country's petroleum basins. It is essential that Nigeria pauses to consider the maturity of its oil sector in proposing future reforms.

In its current form, Nigeria's petroleum fiscal regime does not include measures that allow the state to make adjustments in response to volatilities in the price of oil. Although the regime seems relatively stable because of the lack of such measures, the complete absence of such measures can have counter effects on the economy when sudden and drastic changes in the price of oil occur.

Some level of flexibility is therefore needed to allow the federal government to take measures to correct any distortions to the economy that may occur as a result of oil price volatility. However, because allowing for such measures can also promote recurrent *ad hoc* measures, which can, in turn destabilize the fiscal regime, a better alternative proposition is to progressively tie rates of taxation to profits. This will ensure that the state can receive a greater

take during times of prosperity with the ultimate aim of offsetting reduced levels of revenue when prices are low.

Moreover, Nigeria concentrates ownership of petroleum resources exclusively in the federal rather than the provincial government. The Nigerian Federal Government is thus the sole authority that authorizes petroleum activities in the entirety of Nigeria and regulates every aspect of the oil sector, including the extent of participation of the federal government in oil operations. Nigeria exercised this power and created the NNPC through which the country plays an active role in the country's petroleum sector, either through joint ventures or production sharing agreements. By participating in petroleum operations through the NNPC, the federal government is able to engage directly in the sector and enjoy the benefits of determining what share of the economic rent it receives (Van Ingen *et al*. (2014).

5.6 SYNTHESIS OF KEY FISCAL REGIMES OF THE COUNTRIES EXAMINED

Table 5.1 shows the key characteristics of the oil and gas industry in the countries examined – Canada, Nigeria, Norway and the United Kingdom, along with Ghana. The indicators under which the countries are examined are evolution and development policies of the oil and gas sector, the institutional framework in place, the legal and regulatory framework, and the fiscal instruments in place in securing revenue for the countries studied.

Table 5.1: Key regimes of the selected countries

Indicator	**Ghana**	**Canada**	**Nigeria**	**Norway**	**United Kingdom**
Evolution	1. No clear policy until discovery of oil and gas in 2007. 2. Energy policy document was drafted in 2010.	1. No single energy policy. 2. Policies are decentralized.	1. No clear-cut policy until the country joined OPEC.	1. The "ten oil commandments" drive the industry to date.	1. Currently the Maximizing Economic Recovery Strategy is in place.
Institutional Framework	1. The Ministry of Energy is in	1. National Energy Board is responsible	1. The Federal Ministry of Petroleum	1. Ministry of Petroleum and Energy is in charge of policy.	1. The Secretary of State for Energy and Climate Change

Indicator	Ghana	Canada	Nigeria	Norway	United Kingdom
	charge of policy. 2. The Petroleum Commission is in charge of regulation. 3. The GNPC is into commercial production. 4. The GRA collects the revenues. 5. The Ministry of Finance allocates for spending and monitors the revenue disbursed.	for the overall regulation. 2. Policies and regulation are left to the provincial governments.	Resources is in charge of policy. 2. The Department of Petroleum resources is in charge of regulation. 3. Nigerian National Petroleum Corporation performs commercial production.	2. The Norwegian Petroleum Directorate is in charge of regulation. 3. Equinor (formerly Statoil) handles commercial production.	and the Department of Energy and Climate Change handle policy. 2. The Oil and Gas Authority handles commercial production.
Legal and Regulatory Framework	1. The 1992 Constitution vests all natural resources in the President on behalf of citizens.	1. Canada's federal and provincial governments share jurisdiction over Canadian energy policy as	1. The Constitution vests all oil and gas resources to the government. The Petroleum Act and its	1. The rights to the petroleum resources on the Norwegian continental shelf are vested in the Norwegian state. The regulatory regime is based on a licensing	1. The Petroleum Act, 1998 governs oil and gas exploration activities in the United Kingdom. The act vests ownership of petroleum in the

Indicator	Ghana	Canada	Nigeria	Norway	United Kingdom
		well as the legal and regulatory framework. The laws for the oil and gas sector are the Canada Petroleum Resources Act, the Canada Oil and Gas Operations Act, the Canada-Newfoundland Atlantic Accord Implementation Act and the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act.	regulations govern the oil and gas sector.	system, under which companies are granted rights to explore for and produce petroleum.	Crown and empowers the Secretary of State to grant licenses, through a competitive bidding process, for the search for and extraction of petroleum in the area covered by the license.
	2. Hybrid of royalty tax.	2. Lease system as a method of acquiring exploration rights.	2. Joint venture.	2.Concessionary	2.Concessionary
	3.Production sharing agreement. 4. Uses the competitive		3. Production sharing agreement. 4. Service contracts, and		

Indicator	Ghana	Canada	Nigeria	Norway	United Kingdom
	bidding system.		5. Marginal Field Concession.		
Fiscal Instrument	1. Royalty 2. Carried interest 3. Additional oil entitlement 4. Capital gains tax 5.Additional participating interest 6. Surface rentals 7. Bonuses. 8. Fiscal regime is subject to negotiation; thus, the state gets little. 9.Stabilization clauses further stifle the ability of the state to increase rates of tax.	1. Three tier taxation system. 2. The state does not participate in exploration.	1. Petroleum profit tax 2. Bonuses 3. Royalties.	1. Area fees 2.Environmental tax 3. State's direct financial interest (SDFI). 4. There is no tax stabilization.	1. Ring fenced corporation tax 2.Supplementary charge. 3. Petroleum tax. 4. The state does not participate in exploration.

