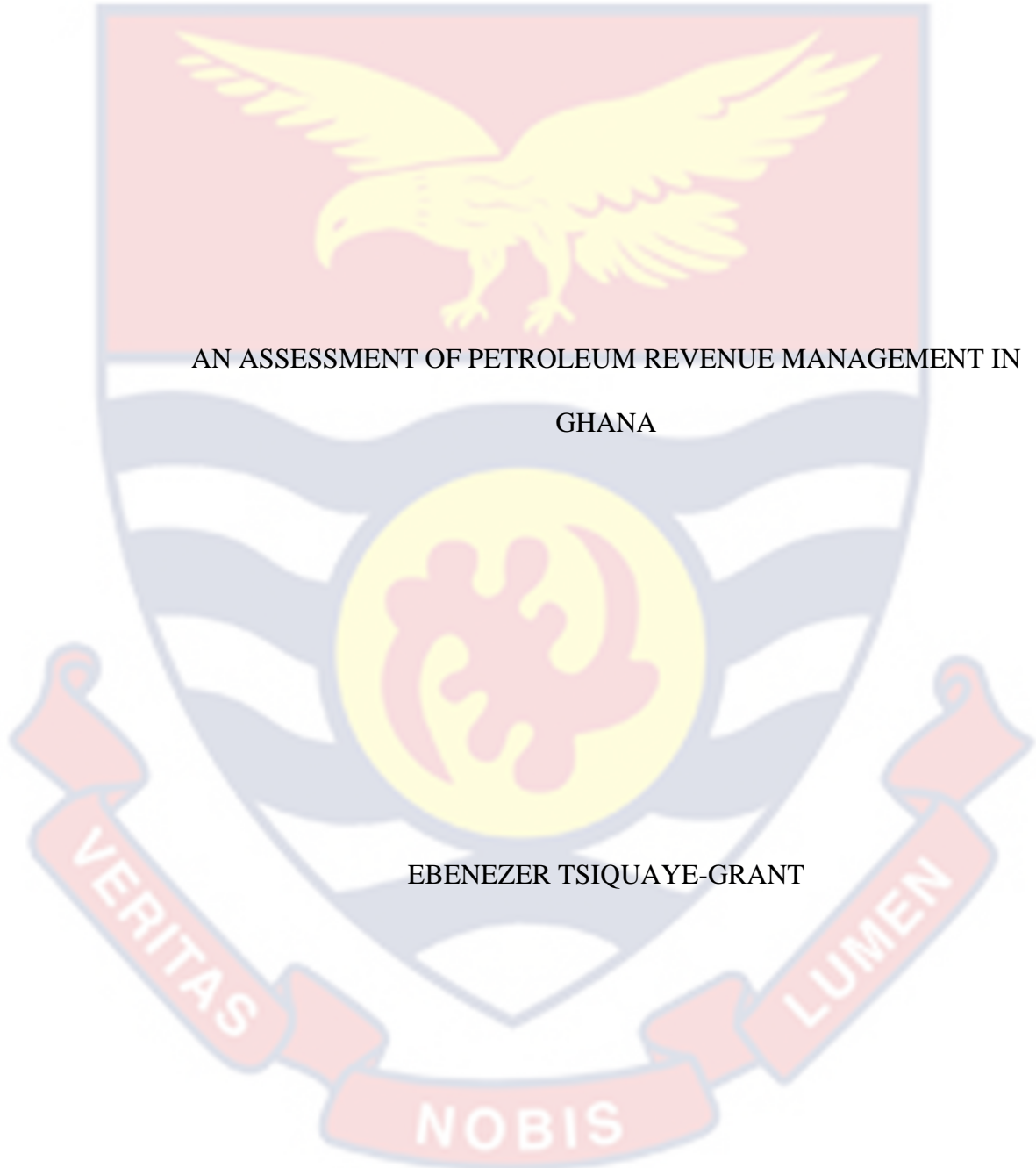UNIVERSITY OF CAPE COAST

AN ASSESSMENT OF PETROLEUM REVENUE MANAGEMENT IN

GHANA

EBENEZER TSIQUAYE-GRANT

2014

UNIVERSITY OF CAPE COAST

AN ASSESSMENTOF PETROLEUM REVENUE MANAGEMENT IN

GHANA

BY

EBENEZER TSIQUAYE-GRANT

THESIS SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND

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COAST, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR

AWARD OF MASTER OF BUSINESS ADMINISTRATION DEGREE IN

FINANCE

SEPTEMBER, 2014.

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Name: Ebenezer Tsiquaye-Grant

Signature:…………………………………..   Date:……………………..

Supervisors' Declaration

We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Name: Prof. Philip Ebo Bondzi-Simpson

Signature:………………….......................   Date:……..……………..

Co-Supervisor's Name: Dr. John Gartchie Gatsi

Signature:……………….........................   Date:…………………….

ii

ABSTRACT

The purpose of the study was to examine the management of oil revenue in Ghana. Specifically, the study ascertains whether Ghana's petroleum revenue management model conforms to the internationally recognised standard, and also whether it depicts transparency. The reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue and the benefits of segregation of the petroleum revenue and limits for the mandatory savings plan and the annual budget funding of the petroleum revenue were also examined.
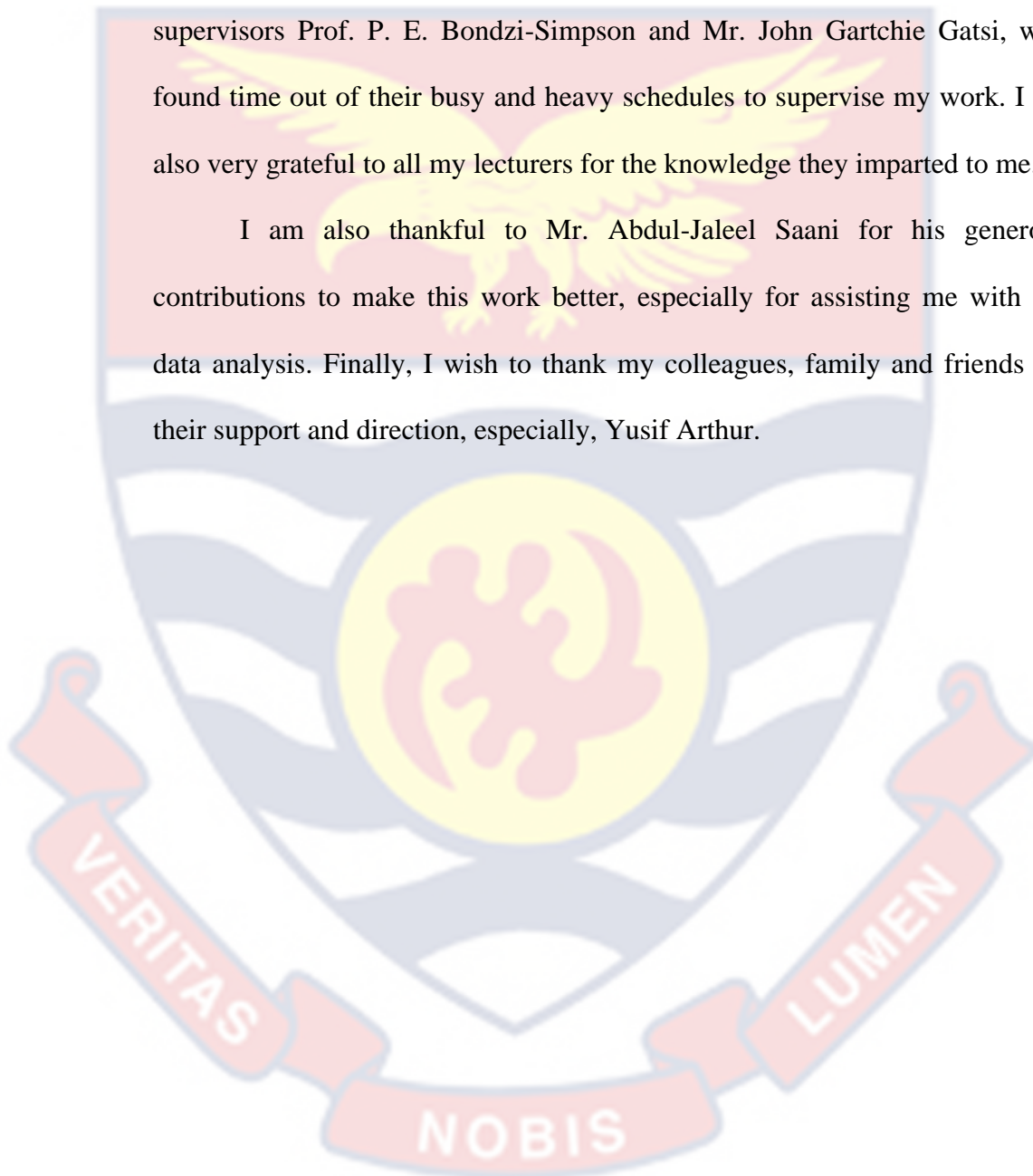
Descriptive research design was used. Purposive sampling procedure was used to sample 93 employees comprising 37 from private institutions and 56 from government institutions. Data were collected using questionnaire. The analysis of collected data was done by the help of the Predictive Analytic Software and presented using cross tabulation, frequency tables and percentages.

Ghana's petroleum revenue management model exhibits international features best practices even though it still needs some modifications for its effective management in relation to transparency and good governance. The law ensures that revenue from the oil and gas are used for development and improve standard of living of the citizenry and also provisions are made for future generation. Based on the key findings and conclusions of this study, it is recommended to stakeholders to constantly ensure that the objectives of petroleum revenue management in Ghana are adhered to for it to continue to match international best practices.

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DEDICATION

To my family

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

CHAPTER ONE

INTRODUCTION

Background to the study

Exploration and exploitation of oil and gas resources require huge capital outlay. However, if oil with associated gas is found in commercial quantities, it becomes a major revenue earner and a significant source of foreign exchange for a country. A good bargain in an international oil and gas contract also provides the basis for an enhanced revenue generation for a country. This is coupled with fiscal instruments used by host government to generate economic benefits for a country (Tsalik, 2006).

Ghana's oil and gas industry has undergone a number of transformations. Kosmos Energy and Tullow oil discovered high quality light sweet crude oil in commercial quantities. The discovering was made in June 2007. The estimated daily production was 120,000 barrel of oil (Institute of Economic Affairs [IEA], 2010. However the projected level of production was not met due to technical challenges. The recent history of oil exploration indicates that, Ghana discovered its first hydrocarbons at Saltpond basin in 1970 by Signal Amoco and started hydrocarbon production in 1975 under the regime of General Kutu Acheampong.

In order to make the oil industry more attractive and secured, there was the need for the government to assign an agent to have oversight responsibilities in the industry. Hence, Ghana National Petroleum Corporation [GNPC (Act 1983)] mandated it as the regulator. This was because in the oil

industry, companies invest a lot in exploration and development. These companies are interested in recouping the money invested in a reasonable period and in a more regulated environment. Oil and gas are valuable non-renewable sources of energy and require intensive capital in its exploration and development. Therefore, it is important for oil producing countries to ensure that there is appropriate fiscal regime and instruments that will ensure effective and efficient oil revenue generation and management (Gelb, 1988).