Indicator	Ghana	Canada	Nigeria	Norway	United Kingdom
Revenue Management	1. Petroleum Holding Fund and further disbursement into the funds below: 2. The Annual Budget Funding Amount 3. Heritage Fund 4.Stabilization Fund, and 5.Exceptional transfers in accordance with statutory allocation.	1. No Sovereign Wealth Fund at the federal government level. Two sub-national funds however exist – the Alberta Heritage Savings Trust Fund and the Quebec Generations Fund.	1. Has a Sovereign Wealth Fund with disbursement into three funds 2. The Future Generations Fund 3.Infrastructure Fund, and 4.Stabilization Fund.	1. Has a sovereign fund, the Government Pension Fund Global.	1. Has no sovereign fund. 2. Petroleum revenues are remitted to the national budget, with no specific fiscal objectives for utilization of the revenue.

Source: Author's own construct.

The presentation in Table 5.1 is further discussed and analysed below under the respective indicators identified in Table 5.1.

5.6.1 Evolution and Development Policies

From Table 5.1, whereas Ghana, Canada and Nigeria had no clear-cut policies at the beginning of their oil and gas discoveries, Norway and the United Kingdom had policies in place. In Norway, the standing committee of Parliament on the industry, in 1971 produced what is known as the "ten oil commandments" (Benghida, 2017). The United Kingdom has in place a maximizing economic recovery strategy (MER), which was presented to Parliament pursuant to Section 9G of the Petroleum Act, 1998 as amended by the Infrastructure Act, 2015 and came into force on 18 March, 2016.

There is no single energy policy in Canada, rather policies are decentralized. Ghana had no clear policy until 2010 when the energy policy document was prepared. Although oil was discovered in Nigeria in 1965, it was not until 1971, when the country joined the Organization of Petroleum Exporting Countries that it put a policy document in place.

5.6.2 Institutional Framework

The countries studied have an institutional framework in place in their oil and gas sectors. Canada has the National Energy Board responsible for the overall regulation of the country's oil and gas industry. Policies and regulations are left to the provincial governments to develop and administer. In Nigeria, the Federal Ministry of Petroleum Resources is in charge of policy, with the Department of Petroleum Resources overseeing regulation, while the Nigerian National Petroleum Corporation undertakes commercial production. Norway's Ministry of Petroleum and Energy is in charge of policy, the Norwegian Petroleum Directorate is in charge of regulation and Equinor (formerly Statoil) handles commercial production. In the United Kingdom, the Secretary of State for Energy and Climate Change and the Department of Energy and Climate Change handle policy, while the Oil and Gas Authority handles commercial production.

In Ghana, the Ministry of Energy is in charge of policy, the Petroleum Commission is in charge of regulation of the oil and gas sector, while GNPC is into commercial production of oil and gas. The Ghana Revenue Authority collects the revenues accrued from the oil and gas sector while the MoF allocates for spending and monitors the revenue disbursed.

The above institutional framework shows a common feature of the countries having an institution that handles commercial production, separate from the institution that handles policy issues, as well as a separate institution that handles regulation. The institutions that handle the commercial production are state institutions, except in the case of Canada.

5.6.3 Legal and Regulatory Framework

Canada's federal and provincial governments share jurisdiction over Canadian energy policy as well as the legal and regulatory framework. The laws for the oil and gas sector are the Canada Petroleum Resources Act (R.S.C., 1985, c. 36 (2nd Supp.)), the Canada Oil and Gas Operations Act (R.S.C., 1985, c. O-7), the Canada-Newfoundland and Labrador Atlantic Accord Implementation Act, (S.C. 1987, c. 3) and the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act (S.C. 1988, c. 28). Canada uses the lease system as a method of acquiring exploration rights to oil and gas deposits.

Nigeria's Constitution vests all oil and gas resources in the government. The Petroleum Act Chapter P10 (Chapter 350 LFN 1990) and its regulations govern the oil and gas sector in Nigeria. The legal and regulatory relationship with investors is varied amongst joint venture, production sharing agreement, service contracts and marginal field concession.

In Norway, the rights to the petroleum resources on the Norwegian continental shelf are vested in the Norwegian state. The regulatory regime is based on a licensing system, under which companies are granted rights to explore for and produce petroleum. Norway, thus, operates a concessionary regime in its legal and regulatory framework in its oil and gas sector. The Petroleum Taxation Act (Act of 13 June 1975 No. 35) governs the oil and gas sector in Norway.

The Petroleum Act, 1998 (1998 c. 17) governs oil and gas exploration activities in the United Kingdom. The act has undergone amendments and with the incorporation of the amendments as at 16 March 2017, the act is now Petroleum Act 1998 (No. 96 of 1998). The act vests ownership of petroleum in the Crown and empowers the Secretary of State to grant licenses, through a competitive bidding process, for the search for and extraction of petroleum in the area covered by the license. The United Kingdom operates the concessionary system in their oil and gas sector.

The United Kingdom and Norway, have adopted the concessionary regime for the taxation of their petroleum resources.

In Ghana, the 1992 Constitution vests all natural resources in the President on behalf of the citizens. Ghana applies a hybrid of royalty tax and production sharing agreement in its legal and regulatory relationship with oil companies operating in Ghana. The competitive bidding system is used in allocating oil blocks to prospective investors in the oil and gas industry in Ghana. The Petroleum Income Tax Law, 1987 (P.N.D.C.L. 188) governed the fiscal regime in the oil and gas sector until 2015 when the Income Tax Act, 2015 (Act 896) was enacted, with its attendant regulations to govern the oil and gas sector.

5.6.4 Fiscal Instruments

Canada has a three-tier taxation system and these are in line with the three levels of government, namely federal, provincial and territorial, and municipal. The state does not participate in exploration. Nigeria imposes a petroleum profit tax, bonuses and royalties. Norway imposes area fees, environmental tax, state's direct financial interest (SDFI) as its fiscal instruments in the oil and gas sector. There is no tax stabilization in Norway. The United Kingdom has a ring-fenced corporation tax, supplementary charge and petroleum tax as its fiscal instruments in the oil and gas sector. As is the case in Canada, the state does not participate in exploration.

The income tax rate in the United Kingdom is now below 30 per cent with a supplementary charge of 20 per cent, which was imposed in April 2002 and calculated upon the same base as the income tax, except that no relief for interest expense is permitted (Boadway and Keen, 2010). In the United Kingdom, no project pays any tax until payback is achieved. This is a favourable arrangement for investors, because the effective tax rates in the United Kingdom range from 50 per cent for new fields to 75 per cent for older fields (Boadway and Keen, 2010).

A special resource tax applies in the United Kingdom and Norway, however, in the United Kingdom, only fields that received development consent before 1993 qualify. The rate in each country ranges between 40 per cent and 50 per cent, based upon the deemed profitability after allowance for a threshold rate of return representing normal profits (Hogan and Goldsworthy, 2010). The two countries provide tax incentives and extra expenditure reliefs, which result in

the taxes typically being paid only when net cash flow begins to turn positive (Hogan and Goldsworthy, 2010).

In Norway, the special petroleum tax (SPT) is not deductible from the income tax but rather acts as an income tax with uplift, leaving Norway with a static 78 per cent take across all classes of investment (Hogan and Goldsworthy, 2010).

The fiscal instruments in Ghana are royalty, carried interest, additional oil entitlement, capital gains tax, additional participating interest, surface rentals and bonuses. The fiscal instruments are subject to negotiation; thus, the state gets little. Stabilization clauses in petroleum agreements further stifle the ability of the state to increase rates of tax within the stability period.

It is evident, from the discussions above, that in assessing a fiscal regime, the tax rate should not be the only indicator in determining the effectiveness or otherwise of that fiscal regime. Other factors, such as the nature and extent of incentives provided to investors, have to be taken into consideration. This is why Ghana has to take a cue from the experiences of other countries in determining its own fiscal regime for the oil and gas sector, hence its hybrid model. Ghana thus combines the best amongst the contractual and concessionary systems, to give the country, the best of both systems.

5.6.5 Revenue Management

In the area of revenue management, with the exception of the United Kingdom and Canada, the other countries have sovereign wealth funds in which revenues from oil and gas are placed for investment and further disbursement. Canada's federal government does not have a sovereign wealth fund. This notwithstanding, two subnational funds are in place and these are the Alberta Heritage Savings Trust Fund and the Quebec Generations Fund. Nigeria has a sovereign wealth fund with disbursement into three funds. These are the Future Generations Fund, the Infrastructure Fund and the Stabilization Fund. Norway has a sovereign fund, and the Government Pension Fund Global, whereas the United Kingdom has no sovereign fund. The petroleum revenues in the United Kingdom are remitted to the national budget, with no specific fiscal objectives for utilization of the revenue.

Ghana operates a Petroleum Holding Fund and further disbursement into the Annual Budget Funding Amount, the Heritage Fund, the Stabilization Fund and exceptional transfers in accordance with statutory allocation as provided for in the Petroleum Revenue Management Act, 2011 (Act 815).

5.7 CONCLUSION

The lessons Ghana can learn from the comparative country overviews are: firstly, Ghana levies 35 per cent as corporate tax rate, whereas the United Kingdom levies 50 per cent for new fields and 75 per cent for older fields. Ghana can thus revise the corporate tax rate for oil and gas companies to 50 per cent as used to be the case in its earlier Petroleum Income Tax Law, 1987 (P.N.D.C.L. 188). The challenge I find, however, is that the various petroleum agreements contain the rate of 35 per cent and the companies would surely plead *pacta sunt servanda*, that is, the government should obey faithfully to the terms of the petroleum agreement.

Secondly, Ghana can learn from Norway's position that special petroleum tax is not tax deductible from income tax by also legislating for royalty payments not being deductible from income tax of the petroleum companies. Nigeria has the bad experience of its fiscal regime being driven by its overreliance on oil and gas revenue, a situation which is a caution to Ghana. This is an experience Ghana has to avoid in order not to turn its economy into one driven by oil and gas, otherwise, upon the depletion of these oil and gas reserves, the economy stands to undergo severe macroeconomic shocks, which may lead to the "oil curse" on the economy.

Finally, Canada has a relatively stable fiscal regime and this is a quality that Ghana can learn from, since a stable fiscal regime assures investors of certainty with regard to their investment decisions. Canada, due to its stable fiscal regime, provides certainty in its tax instruments in the oil and gas sector. This is another positive trend which Ghana can adopt by ensuring certainty in the tax instruments in its oil and gas sector.