According to Hanson (1980), there are contractual arrangements such as production sharing agreement and risk service contract. There are also licenses that may be used in addition to other contractual arrangements. It portrays the attractiveness of opportunities and options existing in a home country by the international oil companies (Kraal, 1997). A concessionary regime is a fiscal system that gives an international oil company the ownership and control over oil and gas operations. The concessionary regime was a dominant module in most developing countries during the late 1940s and early 1950s (Michael, 1999). Furthermore, production sharing agreement as fiscal system was also introduced and practiced in Indonesia in the 1960s, and for many years has become the fiscal system of many countries. More than a half of the oil rich nations in the world use production sharing agreement (Johnston, Johnston & Rogers, 2008).

In production sharing arrangement, the title of the oil always remains with the state even when the state enters into an agreement with an International Oil Companies (IOC) for exploration and development. In such situations, the total oil produced is shared in percentages between the state and the IOC. The portion of oil which is allocated to the IOC serves as a reward

2

for risk and service rendered in producing the oil. This normally becomes imperative because of lack of capital to develop the petroleum industry by the host government.

The sovereign ownership of natural resources was given prominence to in 1952 when the United Nation General Assembly adopted resolution 626 (VII) indicating the will of peoples to freely use and exploit their natural wealth and resources which is in consonance with ownership of petroleum resources by a state in the production sharing agreement.

This was further consolidated in permanent sovereignty over natural resources in December 14, 1962 United Nation General Assembly Resolution 1803 (XVII) (Smith, 2004). That resolution more importantly espouses, amongst other things, the right of people and nations over their natural wealth and resources which must be exercised in the interest of their national development and of the well-being of the people of the State concerned. Moreover, the exploration, development and disposition of such resources, as well as the importation of the foreign capital required for these purposes, should be in conformity with the rules and conditions which the peoples and nations freely consider them to be necessary or desirable. Thus, permanent sovereignty reflects the inherent and overriding right of a state to control the exploitation and the use of its natural resources. However, a state has to exercise this right for and on behalf of its citizens.

According to Sunley, Baunsgaard and Simard (2008), there has been a great deal of contractual conflict amongst international oil and gas companies and government on reward criteria, in spite of the contractual relationship. Parties sought to maximize reward and reduce risk as possible. In the overall

3

macro economic framework, governments aim to maximize national incomes to achieve various development and growth objectives in their economies. On the other hand, private investors always look for opportunities that provide suitable profits and rewards for the risk they undertake. Both government and international oil companies who are at the competing ends share one common objective of maximizing returns from exploiting the petroleum resource (Zahidi, 2010).

Oil and gas agreement comes with its own formulation of fiscal instruments which are in the form of royalties, bonuses, taxes and other instruments that a government uses to generate economic benefits over the life span of the project. Petroleum revenue is therefore generated through production and profit-based instrument (Wilson & Bentum, 2009). Ghana being arguably an emerging oil producing country had to be tactful in choosing suitable fiscal regimes which will ensure maximum returns to government and the people of Ghana. This was informed by legal, economic and social environments. The aim of ensuring that these environments were instrumental in choosing the fiscal regimes and adequate Laws to regulate the petroleum sector cannot be overemphasized (Wax, 2004).

Currently, the upstream sector of the oil and gas industry in the country, which used to be regulated by Ghana National Petroleum Corporation, is under the jurisdiction of Petroleum Commission stipulated in Petroleum Commission Act, 2011 (Act 821). The relieving of the responsibility as a regulator means GNPC is now performing the task of National Oil Company. There is also Petroleum Income Tax Act 1987 (Act 188), the Internal Revenue Act 2000, the Ghana National Petroleum

4

Corporation Act and the maritime security Act 2004 (675) amongst other laws. These laws are aimed at boosting the capacity and effective management of petroleum resources to ensure maximum benefit to the state.

Ghana has chosen to adapt the Royalty/Tax system to govern the fiscal regimes for her petroleum sector (IEA, 2010). This is to avoid high exposure to risk on petroleum exploration and production activity since the system allows the state to benefit from the exploration of its resources without making financial contribution. The former system of concession allowed the international oil companies the exclusive title the oil resources. The state only generates revenue through royalties and income taxes. Under the modern royalty tax system, title to oil only transfers to international oil company in relation to their share based on the sharing agreement (Robinson, Torvik & Verdier, 2006).

Ghana's petroleum agreement affords the state to participate in the petroleum upstream industry. Oil companies are known to offer up to 10 percent shares in any oil discovered particularly in developing countries. This notwithstanding, GNPC had been able to increase Ghana's initial 10 percent participatory interest to 13.7 percent by acquiring 3.7 percent interest in the Jubilee Fields. This is very important because it enable the government to increase its economic rents in the petroleum sector of the economy.

Petroleum agreements are signed between the Ghana government, the GNPC and the relevant petroleum company (Wilson & Bentum, 2009).The existing fiscal instrument between government of Ghana with the GNPC and international oil company may vary overtime. This is because prior to discovery of oil, Ghana sought to encourage oil companies to invest in Ghana

5

because the nation lacked technical expertise and capital to develop the industry. In order to transform oil into financial asset, government ensured that there were affable and enticing fiscal policies that allow the investors to receive return commensurate to their risk exposure and their financial commitment. Furthermore, since oil is an exhaustible natural resource that belongs to all citizens of a country, there is always incessant pressure on a government to secure maximum economic rent for the benefit of a country (Goldsworthy & Zakharova, 2010).

The expectations therefore calls for need to ensure efficient petroleum fiscal regime that maximizes the revenue potential of Ghana's oil and gas sector, while encouraging productive investment and efficient development of petroleum resources and the industry. Oil revenue management is an important catalyst for socioeconomic growth and development of transitional countries (Gylfason, 2001).

Petroleum revenue generated in Ghana is supposed to be lodged into Ghana Petroleum Holding Account which is to monitor the inflows and outflows of the revenue due and collected on behalf of the Government. However, Ghana Petroleum Fund is intended as a savings fund for two purposes to cushion government spending in the short run and in the long run to reserve part of the petroleum wealth capital.

According to the Petroleum Revenue Management Act 2011 (Act 815) Annual Budget Funding Amount in the Ghanaian petroleum revenue model is to support the budget in line with a long-term national development plan, a growth and poverty reduction strategy, and the Government's overall development strategy as approved by Parliament. Like other funds in different

6

jurisdictions, part of the petroleum revenue in Ghana is supposed to be invested in qualifying instruments to be managed by investment manager..

Statement of the problem

The discovery of substantive oil resources in commercial quantities since 2007 has resulted in a lot of policy direction debates to ensure the optimal and efficient use and distribution of oil revenues for socioeconomic improved development. Petroleum revenue has therefore been touted to promote accelerated economic growth and create jobs (IEA, 2010). However the petroleum industry is capital extensive which does not require much labour to ensure massive job creation in the oil and gas industry (Tsalik 2008).

The Petroleum Revenue Management Act 2011 (Act 815) therefore provides a guide on the collection, disbursement and the management of petroleum revenue in a responsible manner to ensure the expectations. Even though Ghana began production of oil in 2010, the law was promulgated in 2011. According to Gatsi (2012), most countries at the time of producing oil did not have structured legal framework to effectively manage the oil revenue in place of which Ghana is of no exception.

Petroleum revenue management therefore has become important to a country's social, political and economic development. This had been manifested in various petroleum producing economies, in the area of political stability, safety capacity, changes in social structure and creation of employment. This is because when oil revenue is invested in an economy its effect is economic growth since there is a significant relationship between oil revenue and economic growth. However an increase in income from petroleum resources does not always increase in economic growth due to lack

7

of proper revenue management. Glyfalson (2001) reported that higher oil and mineral dependent countries exhibit greater corruption and have larger shares of their population in poverty.

Countries like Nigeria, Gabon, Indonesia, Angola and Yemen have been characterised by resource curse, Dutch disease and governance challenges in relation to the management of their petroleum revenue (Karl, 2004). On the other hand, other countries like Norway, United Arab Emirate, Saudi Arabia, Singapore and Brazil have been able to manage their revenue from petroleum resources to their socioeconomic advantage. These countries arguably might have sound institutional mechanism that has full independence to manage the petroleum revenue and operations in an efficient and profitable manner which is critical in the achievement of the overall objectives for setting up petroleum revenue management model (Karl, 2004).

The successes of the petroleum revenue management of these countries can be traced to legislative backing, prudent investment procedure and commitment to avoid economic externalities associated with petroleum revenue management. Ghana started production of oil in the year 2010 after the discovery in commercial quantities in 2007. However, the Ghana's Petroleum Revenue Management Bill was given legal recognition in 2011 by Act, 2011 (Act 815) which indicates that petroleum receipt shall be received into the Petroleum Holding Account.

Oil reserves are estimates based on experience in the industry by experts but the real deposit is known after the exhaustion of the resources. According to Enyinda et al. (2011), frequent fluctuations in revenue through price of oil make budget planning extremely difficult and make it almost

8

impossible for coherent policies to be implemented. However since the oil revenue would be used partly to stabilise through budgetary support, it requires proper management to guarantee it benefit to the economy. Petroleum industry is subject to unique legislation, because it being industry being a primary source of energy, its revenue generation potentials and partly because of the problems of exploration and production, as distinguished from the conduct of similar activities under a general mining law (IEA, 2010).

The reality of Ghana's economic future does not depend on future discoveries to be made but on how the nation manages the revenue generated from the production of the petroleum resources especially during the peak productions periods (Tsalik 2008).

Objectives of the study

The general objective of the study was to assess the petroleum revenue management in Ghana. The study examined the management of oil revenue in Ghana in relation to the treatment of fiscal instrument under the petroleum contract entered into by the state and its partners in the quest for revenue generation and future development of the oil and gas industry in Ghana. The specific objectives were to:

1. Ascertain whether Ghana's petroleum revenue management model conforms to the internationally recognised standard.

2. Find out whether there is transparency in petroleum revenue management in Ghana.

3. Examine the reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue.

9

4. Find out the benefits of segregation of the petroleum revenue and limits for the mandatory savings plan and the annual budget funding of the petroleum revenue.

Research questions

In order to address the objectives, answers were sought for the following research questions:

1. Does Ghana's petroleum revenue management model conform to the internationally recognised standard?

2. Does Ghana's petroleum revenue management depict transparency and good governance?

3. What are the reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue?

4. What are the benefits of segregation of the petroleum revenue and limits for the mandatory savings plan and the annual budget funding of the petroleum revenue?

Delimitation of the study

A single study cannot cover an entire spectrum of a problem, such as petroleum revenue management in Ghana. Hence it is prudent to concentrate on an aspect of the problem. This is why the assessment of petroleum revenue management in Ghana was chosen. The study also focused on the benefit, the segregation of the petroleum revenue and the limit on mandatory savings and budgetary support in the management of petroleum revenue. However, the

10

study was further delimited to some selected stakeholders and experts in the petroleum revenue management in Ghana.

Significance of the study

This work will provide insight into the genesis of oil find in Ghana, fiscal regime of the Ghana's infantile oil industry in the quest for revenue generation to enhance economic development. It will also afford the researchers and other stakeholders to know global oil sharing agreement and the fiscal instrument relevant to the petroleum tax in Ghana and the treatments of other tax instruments as well as the incentive available to the petroleum industry. It will serve as a term of reference for further studies and research in oil and gas revenue management. Ultimately, the study will inform student about the purpose of Ghana's Petroleum Revenue Management Act 2011, (Act 815) and how it has been drafted to be implemented effectively.

Organisation of the study

The research was organised into five chapters. Chapter one introduces the subject matter, statement of the problem, research objective purpose of the study and the research questions. Chapter two reviews and organises the work done by various writers in the same field of study. It presented the development of oil and gas, the introduction of fiscal instrument and legal framework on petroleum in Ghana. The rationale for this review is to highlight the objectives of the study and link this with the expected evidence from the survey.

11

Chapter three describes the research methodology used in the study which includes the research design, population of the study, sample and sample procedure, data collection procedure and data analysis collected for the study. Chapter four focuses on the results and discussions of the data collected from the research survey. Chapter five provides summary, conclusion and recommendations made by the researcher on the study.

12

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter is devoted to a review of the literature that pertains to the research. Its aim is to enable the researcher have a better understanding of the problem, identify where gaps exist in the research literature and most importantly generate relevant methods such as the design of the research and questions to elicit responses from research participants. It is beyond the remit of this study to provide a detailed review of related concepts on petroleum revenue management in Ghana and beyond. Instead, the focus is on the interaction of the concept and themes as they relate to research and theory. That is, it is a review of a few very pertinent and appropriate concepts that serve as the theories of the study. Some related empirical studies were also reviewed in order to understand much better the current concept under study. This helped the researcher gain knowledge by means of direct and indirect observation or experience of previous researchers or studies.

The petroleum industry in Ghana

The exploration for oil and gas in Ghana started in 1886 in Onshore, Tano Basin in the Western Region (IEA, 2010). The first offshore well was drilled in the Saltpond basin between 1966 and 1972 in the quest for Ghana becoming oil producing country (Andrews-Speed, 2000). The upstream petroleum industry in Ghana was boosted in recent years with the commercial discovery of the Jubilee Field in 2007. In June and September 2007 a

13

consortium of companies announced the discovery of significant quantity and quality of oil and gas in offshore deep waters of Tano Cape Three Point basins. Since the announcement of these discoveries, a great deal of work has been conducted on the discovery with the view of producing oil and gas from the field (GNPC, 2008). However, commercial production of oil and gas started in late 2010.

The two discoveries have been designated 'Jubilee Field' in commemoration of the country's jubilee year celebrations. The Field has estimated recoverable resources of up to 1 billion barrels (Institute of Economic Affairs [IEA], 2010). According to National Petroleum Corporation (2009), the Integrated Project Team (IPT) was established in February 2008 to prepare the Jubilee Plan of Development and deliver a fully commissioned field development system.

The subsequent discoveries of oil in commercial quantities were regarded as potential boost for the economic growth in Ghana. The industry, however, is being controlled by various legal frameworks. According to the 1992 constitution of Ghana, ownership and control of mineral resources in their natural state of which petroleum is not of exception   is vested in the president on behalf of and in trust for the people as per Article 257(6) of the 1992 constitution of Ghana.

Segment of the petroleum industry in Ghana

The upstream petroleum industry in Ghana is characterised by exploration, development, drilling, production and transportation of crude oil.

14

The sector was not very active over decades until the industry was boosted with discovery of oil in commercial quantities at the jubilee field in the Western Region in September 2007.

The Petroleum Commission Act, 2011 (Act 821) establishes the Petroleum Commission to be the regulator of the upstream sector which manages as well as monitors the utilization of petroleum resources and to co-ordinate policies in relation to the oil resources. The establishment of the commission was to relieve GNPC from its regulatory function. The advent of the Petroleum Commission therefore allows the Ghana National Petroleum Corporation (GNPC), established by statute in 1983, with functions of Exploration, Production, Development and Disposal of petroleum resources. GNPC is also responsible for lifting and marketing of oil on behalf of the state. In addition to the carried and additional paid interest, GNPC also lifts the royalty oil and markets same on behalf of the state. This is because before the nation can take absolute control of the petroleum resources, capacity in both human and technology need to be developed (IEA, 2010).

The Exploration and Production Act 1984 (PNDCL84) also oversees the upstream petroleum operations in the upstream sector in the area of exploration, development and production of petroleum resources in Ghana can The petroleum law regulates the exploration, development and production of petroleum in Ghana. The law provides authority for the Government of Ghana to be represented by the Ministry of Energy and GNPC to negotiate petroleum contracts. This is because the major challenges to the developing countries in the governance of natural resources sector relates to the control of the

15

operation of the corporate institutions and prospective investors in the various sectors.

The effectiveness in regulating of activities in the upstream petroleum has significant implication on socioeconomic development, the ecological control and sustainability of the general welfare of the citizenry. The establishment of the corporation accentuates a resolute and systematic national outlook in relation to petroleum industry. The downstream sector comprises refining, storage, importation, transportation, distribution and marketing of petroleum products. This has been dominated by the oil marketing companies and the Tema Oil Refinery (TOR). Apart from TOR and Ghana Oil Company which are state owned, majority of the oil marketing companies are privately owned companies in the downstream operation (Daban & Jean-Luc, 2010).

Energy Commission Act 1997 (Act 541) mandates the Commission to grant licenses to companies that undertakes operation in the downstream industry. The commission is the principal operator and overseer of commercial activities in the downstream sector of the oil and gas industry. Another statutory body in the downstream sector of the petroleum industry is the National Petroleum Authority. This authority oversees and monitors the activities in the petroleum downstream industry. Furthermore, the authority provides guidelines for petroleum marketing companies. In a nutshell, corporate bodies that wish to engage in a commercial activity with respect to the downstream industry are required to obtain the required licenses from the Authority.

Some international fiscal regimes in the petroleum industry

16

Petroleum contracts have generally been characterised by a number of contractual arrangements. They are important to a country's future economic and social development options and are major premise of how government revenues are determined even though, it is not in itself a fiscal instrument but a major precursor to the generation of petroleum wealth of a nation (Andrews-Speed, 2000).

Petroleum contracts regulate the relationship between the state and petroleum companies as in any other contracts of economic nature which each party must observe and adhere to terms of the contract (Gylfason, 2001). For many people in oil producing countries, the major question of who should control the resources is a question of great importance. There are essentially three fiscal systems amongst others a country may choose with a number of variations. These are technical service contract, and concession or license systems sometimes known as the Royalty/Tax system and production sharing agreement (Smith, 2004). These are legal agreements or contracts that determine the balance of control and the resultant revenue sharing between the state and foreign companies.

In a related development, Pendleton (2004) noted that, negotiation in the exploration for and exploitation of petroleum resources has typically resulted in four common types of contract: concession agreement, joint venture contracts, service contracts and production sharing agreements. The contracts entered into determine the direction of ownership and control of the petroleum resources. Through the establishment of Organisation of Petroleum Exporting Countries (OPEC) and the United Nations (UN) resolutions on permanent sovereignty over natural resources and petroleum contracts have

17

evolved to cope with these developments (Anderson, 2006). For the purpose of this study, the oil revenue management, production sharing agreement and service contract would be considered.

The production sharing contracts system (PSCs)

The PSC may be described as an arrangement where a host country appoints an International Oil Company (IOC) as a contractor to operate for example a large acreage of petroleum resources at its own risk and expenses but the petroleum resources is subject to the control of the host country (Brandt, 2006). However, if an exploration and development of the petroleum resources result in commercial discovery, then the IOC has a contractual right to the repayment of its costs out of the oil and gas produced from the contract area.

According to Chima (2007), the mechanics of production sharing in principle may be straightforward. This is because the production sharing contract will usually specify a portion of total production, which can be retained by the contractor to defray costs of developing the resource. The remaining oil after the recovery is divided between the government and the contractor according to specific formula set out in the production sharing agreement (Copacino, 2003).

International Oil Company is not entitled to a repayment of its expenses if exploration is unsuccessful. The host Government retains and disposes of its own share of petroleum extracted whilst joint-marketing arrangements may be made with a contractor. Royalties can also be introduced into the production sharing regime. In some Production Sharing Agreements

18

there is an explicit royalty payment that is paid to the government before the remaining production is split between cost and profit oil (Hussain, Assavapokee & Khumawala, 2006).

Production Sharing Agreement has been used in emerging oil producing countries that want to be a participator in the success story of the petroleum industry. Since the actual the amount of oil or gas reserves in the ground is unknown but it is ascertained based on estimation, the oil companies assume enormous financial risk (Hogan et al., 2007). For example, if little or no oil or gas is found, these companies can lose their investment. However, if oil with gas is discovered, the companies are rewarded for the resources invested (Young, 2007).

Service contracts (SCs)

The risk service contracts originated from Brazil which over the years has undergone modifications. The Service contract is either in the form of Risk Service Contracts (RSCs) or Pure Service Contracts (PSCs). In both contract the oil companies agree to provide specific services and the technical know-how in returns for a fixed payment (Tsalik, 2003). The difference between the two is the mode of operation. In Service Contracts (RSCs) the international oil company is retained based on technical expertise and resources. Again in this contract, the company bears all the exploration costs. On the other hand in Risk Service contract the company is retained to gather and provide information necessary for the development of the resources (Alexander 2005). Therefore once the resources are envisaged the company is under obligation to develop the petroleum resources. The Company may also

19

provide equipment, logistics and training employees to operate the petroleum facilities according to the contract.

In making the decision amongst the contracting regimes, host government needs to consider availability of capital to be sunk into the project, technology and skill that is needed to harness the resources in order to attract prospective investors.

Petroleum taxation

In mineral and petroleum industries, legal framework may be provided for long-term resource development and exploitation, however tax regime also provides for the division of rewards between the investor and the host country. Petroleum producing countries derive their revenue from petroleum resources partly through direct participation and through levying of taxes in the industry.

According to Watkins (2012), technically, a tax system should be simple and provide for an efficient means to secure revenue for a host state. At the same time, the host country needs a reliable economic partner for long term commitments as private investors. This is achieved through maintaining over a period of time a sufficiently attractive tax regime and system. Investors require stability in an economic framework in order to earn the appropriate rewards on the investments made and risks taken. Host countries, besides take many different approaches to capturing the appropriate government revenue on the exploitation of natural resources. However, fixed fee may be set by the government, negotiated with companies, or determined through auction (Lund, 2008).

Government acts as a principal on behalf a nation, and through discretionary licensing system, private companies are given the right to extract

20

petroleum resources and in return for which taxes are paid. In other jurisdictions petroleum revenues from different instruments accrue to different parties (IMF, 2009). For example, royalty payments may be made to local units of government, landowners or the petroleum ministry. A common strategy of levying in the oil and gas sector involves a combination of tax and royalty payments. A Royalty/Tax regime may involve three levies, a royalty to secure a minimum payment, the regular income tax that is applicable to all companies, and a resource rent tax to capture a larger share of the profits of the most profitable projects (Sunley et al., 2008).

Most often than not, petroleum taxation is given special dispensation. The reason for the special tax regime is that, the mineral rights belong to a state for which taxes and other levies are the price of exploiting a public asset. Mineral projects can generate very large profit by foreign companies and may have few spin-offs for the economy so taxation is a way to ensure the country obtains its share of the benefit (Andrews-Speed, 2000).

However one of the important economic principles in the design of taxes is that, taxation should be neutral whereby the tax system must not alter the decisions on investment, production, consumption and trade that would have occurred in the absence of the tax unless the tax is purposely designed to give that effect (Watkins, 2012).

According to Sunley et al. (2008), there is a reason why the use of special tax systems for the petroleum sector is appropriate. The scale of investment required in petroleum exploration and development, before any revenue is generated, may be such that the risk requires special measures to accelerate payback if the level of investment . Again, investors in petroleum

21

projects are likely to be international oil companies and specifically interested in petroleum investment. Therefore, there is the likelihood for investors to invest more funds in petroleum sectors because of a favourable special tax regime.