The analysis of the petroleum fiscal regimes as illustrated in the comparative study in this chapter demonstrates clearly that Ghana can review and revise its fiscal regime to enable the country earn more revenue for its growth and development. Ghana can improve on the stability of its fiscal regime with the lessons from Canada and Norway, as well as enhance its revenue inflows through the revision of its corporate income tax rate from lessons from the United Kingdom, and finally avoid the resource curse by learning from the lessons from Nigeria by relying less on the oil and gas revenue for its development.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

In this chapter, I first present the conclusions drawn from the thesis. Recommendations are then provided to highlight some areas identified that require review and possible revision in Ghana's oil and gas taxation and revenue management. The recommendations implemented may help Ghana to manage the revenues accruing in the oil and gas sector in an efficient and transparent manner, to avoid the resource curse imminent in Africa. In presenting the recommendations, I first restate the problems identified.

6.2 CONCLUSIONS

Ghana's discovery of oil and gas in commercial quantities, in 2007, triggered a sense of optimism about the prospects of accelerated development in the country. However, pessimism about oil and gas revenues set in when the country ran into a liquidity crisis and, in 2014, it had to implore the International Monetary Fund (IMF) for a bail out. This development has spurred research interest into the taxation and management of revenue accruing from the oil and gas sector. To date most research in oil and gas taxation and revenue has been on economic development, with a dearth of focused studies in oil and gas taxation and revenue management from a legal perspective. This study fills this knowledge gap through an examination of oil and gas taxation and revenue management in Ghana.

This thesis is qualitative by design, although quantitative data was used to highlight the revenue performance indicators from the oil and gas sector. The tax and revenue management policies and regulations of a number of oil-rich countries were briefly reviewed and compared to Ghana's oil and gas taxation and revenue management legislation. For comparative purposes, relevant literature, fiscal legislation and data from four oil and gas producing countries - Nigeria, Norway, Canada and the United Kingdom – were also examined in some detail.

The findings are that the tax legislation on oil and gas in Ghana, as well as the petroleum agreements, require amendment to address some fiscal gaps that cause revenue loss in the country. Firstly, Section 66(1)(g) of the Income Tax Act, 2015 (Act 896) requires an amendment to clarify what is "incidental to the operation" in ascertaining the income of a person from oil and gas operations. Secondly, Section 68 of the Income Tax Act, 2015 (Act 896) requires a safeguard to ensure that oil and gas companies comply with the ring-fencing of their unrelieved loss. Thirdly, the Transfer Pricing Regulations, 2012 (L.I. 2188) must be amended as the passage of the Income Tax Act, 2015 (Act 896) renders it inadequate to meet the challenges of dealing with intangibles, low value items and financing costs. In addition, Section 71(3) of the Income Tax Act, 2015 (Act 896) is at variance with the provisions under Article 12 of the petroleum agreements with regard to the taxation of the earnings of expatriate employees, hence Section 71(3) requires an amendment to ensure that expatriate employees comply with the provisions in Article 12 of the petroleum agreements that exempt expatriate employees from tax when they are in the country for a period of less than 30 days.

I also find that the fiscal regimes of oil and gas taxation in Ghana are different from the countries studied, namely the United Kingdom, Norway, Canada and Nigeria. Ghana's hybrid model, in its fiscal legislation, is a combination of the features of the contractual and concessionary fiscal regimes found in the countries studied. This secures Ghana the good benefits of both the contractual and concessionary fiscal regimes, such as participating in sharing of the oil and gas produced even after the state has received revenues from the oil and gas by way of corporate taxes, employee taxes and royalties. Similarly, the provisions that allow the PIAC to provide oversight responsibility over the disbursement of the revenue from the oil and gas sector, and the Minister responsible for Finance to review and revise the priority areas for spending, are such notable differences.

Moreover, I find that the policy on exemption of the oil and gas sector from the application of VAT needs to be reviewed, as its application exerts pressure on the Refund Account of the GRA. As a result, the companies in the sector are constantly in a refund position, affecting government's net returns from the sector. The findings also show that there is a need for capacity building for staff of the GRA and the MoF, to enable them to monitor the oil and gas production more effectively and to ensure that the revenue inflows and management of these revenues occur in strict compliance with the PRMA.

6.3 PROBLEMS IDENTIFIED

The research questions stated in the thesis, at Section 1.3 under Chapter 1, that have to be addressed to ensure that Ghana receives its "fair share" from its oil and gas sector, as well as to avert the "resource curse" are discussed below. The questions are:

1) Does the current tax regime in the oil and gas sector yield adequate revenue for the government?

2) Could the Government of Ghana rationalize the tax system to secure a stable and internally coherent law in the oil and gas sector?

3) Could Ghana's tax regime for the oil and gas sector be guided by lessons from comparative fiscal regimes in the United Kingdom, Canada, Norway and Nigeria?

4) Does the existence of the Petroleum Revenue Management Act, 2011 (Act 815) lead to effective revenue management in Ghana to avert the "resource curse"?

These research questions are in respect of the challenges in tax policy and administration, capacity constraints in the governance structure for the petroleum revenue management, and prudent disbursement of the petroleum revenues. Other challenges include safeguarding provisions in the Petroleum Revenue Management Act, 2011 (Act 815) and the Income Tax Act, 2015 (Act 896) against the provisions in the Transfer Pricing Regulations for the tax treatment of "package deals", as well as cost contribution agreements (see Section 3.6.5. in Chapter 3). "Package deals" often involve charging a single price for the transfer of intangibles, the provision of technical and management services, as well as the leasing of production facilities in a single transaction (OECD, 2010).