Legal perspective of petroleum taxation in Ghana

In Ghana, Article 174 of the 1992 constitution provides amongst other things that, no tax shall be imposed other than by or under the authority of an Act of parliament. This provision therefore makes imposition of taxes which precludes the initiation of the legislature illegal of which petroleum revenue is of no exception.

Petroleum income taxes for that matter are given legal backing by Petroleum Income Tax law 1987(PNDCL 188). Section 1 of the Law provides that "every person carrying on petroleum operations shall, subject to the provisions of this Law, pay for each year of assessment a tax on his chargeable income calculated in the manner provided in this part". This law is applicable to the upstream sector whilst the Internal Revenue Service Act 2000, (Act, 592) as amended deals with the downstream petroleum operations. Notably Act 592 provides general law for income taxes in the country. Ancillary to the laws mentioned that directly relate to the upstream petroleum sector in Ghana are the Customs Excise and Preventive Service Law 1993 (PNDCL330) Value Added Tax Act, 1998 (Act 546) as amended.

Most importantly the Petroleum Revenue Management Act ,2011 (Act 815) mandates Ghana Revenue Authority to collect petroleum Revenue due the state into petroleum holding account at the Bank of Ghana and also further

22

broadens the tax revenue generation instrument. According to IEA (2010), the lucrative profits associated with natural resources such as oil tend to create a situation where individuals as well as the population in general expect measure it as a positive channel of alleviating poverty. This is because, as social contract demands, citizens expect government to use revenue to improve standard of living through socio-economic development.

Petroleum revenue

Petroleum revenue can be described as the value of the product of petroleum resource minus all the necessary allowable costs of production, including the minimum returns to capital required, prior to investment decision, to induce investment (Flanagan & Norman, 1993). The revenue to be generated is therefore determined by the petroleum prices prevailing at the world market as well as the quality of the crude. It is the value of the resources to the owner, which may be the state and its partners. The determination of the prices of the crude therefore becomes an issue of demand and supply analysis. This makes petroleum revenue more difficult to be determined since prices for petroleum output and the costs of production cannot be known with certainty in advance.

On the average, resource extraction has been lucrative in many countries, and government could potentially use the funds to stimulate and accelerate economic growth, by increasing investments in infrastructure and public goods (Republic of Ghana, 2012). Most Oil Producing Countries (OPCs) are faced with unique challenges to macro fiscal management due to the special characteristics of revenue from oil. In practice, oil exploration and production tend to be treated as separate from other sectors in the domestic

23

economy with its effects mainly felt through government use of its share of oil resources and revenues from the production of the oil and gas resources (Duffuor, 2010).

Countries like Nigeria, Iran and Kuwait are examples of countries with challenges regarding the management of oil and gas revenue. This situation with regard to inadequate revenue mobilisation affects the Gross Domestic Products (GDPs) of these countries by either them remaining the same or growing slowly after decades of discovery of oil (Anderson, 2006). Petroleum resources are exhaustible, whose revenue should be managed prudently in order to obtain its benefits before the oil and gas reserves are depleted. This scenario relays the idea that petroleum revenue when generated must be managed properly because its value is dynamic based on the market forces in the world market.

The generation of the revenue is normally based on the design of the fiscal instrument that is used to ensure that a state is rewarded with economic rent from the production of oil and gas with due regard to the international oil company. Oil and gas revenue are mostly originated through exports and can have significant impacts on an economy of a country depending on how the inflows of foreign currency are effectively managed and utilised (Pendleton, 2004). Most often than not it is denominated in international foreign currency to ensure its continuous stable value if even it does not appreciate.

The most important aspect is the mechanism instituted to ensure that revenue received from the oil are prudently managed and utilized for the benefit of a country. An oil revenue management law coupled with good governance and transparency has been found by most Oil Producing Countries

24

to be a legislation which could reasonably control the receipt and management of oil revenues whilst addressing expenditures limits of the oil revenue by governments (Robinson et al., 2006).

However, as a cardinal to any revenue management law, set of rules and basic principles governing the management of the oil revenue is expected to portray good governance, professional management, broad oversight and conformity to best practice in petroleum revenue management which can go a long way in projecting and protecting the integrity of the oil revenue (Hamilton, 2011). In an international context, oil price shocks may have a different economic impact depending on countries' economic compositions, institutional structures and their economic development and resilience (Solow & Wan, 2006).

Several empirical studies have also found that, oil and gas endowed countries' output as well as government revenue and expenditure pattern experience higher volatility due to highly volatile commodity prices on the world market combined with undiversified revenue and traditional export base (Philips & Keen, 2010). Revenues from the sale of oil resources can be considered as the engine of national economy and an economic injector of its national budget. However, it is clear that most developed countries have come a long way in designing an effective framework for management of their oil revenue, which can be arguably served as a lesson to countries developing oil with associated gas to improve on the design and implementation of their petroleum revenue management model (Blanchard, 2009).

25

Petroleum revenue in Ghana

The generally accepted recognition of oil and gas being non-renewable resources and that, their revenue should be used to create shared and sustainable socioeconomic capacity for the nation, need revenue generating instruments to make the revenue available, accessible and assessable to the state. This ensures that petroleum revenue due the state is realised.

A cursory look to the Petroleum Income Tax Law, (1987) PNDC Law 188, reveals that fiscal package comes in the form of production based, profit based and other instruments. Royalty which is production based is levied on gross production of crude oil, whose percentage is not fixed. The precise percentage is left to be determined by the government and the oil companies. It therefore ranges from 5% to 12.5% of gross production of crude oil and 3% of gross volume of gas production in Ghana

The share of the oil may be made in cash or received in oil equivalent. Royalties are levied either on the volume or on the value of resources extracted. Royalties are realised when production commences, are arguably easier to administer than most other fiscal instruments (Goldsworthy & Zakharova, 2010). It ensures that minimum payment is made by companies to the government for the resources that they extract. However, they raise the Marginal cost of extracting oil and can deter investors if imposed at too high a level and may also discourage development of marginal fields that have been discovered and lead to abandonment of productive oil and gas wells (Hamilton, 2011).

The royalty rate charged by a government to a large extent depends on the perceived cost, the risk involved in the petroleum operation and the depth

26

of the sea operation (Sunley et al., 2008). Royalties paid by Contractors are a tax deductible cost in assessing their tax liability from operational profits (White, 2011). To the government royalty may be considered risk free, because it is charged as soon as production takes place without much accounting treatment compared to profit from production in the petroleum industry which is arrived at after going through numerous accounting treatments (Hogan, Sturzenegger & Tai, 2007).

According to Sunley et al. (2008), a government may also participate more directly in an oil and gas project by taking equity in the project. State equity can take several forms, including: a fully working interest paid up equity on commercial terms, which places the government at par with private investor where government has the needed capital to partner investors in developing oil resources. It can also take the form of paid-up equity on concessional terms, where the government acquires its equity share below the market price or at a discount, possibly being able to buy into the project after a commercial discovery has been made. Another form is a carried interest, where the government pays for its equity share out of production proceeds when production fully takes place, including an interest charge.

Tax swapped for equity is where the government's equity share is offset against a reduced tax liability in the quest for becoming equity holder in the petroleum business with a participatory interest is also another form that the state equity can take. It is preceded by an agreement between counterparties to exchange a set of payments which is determined by a stock. This exchange of cash flows between a state and international oil company allow each party to diversify its income and interest, while still holding its

27

original assets. This derivative therefore gives an impetus to government to own a share in its oil resources which it may not be able to acquire with available funds.

Similarly, equity in exchange for a non-cash contribution where government sought to provide infrastructural facilities instead of providing cash to be a partner and free equity, which is a bit misleading since even the non-cash provision of equity usually result in some, more or less transparent, off-setting reduction in other taxes is also another form state equity can take (Sunley et al., 2008).

Additional oil entitlement which is an additional payment made to the government if the post-tax rate of return for a project exceeds a targeted level is also present in Ghana's petroleum revenue. This is a version of the windfall tax in Ghana's fiscal regime. The provision for this tax in the petroleum agreements entitles Government to levy a tax on any excess over the company's targeted rate of return in years when such an excess or windfall occurs (IEA, 2010).

The state has the option additionally to buy additional interest at each contract area which the state is to pay for its interest at the development and the production state. The state through GNPC would be required to pay its proportionate share of development and production costs if the state accepts to take the option. The allowable interest or percentage varies for each contract. However, in relation to all exploration and development, the GNPC is expected to take without cost between 10% to 12.5% as initial interest in respect of crude oil and a10% initial interest in respect of natural gas. The reason is that, as the owners of the resources, Ghana must benefit from the

28

success of the industry through participating rather than leaving it entirely in the hands of private individual and foreign corporate bodies (GNPC, 2008).

Corporate Income Tax which applies to businesses in general is also applicable to extractive companies. However, it often comes with provisions relating to the tax base (Boadway & Keen, 2009). Petroleum income tax is a profit related tax levied on income accruing to the oil companies after all costs have been deducted. This provides guarantee to the government to share in only the success of corporate bodies in the petroleum industry. Unlike the royalty income which is considered as non-tax income, the corporate income tax provide an opportunity for the government to also share the risk in the industry with the oil companies since all allowable cost must be matched against the income.

The petroleum income tax law has set in Ghana at default of 50 percent which can be varied by amending the contract. However both the Petroleum Income Tax Law and the Model Petroleum Agreement, it is to be levied at a rate of 35 percent. The recent agreements with Kosmos and Tullow provide for 35 percent income tax accruing to the state either in the form of oil or cash (GNPC, 2008). Corporate income tax is levied on the income of firms, not on resource properties. Certain conditions, for example, ring fencing where profits from one project cannot be used to offset the losses of another project also served as a determinant of risk that Ghana government was exposed to in determining petroleum income tax.

Petroleum revenue management models

The challenge of managing petroleum revenue is a global phenomenon which oil producing nations always desire to minimize if not to eliminate it.

29

Some countries endowed with petroleum resource have consistently underperformed on almost every indicator of progress ranging from human development, economic growth, democracy and good governance, and preserving the peace (Andrews-Speed, 2000).

In managing petroleum resources and revenue, many countries have developed mechanism to ensure that the benefit of oil revenue is maximized. This is because petroleum is non-renewable resource whose economic benefits should be managed efficiently as soon as it is realised (Tsalik, 2003). Azerbaijan and Kazakhstan are two Caspian petroleum producers that have learnt from other petroleum economies and are managing their petroleum revenue efficiently. As a sign of their commitment to sound revenue management, these states have created natural resource funds to stabilise fiscal policy and save a portion of revenues (Robinson et al., 2006).

As part of the measures, is to create specific revenue funds to facilitate investment. This is done simply by investing them outside the domestic economy. Again fund can also be used to stabilise the economy through budgetary policy. This is done by setting a price assumption for budgetary purposes. Portions of the revenue are converted into financial asset. Thus the revenue is accumulated in the fund and only the earned income is spent, leaving the capital intact to allow future generations to benefit from what is a non-renewable resource (Stevens, 2003). According to Stevens, studies by various writers on oil revenue management with the quest of establishing oil revenue fund, is an attempt to avoid resource curse where wealth from petroleum industry are mismanaged.

In most of the success stories learned from advanced oil producing economy, petroleum revenue fund lay bare the following, it accumulates sizeable savings for future use, enjoys the support of the public and stakeholders, curtails government spending and maintains fiscal discipline of the fund through rules and functions (UNDP, 2006). However, many resource rich countries appear to have experienced a worse performance in terms of economic progress and poverty reduction than countries that are not naturally endowed with petroleum resource.