6.3.1 The Tax Legislation on Oil and Gas in Ghana

In Chapter 3, I established that the existing tax policy and administration challenges in Ghana's oil and gas sector impede the country's ability to secure the needed tax revenues from the oil and gas sector. The study finds that efforts have been made by the Government of Ghana to rectify some of the gaps in its fiscal legislation by enacting the Income Tax Act, 2015 (Act 896). Some issues, however, still remain outstanding, which have to be addressed such as the taxation of an assignment of interest as found in Chapter 3, Section 3.5.1.1.

The governance structure in the oil and gas value chain discussed in Chapter 3, Sections 3.8.1 to 3.8.4 shows that there are capacity constraints in the various units and divisions of the

petroleum units of the GRA and the MoF which require attention. The study finds that the tax laws governing the oil and gas sector are not consolidated in a single legislation, which could have provided certainty in policy direction to which the government could be committed. This challenge with the consolidation of legislation for the sector cannot be overemphasized, as its rectification provides assurance to investors in the petroleum sector. The consolidation of tax provisions in a single law helps in reducing, if not eliminating, the challenges of interpretation of tax statutes.

Both the Value Added Tax Act, 1998 (Act 546) and its successor, the Value Added Tax Act, 2013 (Act 870), exempt the petroleum sector from VAT, as discussed under Chapter 2, Section 2.6.10.1. This exemption helps to curb the high refund position of companies in petroleum operations, putting less pressure on the Refund Account of the GRA.

6.3.2 The Difference in Oil and Gas Taxation Practices between Ghana and Selected Countries

From the review of selected oil and gas producing countries in Chapter 5, the study observes that different types of production agreements defining the representatives of governments of the United Kingdom, Canada, Norway and Nigeria and petroleum operators are in place. The petroleum agreements contain both the tax and administrative regime for Norway and Canada. However, for the United Kingdom and Nigeria, it is only the administrative regime that is evident in the petroleum agreement. Again, all four countries have specific tax legislation for petroleum operations, distinct from the tax legislation for non-petroleum activities, which is not what pertains in Ghana. Until 2015, Ghana had a separate law, the Petroleum Income Tax Act, 1987 (P.N.D.C.L. 188). However, this law was repealed in 2015, when the relevant provisions dealing with petroleum operations were embedded in the Income Tax Act, 2015 (Act 896) under Division I of Part IV of Act 896.

The duty-free incentive for imported plant and machinery of petroleum operators is the same for all of the countries examined. Until 2016, Ghana did not have a production and signature bonus, unlike the United Kingdom, Canada, Norway and Nigeria. It was in 2016 that the Petroleum (Exploration and Production) Act, 2016 (Act 919) began to provide for bonus payments. All countries have provisions in their fiscal regime to support training of staff. The thin capitalization rule is a problem that needs to be properly managed, or there will be loss of revenue through interest payments.

Surface rentals were found to be payable in the United Kingdom, Canada, Norway and Nigeria as pertains in Ghana. Loss carried forward was found to be permissible in all the tax jurisdictions reviewed. Ghana does not impose VAT on plant and machinery imported for petroleum operations. Nigeria provides generous cost recovery in terms of its capital allowance regime and again has no time barred period after which a provisional assessment cannot be raised. Ghana has since 2016 adopted the self-assessment mechanism and thus, no provisional assessments are issued.

All of the countries reviewed have double taxation agreements in place, which impacts upon their tax regime for the petroleum sector. Ghana has a special tax provision for expatriates working for a very short time in Ghana in the petroleum sector, stating that expatriates in Ghana for 30 days or less are exempt from taxes on their earnings, as discussed in Chapter 4 under Section 4.3.4. This exemption is a source of revenue loss, because for non-oil sectors, the minimum number of days is 183 days. In the oil and gas sector, however, an expatriate has 30 days or less to be exempted from the payment of tax. The tax rate was 20 per cent up until 2017 and 25 per cent from 2018 on non-residents, that is, those in the country for less than 183 days. Thus, but for the exemption for expatriate workers in the oil and gas sector in Ghana, the country could have earned some revenue.

6.3.3 The Adequacy or Otherwise of Provisions in the Petroleum Revenue Management Act for Ghana's Oil Revenue Management

The purpose of efficient oil revenue management is to avert spending the revenue on current government consumption expenditure. Revenue from oil and gas in Ghana has its allocation and disbursement specifically set out in Sections 9 to 24 of the Petroleum Revenue Management Act, 2011 (Act 815). Under Section 21(3), specific disbursement is spelt out in what is termed "priority sectors". These priority sectors include road infrastructure, water and sanitation, human capital development through enhanced education, improved health delivery systems, and sustainable and reliable energy supply. The provision of these by government will assist the private sector to also provide the required transportation and housing, as well as the development of petrochemicals, agriculture and agri-business.

In general, evidence suggests that rather than the mere euphoria that often characterizes oil and gas discoveries in many African countries, Ghana has signaled through the Petroleum Revenue Management Act, 2011 (Act 815) that it has moved beyond that euphoria to include the

additional blessing of good revenue governance. The Petroleum Revenue Management Act, 2011 (Act 815), and importantly all petroleum legislation enacted since 2007, have elements of accountability and transparency initiatives (ATI) inherent in them. This is probably because both the Executive and Parliament have conducted country-wide consultations and held public hearings as a way of incorporating the concerns of different stakeholders, including the concerns of traditional leaders and inhabitants of front-line communities around the west coast of Ghana, where oil activities are ongoing. In all these consultations, civil society organizations and the media have played critical roles. The very presence of accountability and transparency initiatives in Ghana is helping to reduce corruption and can curb other forms of mismanagement in the sector, for fear of being exposed. What is important now is placing the emphasis firmly on strict implementation of these initiatives, to realize the intended benefits.