Norway's state petroleum fund model

The Norwegian Government Petroleum Fund was established in 1990 to curtail the challenge of petroleum revenue management that other oil producing countries were saddled with through the established controls in the management of the petroleum fund with the legislature being the fulcrum of control of the fund (Jansen & Bjerke, 2012). According to Jansen and Bjerke, the Norwegian State Petroleum Fund (SPF) is widely tagged as one of the best model natural resource fund which other countries have learned from in formulating their model. It does not state the share of oil revenues that is supposed to be deposited each year. However the parliament decides the amount that is supposed to be lodged in the account each year depending on the revenue that is generated from the petroleum industry. For example parliament's discretion in determining transfers to the state petroleum fund places responsibility on the executive branch of the government to be more accountable to the legislature hence the populace.

As per the model, although the executive branch may change the SPF's regulations without legislative approval, in practice the government has

31

always consulted with parliament and has kept it well informed of any developments concerning the SPF (Norwegian Ministry of Finance, 2008). The Office of the Auditor General is required to reports to parliament annually regarding the performance of the SPF. As a model of transparency, there is an oversight council that at a request of the Ministry of Finance may examine whether the SPF's foreign investments contradict any obligations that Norway bears under international conventions.

Another important provision is the prohibition against using the Fund as collateral for government borrowing. Norwegians SPF is designed as a fund principally to finance the fiscal deficit. The Norwegian Ministry of Finance, responsible for managing the SPF, formulates its investment financing guidelines and risk limits, and establishes a benchmark portfolio with indices of expected performance in those countries where investment is permitted (Somers & Svara, 2009). Because there is no perfect condition in the real market the Ministry sets maximum limits on deviation from the benchmark. This will afford the Ministry of Finance to provide a check on the result of the management of the fund. The routine management of the Fund is delegated to the Central Bank of Norway, which is independent in its investment decisions, but must operate within the investment guidelines and risk limits set by the Ministry of Finance.

The Central Bank has been the operational manager, being responsible for creation of value against the benchmark set by the Ministry of Finance. To ensure the propriety of the fund and their mandate as operational manager of the fund to the public, the Bank reports results, risks and costs quarterly. The reports are released at press conferences and through electronic media for the

32

consumption of the masses (Taleb, 2007). The delineation of the responsibilities in the management of the petroleum revenue in Norway perhaps is in effect to ensure that each body becomes a check on the other in the collection through to the management of the SPF (Jansen & Bjerke, 2012). According to the model in the implementation of its policies, parliament has been central to the management of the petroleum fund and has executed it responsibly (Norwegian Ministry of Finance, 2008).

State oil fund of Azerbaijan (SOFAZ)

The State oil fund of Azerbaijan (SOFAZ) was established in December 1999 by presidential decree, even though, they had a special account kept by their National Bank to sterilise payments received as oil bonuses before the creation of the fund. This was necessitated by the understanding on the part of Azeri authorities of the problems encountered by other developing countries in managing their petroleum wealth (Tsalik, 2003). Probably the only way to prevent the imminent challenge of petroleum revenue management was to strengthen financial discipline through institutionalising the fund.

As conditionality to the International Monetary Fund (IMF) loan through its Enhanced Structural Adjustment Facility (ESAF), the fund was created formally with explicit operating, investment, and expenditure rules (Al-Husseini, 2006). The Azerbaijani government worked with the IMF and the World Bank in designing its oil fund. This was to take early precautions to avoid precarious situations that would be taken a longer period to be reversed. According to Tsalik (2003), the annual report of the State Oil Fund of

33

Azerbaijan explains the experience of oil rich countries which suggests that oil revenues easily gained are not always rationally used.

Allocation and expenditure guidelines are extremely general and entirely at the discretion of the president. According to the regulations, the fund can be used for the socio-economic progress of the country, for solving the most important national problems and for construction and reconstruction of strategically significant infrastructure facilities. Unlike the Norwegian model where the powers to the oil fund are vested in the legislature, the Azeri is vested in the executive (Medas & Zakharova, 2009)

Again unlike other model whereby there is a clear delineation between the stabilisation and the saving fund, the Azeri oil fund is purposely used as saving fund. As mentioned, Oil funds are managed off-budget through presidential directives, with a view to insulating oil revenues from spending pressures from the legislature (Dabán & Hélis, 2010).

A special budget is prepared on the fund for developmental projects. The rules for preparation and execution of the annual budget for SOFAZ state that expenditure plans must take into account the necessity to promote the development and increase the competitiveness of the non-oil sector of the national economy. Unlike natural resource funds such as Norway's, Kazakhstan's, or Chile's, Azerbaijan's Oil Fund has no mechanism to direct money back to the budget in case of a crisis like an external price shock in the form of stabilising the economy (IMF, 2009).

Future generation fund in Azerbaijan

Most petroleum revenue management models make provision for future generation by creating heritage or intergenerational fund. Even though

it has an element of saving policy, it seems not to be geared towards s the future generation in Azerbaijan. The parliament does not play active role in the management Oil Fund's fund to protect the interests of citizens of the Republic of Azerbaijan and their future generations (IMF, 2009).

Members of parliament are elected by Azerbaijan's citizens and, as such, should have a voice in decisions over how the country's wealth is being managed and spent. According to IMF (2009), the fund management and investment rules of the country indicated that the fund can be invested in foreign dominated currencies like U.S. dollars, Euros, British pounds, and Japanese yen. The funds can be held in a financial asset in central and commercial banks in the form of bonds issued by governments or state agencies with high credit ratings, securities issued by international financial institutions such as the World Bank, and promissory notes of highly rated commercial banks. There are no territorial restrictions on the Fund's investments, such as there is in Norway.

Ghana's petroleum revenue fund model

To ensure ideal petroleum revenue management in Ghana, the Petroleum Revenue Management Act 2011(Act 815), was enacted to regulate the collection, allocation and management of petroleum revenue derived from upstream and mid-stream petroleum operations (Duffuor, 2010). The basic feature of the law is the establishment of the petroleum account to be held and managed by the Bank of Ghana. This makes the Central Bank the operational manager of the petroleum fund which shall be operated within a framework provided by the Minister of Finance.

Ghana Revenue Authority (GRA) is charged assessment and collection of petroleum revenue. According to IEA (2010), Ghana's revenue management law was influences significantly by the experiences of similar laws from, other countries such as Botswana, Chile, Nigeria, Norway, and Trinidad and Tobago which makes it hybrid petroleum revenue model. In order for the model to achieve its purpose of effective petroleum revenue management and to ensure good governance, Act 815 spells in its provision a high degree of transparency and disclosure of information by the creation of Public Interest Accountability Committee. The committee is tasked to independently monitor and evaluate compliance with the Act 815 by the government and relevant institution connected to the management of the petroleum revenue in the performance stipulated in the law. Even though, the burden of the propriety of the fund rest with the Ministry of Finance, the legislature remains the final approving authority in the utilisation of the petroleum revenue (Republic of Ghana, 2012).

According to the Ghana Petroleum Revenue Management Act 2011, (Act 815), Petroleum Account receipts shall amongst other things be in gross and composed of royalties, additional oil entitlements, initial carried interest, and corporate income tax any amount received from direct or indirect participation of Government in Petroleum Operations. The petroleum revenue is disbursed according to the provisions in the Petroleum Revenue Management Act 2011 (Act 815). The interim destination of the petroleum revenue is the Petroleum Holding Account. The revenue is then transferred to the respective destination based on the proportions as stipulated in the

36

Petroleum Revenue Management Act 2011 (Act 815). The revenue is appropriated to the Annual Budget Funding Account and the Petroleum Fund.

To support the government to execute its financial policy annually, 50%-70% of the total petroleum revenue received is supposed to support the budget. This amount is to be utilised for investment and consumption in the budget (GNPC, 2008). The use of petroleum revenue to support the annual budget is to develop other sectors in line with the country's development priorities.

The timing of revenue from other sectors of the economy of in relation to government spending normally does not always coincide, making it difficult for the government to carry out its developmental projects. To cushion annual financial policy of the government, the stabilisation fund is set up to serve as financial bolster to the financing of the budget. The fund is to receive 70% of the petroleum revenue transferred into the petroleum fund (GNPC, 2009).

Indeed, this is to generate alternate stream of income to support public expenditure and economic stability when there is petroleum revenue shortfall due to price fluctuations. The fund is to be denominated in United States dollars and any convertible currency approved by the Minister of Finance and Economic Planning (MoFEP).

Since petroleum resources are considered to be non-renewable that cannot be recovered after its depletion (Copacino, 2003), the Heritage fund has been created to create stream of future income. The fund according to the Petroleum Revenue Management Act, 2011 (Act. 812) is to receive the remaining 30% (minimum) of the saving fund after allocation of 70% had been made to the Stabilisation fund. This fund is expected to be invested in

37

financial instrument outside the country based on the investment advisory committee's formulation of investment policy and their advice to the Minister of Finance and Economic Planning (Act, 815).

Those financial instruments are termed qualifying instrument by the Petroleum Revenue Management Act 2011, (Act 815). The fund is to be invested in internationally convertible currency or a debt instrument as pertains to the stabilization fund with a long-term investment grade rating (IEA, 2010).

Transparency and accountability of petroleum resources

Management of petroleum resources and revenue has often been tainted with irregularities thereby requiring authority in various petroleum producing countries to institute measure to curtail its daring consequence. In most developing countries, interest groups find it difficult to obtain detailed information about the management of petroleum revenue from state institutions. Even where national oil funds have been created for the benefit of the populace, there may be a lack of transparency and transparency issues surrounding the allocation of such funds, as in Kazakhstan (Pendleton, 2004). This means, the creation of oil funds in oil producing economies as one of the steps to address the accountability issues can have its own challenges if not properly handled.

Report on the revenue received into and disbursed from petroleum fund need to be made known for the populace since they are the true owners of the resources. Most often than not, what is being reported on in public finance lack verification with the underlying documentation. Wax (2004) cited in related study that, there are also instances in which revenues that have been

38

earmarked for certain social projects have not been spent as intended, as it was alleged in Chad.

Petroleum revenue generation invariably raises the hopes of government and citizens of socio-economic growth and development. Because of the delicate nature of petroleum revenue, policymakers and international organisations persistently and increasingly appreciate the need for more pragmatic and comprehensive measures to address transparency and accountability related issues in order to ensure that conflict reduction mechanism are as effective as possible. The British government announced the Extractive Industries Transparency Initiative (EITI) at the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg. The EITI is designed to encourage governments, extractive companies, international agencies, and NGOs to work together to develop a framework to promote the transparency of payments in the extractive industries.

The Initiative is intended to foster and promote the goal of reduced risk of conflict and political instability in the extractive industry through a more equitable distribution of resources, with better prospects for long-term investment and energy security. The EITI recognises that increasing the financial transparency and accountability of resource endowed governments and extractive companies helps to address the challenges underscoring the causes of corruption, weak government, and other problems associated with the mismanagement of resources (Wilson & Bentum, 2009). The initiative aims to ensure that the revenues from extractive industries contribute to sustainable development and poverty reduction.

Empirical studies on petroleum revenue management

Ogbonna and Ebimobowei (2012) examine petroleum income and Nigerian economy in their study. The findings from the estimation of their models indicate that oil revenue has a positive and statistically significant relation with GDP and per capita income respectively, but its relationship with inflation is negative and not statistically significant. Similarly petroleum profit tax and royalties has a positive and statistically significant relation with GDP and per capita income respectively, but its relationship with inflation is negative and not statistically significant. Finally, licensing fee has a negative and a non-statistically significant relationship with GDP and per capita income respectively, but its relationship with inflation is positive and statistically significant.