The Government of Ghana has not been prudent in the use of the oil and gas revenues accrued so far. This conclusion is drawn from the PIAC (2017) report that was tabled concerning misallocation, misapplication and misdirection of petroleum revenues, other than for their intended purposes, as reported in Chapter 4, Section 4.7. Fosu (2017) observes that Ghana needs to avoid the resource curse by being prudent in the use of its petroleum revenues, especially so because of the country's past performance with non-oil mineral resources.

Host governments also benefit from the resolution of the resource curse dilemma, because their citizens may get jobs and earn incomes from the growth-promoting areas where the government will invest the oil revenues. This will stem any oil and gas-related citizen agitation and unrest, and will also lead to stability in the economies of host governments. The exchange rate deterioration occasioned by misuse of oil revenues will also be averted if the revenues are applied to sectors such as agriculture and manufacturing to create the necessary stable and consistent growth in the economy of resource-rich countries (OECD, 2009).

The contention of some observers such as Gyimah-Boadi and Prempeh (2012) and Kopinski, Polus and Tycholiz (2013) is that in Africa, Ghana has unparalleled democratic credentials compared to Angola, Nigeria and Equatorial Guinea that have natural resource endowments. Kumah-Abiwu (2017) observes that Ghana is seen as one African country capable of escaping the malign effects that oil has had upon some countries, for example, Nigeria. This can be achieved as long as institutions such as Parliament, the PIAC, the Ghana Extractive Industries

Transparency Initiative, the GRA, the MoF and the Bank of Ghana play the critical roles discussed in Chapter 3, Section 3.8 and Chapter 4, Section 4.7.

In Chapter 2, I identify that the "resource curse" afflicts not just host country governments and their populations, but it also affects the operations of major international corporations, their home governments and those in consuming nations (Humphreys, Sachs and Stiglitz, 2007). The resolution of the resource curse dilemma is beneficial to IOCs, because with judicious use of oil revenues in host countries, citizens will be well taken care of by their governments and there will be no cause for agitations against the IOCs by these citizens.

6.3.4 The Difference in Ghana's Fiscal Regime on Oil and Gas Compared to that of Selected Oil and Gas Producing Countries

In Chapters 2, 4 and 5, it is clear that there is no "stand-out" model from different regimes in operation around the world. This is why Ghana's adoption of a hybrid fiscal regime is highly commendable (Amoako-Tuffour and Owusu-Ayim, 2010). Thus, Ghana has developed its own fiscal regime called the Royalty/Tax System with state participation. Ghana, after it had examined the regimes in other countries, has built its own robust framework. Ghana's choice of a hybrid fiscal regime has minimum front-loading charges, guarantees minimum state take, rates favourably on flexibility and neutrality, and is progressive in its basic structure (Amoako-Tuffour and Owusu-Ayim, 2010). Furthermore, the design of the hybrid fiscal regime has a self-adjusting provision that allows the state's share of revenue to rise in the event of high level of profits without modifying the fiscal regime.

The royalty tax system, as part of the fiscal regime that Ghana adopted, allows Ghana to benefit from the petroleum exploration and production activity, without making any financial commitment to the IOCs who hold the license. The fiscal regime for petroleum in Ghana is made up of the following streams of revenue to the government - royalty, carried interest, additional carried interest, additional oil entitlement, petroleum income tax, annual surface rental and dividend. This system mixes some elements of concession, production sharing agreement (PSA) and state participation, thus providing the Government of Ghana with varying sources of revenue for national development.

One key factor that attracts foreign investment is investors' confidence in the protective character of their legal rights by the laws of the host country. Do Ghanaian international

petroleum agreements guarantee IOCs the protection of their investments from unilateral state intervention? Tordzo (2007) observes that a 'stable' fiscal regime is one that does not change over a certain period of time, or whose changes are predictable. Thus, perceptions of fiscal stability can influence the decisions of investors about whether or not to undertake oil and gas exploration and production in a country (Amoako-Tuffour and Owusu-Ayim, 2010). Amoako-Tuffuor and Owusu-Ayim (2010), Ackah-Baidoo (2012) and Hilson (2014) find that Ghana is yet to fall victim to instability in its nascent oil and gas industry. This thesis is in support of this assertion because Ghana maintains an investor-friendly petroleum industry to attract more foreign investors into the country to help boost its economy. The country has also, through IPAs, provided the IOCs with assurances beyond the blessings of mere stabilization clauses.

The internationalisation of the choice-of-law provision, the inclusion of an international arbitration clause for settlement of disputes and the additional provision on force majeure discussed in Paragraph 3.10 of Chapter 3, make Ghana an ideal host country for investment in the petroleum industry. Amoako-Tuffour and Owusu-Ayim (2010) argue that three successful free and fair elections qualify a country into the fold of established democracies. Ghana has successfully held five free and fair general elections since 1992. It is evident from the above that Ghana is a fairly attractive host for foreign investments in the petroleum industry.

6.4 RECOMMENDATIONS

Based on the findings of the study there is an urgent requirement to reform and revise the tax regime of the oil and gas sector in Ghana, to mobilize adequate domestic revenue to help develop and grow the country. The following recommendations are made to assist Ghana in its quest to increase domestic revenue mobilization to support its growth agenda.

6.4.1 Oil Revenue Management

The Government of Ghana should put in place adequate measures for the retention and investment of its share of oil revenues, to deal with oil revenue volatility. Oil and gas are non-renewable natural resources, and thus earnings from the exports of oil and gas are bound to decrease with the passage of time as these resources get exhausted. Hence the retention and investment of earnings from oil and gas can generate returns to shore up the possible dwindling revenues to be experienced with the exhaustion of the oil and gas resources.

There is a need for the Government of Ghana to design a long-term fiscal strategy dependent on high quality long-term economic and revenue projections, which includes a sensitivity analysis.

This will assist the Government of Ghana in the spending of the receipts from the investment of the wealth funds.

Medium-term frameworks that promote transparency and accountability and eliminate fiscal challenges should be pursued. Such measures would provide certainty for the composition of expenditure, by segregating the proportion of oil and gas revenue that would be used to support consumption expenditure and the proportion to be applied towards capital expenditure projects. This would enhance monitoring of the use of the revenue from oil and gas as anticipated by the Petroleum Revenue Management Act, 2011 (Act 815), and as being reported by the PIAC.

The recommendation above is supported by the conclusion of Fosu (2017) that Ghana's management of petroleum revenues has been characterized by greater transparency, but accountability remains very low.

6.4.2 Protection of Investments in the Oil and Gas Sector

Following the discussions and findings in Chapter 4 on oil revenue management, I recommend that:

a. The findings and recommendations of the PIAC should be adhered to. The PIAC is the mandated body established under Section 51 of the Petroleum Revenue Management Act, 2011 (Act 815), with the obligation to publish semi-annual and annual reports, to amongst other things, give an independent assessment of the management and use of petroleum revenues in accordance with Section 56(a) of the Petroleum Revenue Management Act, 2011 (Act 815). In particular, there must be strict adherence to the dictates of the Petroleum Revenue Management Act, 2011 (Act 815), if Ghana is to benefit from the accountability and transparency provisions inherent to it.
b. Accountability and transparency initiatives should guide the drafting of petroleum contracts. Penalties should be designed in the form of regulations to be applied against defaulting stakeholders in the implementation of accountability and transparency requirements under petroleum contracts.

c. The recommendations of stakeholders such as the PIAC and the ACEP should be taken into account in the deliberations of Parliament, to enable the necessary amendments to the Petroleum Revenue Management Act, 2011 (Act 815) to be effected.

6.4.3 Reforming and Revising the Tax Legislation in the Oil and Gas Sector

In Chapter 3 (from Sections 3.9.2 to 3.9.5), I concluded that although the Transfer Pricing Regulations, 2012 (L.I. 2188) provide comprehensive guidelines on documentation, it is necessary to reduce the burden on both the taxpayer and the tax administrators, as far as transfer pricing audits are concerned in the oil and gas sector. Advanced pricing agreements (APAs) should be introduced for taxpayers in the oil and gas sector, to deal with transactions that recur every year. Since these transactions recur every year, there is no need for the taxpayer in the oil and gas sector to file detailed documentation to enable the tax administrators to determine the appropriate price for a service. The amount determined to be the appropriate price for the previous year can be adjusted for inflation and currency exchange changes, to determine the appropriate price for the current year.

The penalty provisions for failure to file transfer pricing returns, which currently are GHS500.00 and a further GHS10.00 for each day that the failure continues (Section 73(1) of the Revenue Administration Act, 2016 (Act 915)), require enhancement, so they can serve their true purpose. To be effective, Section 73(1) of the Revenue Administration Act, 2016 (Act 915) should be amended to increase the penalty amount from GHS500.00 to GHS500,000.00 and the further charge increased from GHS10.00 to GHS1,000.00 for each day that the failure continues. As recommended by the Committee on Fiscal Affairs, the objective of civil penalties is to promote compliance (OECD, 1990). Penalty provisions are therefore designed to make non-compliance costlier than compliance. To this end, if the cost of non-compliance is negligible or insignificant to the taxpayer, the penalty provisions lose their relevance and impact. The current penalty provisions, which are borrowed from the main Internal Revenue Act, 2000 (Act 592), are not attuned to address cross border transactions in the oil and gas sector, owing to the large numbers of foreign investors. These transactions involve huge sums of money.

Since these are major omissions with respect to how to deal with intangibles in the transfer pricing regulations, a practice note issued pursuant to the provisions in the Income Tax Act,

2015 (Act 896) cannot be used to address these issues. This is because practice notes, by their definition, are meant to be the Commissioner-General's interpretation of provisions contained in a particular enactment. These recommendations are substantive in nature and go beyond the bounds of interpretation, and therefore cannot be left in the remit of the Commissioner-General. It is therefore recommended that an amendment is made to the Act to address the major omissions.

I also recommend an amendment of Division I of Part IV of the Income Tax Act, 2015 (Act 896), which provides in Section 71(3) that an expatriate employee employed in petroleum operations exclusively is liable to pay tax, without prejudice to the provisions of a petroleum agreement. The amendment is to ensure that the same period of 183 days or less is applied in determining a non-resident person for the taxation of expatriate employees in the petroleum sector, as against the current 30 days being applied.

To provide certainty to investors in the petroleum sector, I further recommend that the provision in Article 12.1 of the petroleum agreements, which is to the effect that no tax, duty or other impost shall be imposed by the state or a political subdivision of the state on a contractor, a sub-contractor or an affiliate of a contractor other than as provided in Article 12.1, be considered to be embedded in the Petroleum (Exploration and Production) Act, 2016 (Act 919), as they are akin to stability clauses. It is important to align the provisions in the legislation to what pertains in the petroleum agreements, thus once a provision exists in the legislation, I am of the position that such a provision need not be inserted, with modifications, in the agreement.