From the forgoing and on the basis of Ogbonna and Ebimobowei (2012) model specifications, it is evident that petroleum income has a significant positive impact on the Nigerian economy for the period under review. They added that the abundance of petroleum and its associated income has been beneficial to the Nigerian economy for the period 2000 to 2009. This shows that countries should lay emphasis on revenue management in the petroleum industry and they must ensure that appropriate strategies are adopted or adapted to ensure smooth and effective implementation of bills and policies.

Sagsan and Zorlu (2013) argued in their study that the five steps of knowledge processes in the petroleum industry flow orderly. These are organisational priorities, regulations, size, degree of formalisation, centralisation and professionalization. Sagsan and Zorlu model as a whole

40

tried to apply for the participants. Unfortunately, Sagsan and Zorlu (2013) could not realise the detail knowledge of management needed in the industry.

According to Mnasri, Dionne and Gueyie (2013), a rich body of empirical literature on corporate risk management explores the incentives, determinants and virtues of hedging. While this empirical literature gives comprehensive answers to why firms hedge risks, and identifies the determinants of hedging extent and effects. Mnasri et al. (2013) also examine some of the revenue managements strategies adopted by operators in the petroleum industry. They employed dynamic panel discrete choice econometric settings that effectively capture management behaviour. Besides the usual hypotheses already suggested in the empirical literature, Mnasri et al. (2013) tested the empirical implications of theoretical predictions that had been explored little or not at all.

In particular, Mnasri et al. (2013) examined the empirical relevance of the prediction pertaining to the correlation between internal cash flows and investment opportunities. They also looked at the implications of the overinvestment problem they theorised and its effects on revenue management. In line with predictions, Mnasri et al. (2013) find that oil and gas producers with larger investment programs tend to use more non-linear strategies: put options only or hedging portfolios with non-linear payoffs. Oil and gas producers with larger undeveloped proved reserves tend to avoid non-linear instruments because they have no pressing development costs. They find also that higher correlation between internally generated funds and investment expenditures motivates gas hedgers to use more swap contracts and

41

to avoid put options. These interventions ensure effective management of the revenue in the current situation with regard to risk management.

The results of Mnasri et al. (2013) further indicate that oil and gas producers that are more leveraged but not yet in financial distress tend to use swap contracts more frequently because they are seeking predetermined revenues to satisfy their future debt commitments. More solvent oil and gas producers tend to use collars only and to avoid swaps only. Consistent with the risk-shifting theory, Mnasri et al. (2013) found out that oil and gas producers close to financial distress use more hedging portfolios with non-linear payoffs and avoid using swaps only or collars only. According to Mnasri et al. (2013), the robustness checks also suggest a significant positive association between financial distress and the use of put options.

Economic theories

Petroleum industry has been supported by various theories explaining its discovery to the extraction stage and the economic factors that drive exploration and the generation of revenue. It is therefore important to get insight into the economic foundations and the technological underpinning that have become imperative in the petroleum industry. The Hubbert theory of oil depletion was presented in 1956 by M. King Hubbert, a senior research geologist with Shell Oil (Morehouse, 2005). The projections were made of future United States oil production based on two estimates of the total amount of oil that would be produced in the United States. According to Morehouse, the theory tries to fathom the prediction of oil production. This is because the determination of oil in its natural state can only be done through estimation without precision.

Furthermore, Hubbert (as cited in Chima, 2007) developed a model and likened the production of oil to a bell-shaped curve where the area under the curve was equated to his predictions of the amount of total oil to be extracted. The total area under the bell is said to be where production starts through its increment , the peak stage and the decline states where the oil resources exhibits it's non-renewable characteristics. The model, mostly consider economic factor, such as the price of oil, as irrelevant in the long run (Al-Husseini, 2006). Technically at the production stage prices of oil cannot be considered to be the motivating factor since there is ready market for oil in any economy in the world because of the incessant demand for the product. The demand is everywhere dense for the consumption of petroleum resources. Besides when the demand is active, suppliers would be motivated to produce without the determination of equilibrium prices.

The theory therefore tries to predict how much oil exists in the world, and when it would be exhausted (Chase, Jacobs, Aquilano & Agarwal, 2007). This puts persistent pressure on countries blessed with petroleum resources to pioneer in the quest for the appropriate strategies to still enjoy the benefit during the oil boom before its depletion. As production continues to increase resulting in the increase in revenue, all things being equal, and revenue must be safeguarded through effective control and investment activities.

According to Brandt (2006), the modelling rests on a number of assumptions. Production follows a bell-shape curve and also it is symmetric over time. That is, the decline in production will mirror the increase in production. Production commences after discovery in functional form and

43

with a constant time lag. Lastly, production increases and decreases in a single "up-down" cycle without multiple peaks (Guimaraes et al., 2002).

The element of profitability is one of the major factors that drive producers to increase production. This is because every rational producer is motivated by profit maximisation theory. Therefore the ready demand for the petroleum resources has the element of price which ultimately will produce profit since the world's demand for oil most often than not exceed its supply (Hussain, Assavapokee & Khumawala, 2006). Even though the installation cost are sunk cost that cannot be recovered if production is halted, variable cost will be the catalyst in pursuing profit since it need to be recovered.

According to Reynes et al. (2010), the Hubert model works remarkably well for most non-OPEC regions. It does not involve any maximisation strategy from the agent exploiting the resource. The empirical success is no doubt a puzzle for economic theory. Several authors have tried to solve it by proposing an economic foundation for the Hubert peak model and interpreting peaks in production as the result of an economic maximisation program (Mathilakath & Rhoads, 2010). They identified several theoretical situations which lead to a peak in production.

As contained in Fig. 1, the y-axis represents the production or the extraction level whilst the x-axis represents the years of production of oil. The curve shows that an oil reservoir follows a predictable trajectory from discovery, through production until it is depleted. Production will increase from (0) until it gets to its peak at (A). Once production of oil gets to its peak at (A), output will start to decline in production until reservoirs are depleted.
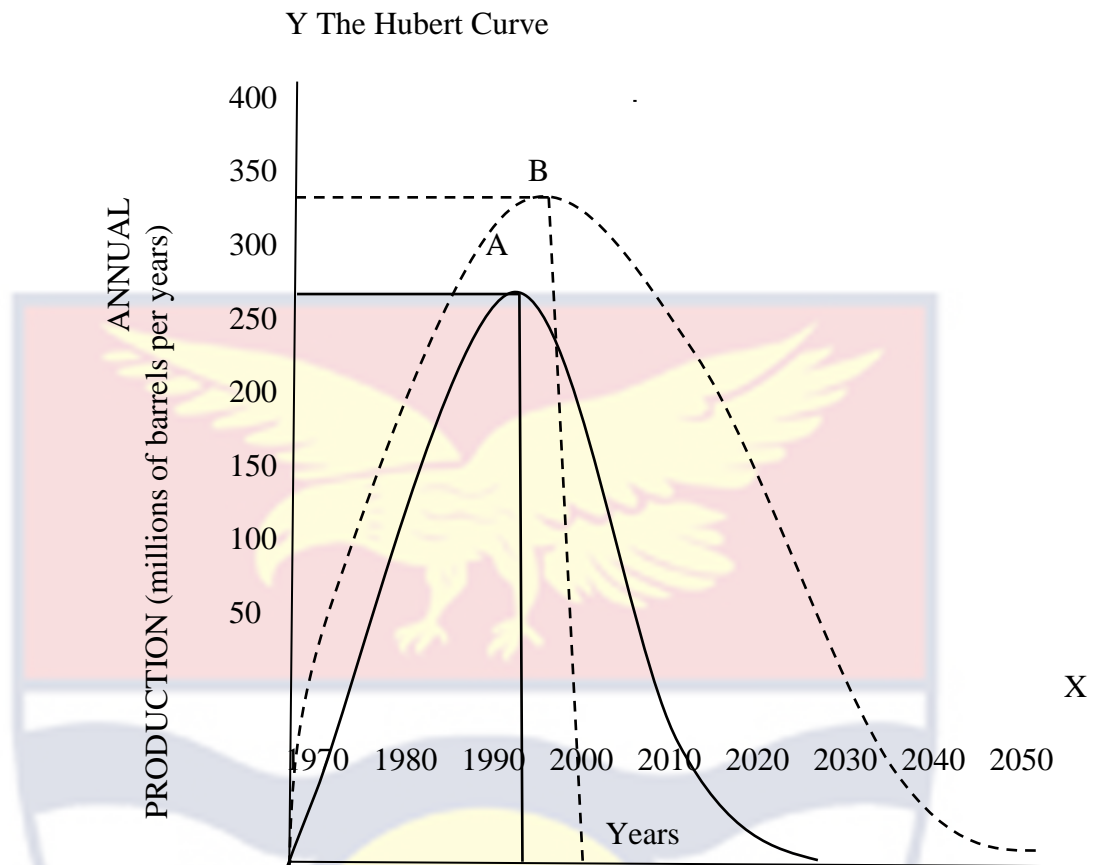
Y The Hubert Curve

Figure 1: The Hubert curve

Source: Reynes et al., 2010.

According to Taylor (1998), even though production will eventually decline, improved technology and production methods can result in further discoveries and improved production. The improvement in infrastructure, tapping of new wells backed by technological advancement will increase oil and gas. When this occurs, the original curve is altered to a new position of (B). The implication of the curve therefore become important to the management of the revenue generated from oil production since support to budget funding cannot be met when there is a shortfall in the revenue generated as a result in the decline in production as per the Hubert curve.

On the contrary, economists have questioned the technical representation of the Hubert model because the level of production is not

45

directly determined by the technical characteristic of the resource but driven by profitability which depends mainly on three economic factors: the oil price, the extraction costs and the interest rate (West & Lafferty, 2008). In decision making these are variables which greatly influence production. Since production does not occur in a vacuum, profit maximisation would be the precursor in the mist of technological factors that facilitate production.

Another most recognised economic theory is the Hotelling theory. The problem of optimal non-renewable resource extraction was first examined in1931. The basic model of Hotelling predicted that the shadow price of the resource stock, which is an economic measure of the scarcity of the resource, should grow at the rate of interest (Young, 2007). Since then, economists have expanded Hotelling's basic theoretical framework to allow for more realistic features such as increasing extraction costs. The theory explains that, owners of non-renewable resources will only produce that resource if it will yield more value than other instruments available on the market, such as interest bearing securities and bonds (Quinn, 2007). This shows those economic agents are rational and will invest their capital considering the opportunity cost of investing their capital in extractive venture comparing with the returns on capital in the capital market.

Akin to most classical economic theories, Hotelling's theory of optimal non-renewable resource extraction assumes economically rational, wealth-maximising behaviour on the part of all economic agents involved (Lin & Hamilton, 2006). That means owners will produce limited supply of their product if it will yield more than financial instrument. If owners estimate that future prices of oil would not be going to keep up with interest rates, then they

46

would be better off selling as much as possible for cash and then purchase bonds. On the contrary, if the estimates are that prices would increase than the prevailing interest, then owner would be better off keeping the oil in the well currently and produce the oil in the future when they are assured that the returns will outweigh returns on the capital market. This assumes that owners are only motivated by profit and that markets are efficient (Enyinda et al., 2011).

The theory is used by economists to predict the price of non-renewable resources like oil, based on prevailing interest rate (Boadway & Keen, 2009). It proposes that deposit of exhaustible resources should be considered as an asset just like any other investment. This suggest that revenue from the extraction of oil which according to the Hotelling's theory should be considered as part of assets and must be managed with regard to the prevailing interest rate. This will ensure the appreciation of the value of the revenue generated from the extraction of the asset. This theory arguably suggests that oil, gas and mineral revenues are very volatile likewise interest rate which is determined by market forces of demand and supply (Dabán & Hélis, 2010). Since the fluctuating prices of oil make it very difficult to pursue fiscal policy, it becomes critical for revenue from oil and gas to be managed astutely to the benefit of the owners of the petroleum resources which according to the this theory is considered to be an asset (Akinwale, 2012).

Resource curse

Resource curse refers to the paradox that countries and regions with an abundance of natural resources, specifically non-renewable resources like minerals and petroleum related resources, tend to have less economic growth

47

and worse development outcomes than countries with fewer natural resources. It is exhibited by high level of corruption and poor governance on the part of managers of an economy. Smith (2004) therefore showed that mineral wealth is highly correlated with high levels of corruption and poor governance. Due to exposure to global commodity market swings, government mismanagement of resources, or weak, ineffectual, unstable or corrupt institutions greatly influence and cause an economy to experience such a canker. According to Karl (cited in Pendleton, 2004), most literature on the resource curse and the paradox of plenty has established important causal claims linking resource abundance and dependence to corruption, authoritarianism, economic decline and violent conflict.

According to Stevens (2003), resource curse results in taking over of the exploitation and extraction of natural resources such as diamonds, oil and timber plain in Sierra Leone, Liberia and Congo. These natural resources are exploited through forced labour and smuggled out and sold on the international trade market. Even areas that extracting of these natural resources is difficult, there are elements of illegitimate exploiters who take control of these resources, and even sale the mining rights to other companies.

Economies that depend on revenue from oil for socioeconomic development, seems to be the most economically troubled, the most authoritarian, and the most conflict-ridden states in the world today (Philips & Keen, 2010). Lack of transparency initiative programmes in most of the oil producing countries requiring authorities in the helm of affairs to be accountable to the populace has contributed immensely to the resource curse syndrome. The relationship between natural resources and violence is confined

48

to an adverse effect of oil resources (Rosser, 2006; Chima, 2007). In any case, violence in resource abundant or dependent countries is dependent on how the revenue is managed and distributed.

Causes of resource curse

Most resource rich nations are in one way or the other obsessed with dilemma of this phenomena. Scholars have taken great pains to explain this curse (Hussain et al., 2006). Rather than a blessing, many literatures have suggested that natural resource abundance increases the likelihood that countries will experience negative economic, political and social outcomes including poor economic performance, low levels of democracy, and civil war. A variety of factors may characterise resource curse. Rosser (2006) categorised these theories into three groups, namely: societal theory, economic theory and political theory.

Societal theory of resource curse

It is argued that, control of source resources is generally concentrated in the hands of a few well connected individuals to be managed, a situation that creates severe social tensions and misunderstanding. While these tensions may be pronounced during periods of economic prosperity they come to the surface at times of economic crisis. This scenario suggests that the challenge in managing abundant natural resource. This undermines social and economic cohesion and in turn limits the capacity of governments to manage economic shocks (Rosser, 2006). It rests on the premise that resource boom enhance political leverage of non-state actors who favour growth impeding policies. When this is capriciously pursued it may endanger the growth of economic

49

developments resulting in aggrieved segment of the populace taking the law into their own hands due to economic marginalisation.

Economic theory of resource curse

A large number of studies have presented evidence to suggest that natural resource abundance, or at least an abundance of particular natural resources, reduces economic growth. According to UNDP (2006), some African countries that were rich in minerals grew more slowly than those that were not rich in minerals during the 1970s based on economic performance indicators. Similarly, Gelb (1988) cited that mineral economies experienced a more serious economic deterioration in the efficiency of domestic capital formation during the economic boom in the 1970s and early 1980s than non-mineral economies, leading to decline growth in hard mineral economies and steep reduction of growth in oil exporting economies.

Major economic explanation for negative correlation between resource wealth and economic growth has been identified to be the decline in term of trade for primary commodity, the instability of international commodity market (Hamilton, 2011). Poor economic linkages between resource and non-resource sector can be likened to oil and gas sector and other sectors of the economies. Economically, terms of trade are the rudiment determinants of economic growth, so it may be seen that a decline in the terms of trade for primary commodities can accounts for resource curse (Robinson et al., 2006). Exportable from agriculture and service sector declines and the neglect is due to the shift of capital and labour to the extractive activities which result in low productivity for exports and even domestic consumption in the other sector.

50

Political theory of resource curse

Scholars of the industrial revolution and economic historians basically emphasised the great benefits of natural resources endowed on a nation (Robinson et al., 2006). However this assertion has not always been translated into economic gains and prosperity due to the lack of the right policies on the part of the political actors in an economy. Political actors often fail to fortify the institution that are supposed to provide the necessary checks to be able to realise the intended economic wealth from those natural resources. This assertion portrays political actors as rational utility-maximising individuals.

The discovery of natural resources provides political actors with an opportunity to line their own pockets by engaging in rent seeking behaviour and in nepotism and cronyism. Such behaviour can stifle growth in an economy where fund are not channel to sectors that need the wealth most. Reynes, Okullo and Hofkes (2010) suggested that resource abundant countries have generally wasted their natural resources because political elites have tended to use funds to pursue various programmatic and political objectives. They usually finance controversial development programs by providing economic benefits to particular groups, whiles capturing rents for the government treasury, and creating rent-seeking opportunities in order to secure private sector cooperation in relation to other objectives, as well as gaining control over rent allocation, and evading accountability (Akinwale, 2012).

Dutch disease

Again closely linked to oil boom and oil revenue management in oil producing economies is the Dutch disease. The economic concept of Dutch

51

Disease refers to the potential negative effects natural-resource windfalls and accompanying appreciations of exchange rates can have for the rest of the economy. One of the potential dangers of oil booms, for example, is that exchange-rate appreciation renders the non-oil tradable sectors such as manufacturing service and agriculture less competitive and thus can generate de-industrialisation.

This arises when productivity and exports shift from non-resource traded sector to the resource traded sector as a result of discovery of large stores of mineral resources such as oil and gas or a general increase in their prices. It describes the influences of two effects that commonly follows resources boom. The dominant appreciation of real exchange rate caused by the sharp rise in the export countries (Guimaraes, Cook & Natarajan, 2002). Other sectors of the economy begin to shrink due to the concentration on and expansion of the oil and gas sector of the economy.

This results in the crowding out effect. This effect in turn draws away both capital and labour from the various sectors of the economy to the oil and gas sector, thereby raising the production costs of these neglected sectors (Rosser, 2006). In this scenario, the export of agricultural and manufactured goods declines and the costs of the goods and services that cannot be imported inflate. Wind fall from oil leads to currency appreciation which makes locally manufactured goods dearer and imports cheaper, resulting in crowding out of firms other economic sectors (Opeyemi, 2012).

It is often assumed that labour and capital are constant. Therefore any movement in the factors of production from another sector as a result of the boom in petroleum resources will create gaps in the economic performance in

the sectors. The vicious circle culminates in an overall macroeconomic crisis (Brandt, 2006). A sharp rise in the import of primary commodities may cause a depreciation of real exchange rate and consequently weakens the strength of the currency. The results are the decline in a country's agricultural and manufacturing sectors. In addition, they are already weakened by the booming resource sector. The government can therefore avert or reduce the impact of such a situation by ensuring injecting subsidy to those sectors that begin to shrink to make it attractive for private sectors and entrepreneurs (Bell & Faria, 2007).

53
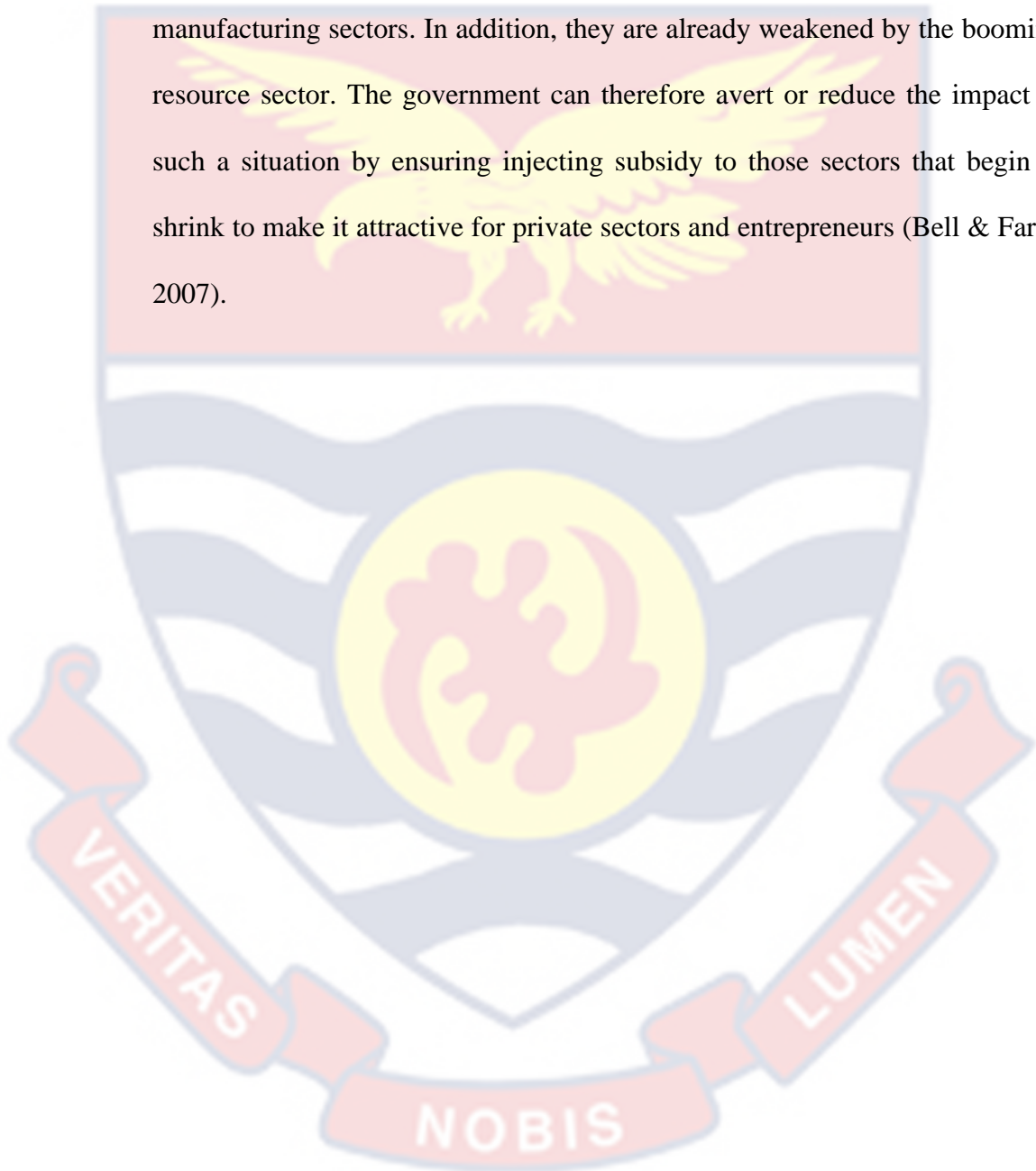
CHAPTER THREE

METHODOLOGY

Introduction

Research methods are a mix of concepts and ideas that are utilised to determine, through neutral observation, analysis, and the truth of a situation (Zikmund, 2000). This chapter explains how the study was conducted. It guided the researcher in data collection and method of analysing data collected from the field. It also discussed the various methods that were employed in generating research data to answer the research questions. Sub-headings discussed were the study design, population of the study, sample and sampling procedure, instrument for data collection, pre-testing of instrument, ethical consideration and the method of data analysis.