Section 66(1)(g) of the Income Tax Act, 2015 (Act 896), discussed in Chapter 3, provides that "Subject to Section 65, the income of a person from petroleum operations for a year of assessment includes any other amount derived by the person during the year from or incidental to the operation that are included in calculating income under other provisions of this act." I recommend that this provision should be amended to clarify what amounts to "amount derived by a person incidental to the operations to be included for tax purposes". Such incomes have to be listed to provide for certainty in the tax laws. I propose that the amendment reads "Subject to Section 65, the income of a person from petroleum operations for a year of assessment includes any amount derived by the person during the year from the operation, including

interests on bank accounts and fixed deposits." The use of "including" gives the opportunity to tax such related incomes not listed, as the list of incomes is not exhaustive.

6.4.4 Adhering to the Provisions of the Petroleum Revenue Management Act

With the failure of both Parliament and the Executive to adhere strictly to the provisions of the Petroleum Revenue Management Act, 2011 (Act 815) as observed in Chapter 4 (see Section 4.7), it is recommended that the civil society, such as the Africa Centre for Energy Policy and the Civil Society Platform for Oil and Gas, follow up on the reports that they have generated from their review of the use of the oil and gas revenues with government, and sometimes proceed to the courts to obtain legal backing to compel the government to act in accordance with the provisions of the Petroleum Revenue Management Act, 2011 (Act 815). The action recommended is one of a mandamus to compel government officials in charge of the management of the oil and gas revenues to carry out the duty imposed on them by the Petroleum Revenue Management Act, 2011 (Act 815). The need for this recommendation is key, considering the finding that the "very low accountability" in the management of Ghana's petroleum revenues is troubling (Fosu, 2017). The recommendation of a recourse to the superior courts, that is the high court, is to enforce the accountability required of the government to manage the oil and gas revenues judiciously. The high court is the court with the power of issuing the prerogative writ of mandamus, and if the government, acting by its institutions fails to comply, then an issue of contempt of court arises. This comes with its consequences of a subpoena, being issued for the person in charge of an institution, for example the Minister of Finance, the Governor of the Bank of Ghana, or the Commissioner-General of the Ghana Revenue Authority, to appear in court to purge himself or herself of the contempt by executing the orders of the high court.

6.4.5 Securing Expeditious Reconciliation of Records

Chapter 3 of this research finds that the GRA faces challenges in the control and management of tax assessments and payments owing to the varied resource taxes from the oil and gas sector, which again have different filing and payment timelines. I recommend that the banks be required to notify the Petroleum Unit of the LTO of the GRA on a monthly basis by submitting reports to the GRA, which can be required under Section 137 of the Income Tax Act, 2015 (Act 896), to enable them to reconcile and update these taxpayers' records. This can be undertaken by assigning officers to specifically monitor the reconciliation between the GRA

and the banks. A regulation on Act 896 should be drafted and passed, to give further effect to the provisions under Section 137 of Act 896 to actualize this recommendation. I recommend this since this regulation will spell out the detailed procedures and processes to be followed to give effect to the provisions in Section 137. These officers would be from the GRA as well as the banks, but with the sole aim to ensure that a clearing house system, as discussed in Chapter 3, Section 3.7.3, where officers of the two institutions meet to share information and reconcile payments of taxes from the revenue of the IOCs, exists. This will enable the GRA to get real time information on outstanding payments from the oil and gas sector, to enable the GRA to follow up swiftly and decisively.

6.4.6 Improving Information and Communication Technology to Monitor Oil and Gas Revenues

The database of taxpayers in the oil and gas sector should be automated, to enable the system to impose penalties and interest automatically in cases where a taxpayer is late in filing returns or late in paying outstanding taxes, as discussed in Chapter 3, Section 3.7.8.

As found in Section 3.6.2 in Chapter 3, the challenge of a lack of full integration of the management information systems of the LTO of the GRA with other agencies involved in the oil and gas sector can be addressed. The Revenue Policy Division and the Real Sector Division (both of the MoF), the Ministry of Energy, the Petroleum Commission, the Bank of Ghana and the Ghana National Petroleum Corporation can be networked. There is a need for further improvement in the information technology systems of the GRA to get them integrated with those of the MoF, the Ministry of Energy, the Petroleum Commission, the GNPC, as well as with the Bank of Ghana, to ensure real time data management on oil and gas revenues.

The major challenge I foresee in such coordination efforts is the software integration, since these institutions may all have their separate and different service providers. The other challenge is secrecy and confidentiality requirements of an institution like the Bank of Ghana and the fear of any possible hacking into the systems. I recommend that a centralized and standardized system purposely designed for the protection and monitoring of oil and gas revenue be established for these institutions. This system, I propose, must be hosted and managed by the National Communications Authority for protection and monitoring.

The improvement and integration of the information and communication technology would enable the GRA to track petroleum companies for purposes of knowing how much they have earned, so that the appropriate taxes that attach to their incomes can be exacted. This integration of management information systems is necessary because then the GRA will receive up-to-date information on businesses that have obtained licenses in the oil and gas sector and capture them in the taxpayer database.

6.4.7 Recommendations for Future Research

This thesis could be viewed as a base for further research in the taxation of the oil and gas sector and revenue management in Ghana, and possibly also in other African countries. This study dwelt primarily on the oil sector rather than the gas sector, as Ghana's gas sector is yet to be fully harnessed. I envisage future research being conducted into the taxation of gas and the legal framework for the gas sector in Ghana.

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