Study design

As pointed out earlier, the study focused on the assessment of petroleum revenue management in Ghana. It focused on the perspective of some selected stakeholders in the industry both in the private and public sector of the economy. Since the study entailed a survey of employees', policy makers and experts view on the issues, situations and processes, the descriptive survey design was deemed the most appropriate research design.

Descriptive survey design involves systematic gathering of data about individuals and groups in order to test hypotheses or answer research questions concerning the current status of the subject of the study (Ary, Jacobs, Razavieh & Sorensen, 2006). It determines and reports the way things are. Saunders, Lewis and Thornhill (2007) consider this design to be wholesome when information is needed about conditions or relationships that

exist; practices that prevail; beliefs, points of view, or attitudes that are held or process that are going on.

In the view of Ary et al. (2006), descriptive survey design is appropriate for studies that collect data to assess current practices for improvement. Ary et al. further point out that the design gives a more accurate and meaningful picture of events and seek to explain people's perception and behaviour on the basis of data gathered at any particular time. An advantage of a descriptive survey is that it helps the researcher to collect data to enable him draw the relationship between variables and analyse the data. It helps to observe, describe and document aspects of a situation as it naturally occurs (Saunders et al., 2007).

However, it is a relatively laborious and time-consuming method. It is susceptible to distortions through the introduction of biases in the measuring of instruments and so on (Malhotra & Birks, 2007). It is sometimes regarded as focusing too much on the individual level, neglecting the network of relations and institutions of society (Saunders et al., 2007). The study thus presented data systematically in order to arrive at valid and accurate conclusions.

Population

Population refers to the set of individuals of interest to a researcher (Gravetter & Forzano, 2006). The population consists of employees working in organisations that deal with petroleum revenue management will be necessary expertise. The population therefore can be identified at the Ministry of Finance and Economic Planning, Ghana revenue authority the Bank of Ghana and nongovernmental organisations and persons in academia. The

55

population consist of officers with the requisite expertise and knowledge about the petroleum industry.

The population consist of 105 stakeholders who are have expertise in petroleum wealth related issues and are involved in the petroleum revenue management in Ghana. It includes stakeholders who are in charge of policy formulation in the government sector, policy implementers as well as policy analyst in selected private sector. Amongst the stakeholders is tullow oil Ghana, Comos Energy, Institute of Economic Affairs, Pricewaterhouse coopers, Erst and young and KPMG. These groups of employees were considered to be major contributors to the success of the petroleum revenue management sector in Ghana. This study looked at their view on the concept at hand. The population was divided into a number of homogeneous groups based on private and public employees' criteria.

Sample and sampling procedure

The ever increasing demand for research has created a need for an efficient method of determining the sample size needed to be representative of a given population. Researchers such as Krejcie and Morgan (1970), Ary et al. (2006) and Malhotra and Birks (2007) are of the view that the most used acceptable approach for determining the sample size in a descriptive study is to specify the precision of estimation desired and then to determine the sample size necessary to insure it.

Approximately, the sample sizes for both private (37) and public (56) employees were obtained using Krejcie and Morgan's (1970) table (see Appendix A). The purposive sampling procedure was used to handpick 93 employees who had some level of institutional knowledge with regard to

56

petroleum revenue management in Ghana. They include policy makers, policy implementers and policy analysts.

Respondents were purposively sampled on the basis that, they were persons who had in-depth knowledge of the research area. The purposive sampling procedure helped the researcher to handpick expert with credible institutional knowledge on petroleum revenue management in Ghana. The selected employees and other stakeholders were capable of providing data that assisted the researcher in analysing petroleum management in Ghana. According to Malhotra and Birks (2007), sample size does not necessarily need to be large but how it truly represents most of the characteristics of the elements in the target population is what one must look at.

Data collection

The data collected involves issues bordering petroleum revenue management in Ghana and international best practice, transparency and good governance of petroleum revenue management, collateralisation and oil revenue and segregation of petroleum fund. The data collected were basically quantitative using structured questionnaires. The choice of using questionnaires to collect primary data is that, many people are familiar with this instrument. Again, there was no verbal or visual aspect influencing respondents. The respondents were free to complete the questionnaire at their own convenient time.

Primary data was elicited from the respondents directly while the secondary sources of data were those obtained from the publications and annual reports of the Ministry of Finance and Economic Planning, Bank of Ghana and other organisations and companies. The secondary data enabled the

researcher to find out the deviations between the objectives of the petroleum revenue management and the outcome of its implementation if any.

Instrument design

The questionnaire was the sole data collection instrument used in collecting the data. A questionnaire is an instrument with predetermined items to be answered by the respondents (Ritchie & Lewis, 2003). The use of this one instrument was justified in view of the fact that the selected stakeholders, experts and employees in the petroleum sector are literate and can read and understand the individual items in the instrument. Ary et al. (2006) were of the view that this form of instrument is more flexible than interview guide. It has a high response rate, and easy to administer.

The questionnaire was made up of five sections: A, B, C, D and E with 39 items. The items in the instrument were made up of close-ended and open-ended items. Section A of the instrument was made up of three close-ended items and five open-ended items that elicited data on the background information of respondents. Items included sex, name and type of institution, area of specialisation, position, and level of education.

Section B of the questionnaire contained six items. These items were on petroleum revenue management in Ghana and international best practice. Most of the items were open-ended. Section C of the instrument was made up of 11 items that were close-ended. These items elicited data on 'transparency and good governance of petroleum revenue management'. The items were based on a five–point scale ranging from 1 to 5, with 1 showing less agreement to the issues while 5 showed the strongest agreement to it.

58

Saunders et al. (2007) posit that the Likert scale is the most widely used method of scaling in the social sciences today. Perhaps this is because they are much easier to construct and because they tend to be more reliable than other scales with the same number of items. Section D sought data on the 'collateralisation and oil revenue'. It was made up of six open-ended items. The last section which was section E elicited data on 'segregation of petroleum fund'. It was made up of eight open-ended items. The open-ended items helped in soliciting and eliciting detailed data on the issue at stake.

To enhance the validity of the research instrument, the questionnaire was made available to the researcher's supervisors to review and comment on with the view of establishing content validity. Validity is the adequacy and appropriateness of the interpretations and uses of an instrument results while reliability refers to the consistency of the results (Miller, Linn & Gronlund, 2009). According to Miller et al., reliability is a necessary but not sufficient condition for validity.

Reliability is the degree of stability or consistency of measurement. If the same individuals are measured under the same conditions, a reliable measurement would produce identical measurement (Gravetter & Forzano, 2006). In finding the reliability of the instrument, it was pre-tested on a sample of 30 respondents made up of 17 and 13 employees from the private and public sector respectively within the petroleum sector. The selected employees used during the pilot-testing of the instrument were not included in the main study. The number of respondents used for the pre-test was sufficient to include any major variations in the population as confirmed by Saunders et al.

59

(2007) that for most questionnaires, a minimum of five percent for a pre-test study is sufficient.

The questionnaires were administered personally to the respondents. Based on the responses given during the pre-test, few modifications were made on the final instrument for the main survey which was then administered. In all, the data were reliable, and the inferences drawn from the data were also valid.

Ethical considerations

An introductory letter was obtained from the Department of Accounting and Finance of the School of Business, University of Cape Coast, to introduce the researcher to the selected institutions and organisations. To gather data from the sampled individuals, permission was sought from the management of institutions and organisations. Those stakeholders, experts and employees selected to participate in the study were contacted with the help of managements of these institutions. The consents of the employees were sought through the heads of the various sections, departments and units that they work.

A research is expected to be free from any biases and it must be scientifically sound and reported honestly, thoroughly and completely (Malhotra & Birks, 2007). Participants were informed about the purpose of the research and what objective it sought to achieve. They were encouraged to feel free and air their views as objectively as possible and that they have the liberty to choose whether to participate or not. They also had the option to withdraw their consent at any time and without any form of adverse consequence.

60

Anonymity and confidentiality were guaranteed and the research did not cause harm or mental stress to those who chose to participate. This research and its associated methodology adhered to all of these ethical considerations. An organisational entry protocol was observed before the data were collected. Individual employees and groups of the organisations and institutions were informed of the reason for the whole exercise and the tremendous benefit the organisations and institutions would derive if the research was carried out successfully.

Field work

A period of one month was used to collect the data. The data collection was conducted in April, 2013. The respondents were given at most 30 minutes to complete the questionnaires. Not all the targeted respondents were met on the day of visit and that demanded a considerable length of time to reach the stipulated number of respondents. Prior to the administration of the questionnaire, an informal familiarisation visit was made to the selected institutions and organisations for the confirmation of the number of employees with relevant knowledge in petroleum revenue management and to seek more information concerning the employees.

The questionnaires were self-administered, but with some support from the heads of the departments, units and divisions. Some principal administrative assistants also helped in administering the instrument. For the purpose of data collection, respondents in each department, division, section or unit were gathered together during break time with assistance from the heads to explain the purpose of the study and to administer the questionnaire. The questionnaires were given out to the research participants. They were

taken through all the questionnaire items to explain all items they may consider as unclear. They were again taken through how to respond to the items. They were asked to complete the questionnaires during break time or immediately after working hours in order not to disturb working time.

Respondents were encouraged to complete the questionnaire the same day and as independently and honestly as possible. Most of the completed questionnaires were retrieved the same day the instrument was administered. The administering of the questionnaires was done from institution to institution, department to department and from unit to unit. As stated earlier, it took the researcher one month to administer the instrument. The researcher was able to retrieve 97 percent of the questionnaires administered.

Data analysis

The retrieved questionnaires were first sorted, coded and converted into the various themes of the study that were coined from the objectives of the study. The number of answered questionnaires retrieved was 93. All the questionnaires were given serial numbers to facilitate easy identification, data entry into the computer and for correction. After that, the data were inputted in the Statistical Package for Social Sciences (SPSS) Predictive Analytical Software Version 18.0 template and Microsoft excel. The software aided in the description of the data collected and present very clear information, for easy interpretation of results. After these were done with, the data were cleaned and transformed into tables and extracted for the presentation and discussion in the subsequent chapter of this study.

Basically, descriptive statistics were used to present the results. This included frequency and percentage distributions which were used to organise,

describe, summarize, and present raw data for easy understanding. Tables were also used for illustrations in order to clarify meaning and enhance understanding. Cross tabulation, frequency distributions were used to present information processed from the computer analysis in order to answer the research questions.

63

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The purpose of the study was to examine the management of oil revenue in Ghana, focusing on the treatment of fiscal instrument under the petroleum contract entered into by the state and its partners in the quest for revenue generation and future development of the oil and gas industry in Ghana. The study ascertains whether Ghana's petroleum revenue management exhibits to the internationally recognised practice, and whether it also depicts transparency and good governance. The reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue and the benefits of segregation of the petroleum revenue and limits for the mandatory savings plan and the annual budget funding of the petroleum revenue were also examined.

This chapter of the study presents the findings emanating from the data collected from the self-administered questionnaires. The discussion includes the interpretation of the findings in reference to previous findings and theory. The chapter is organised into two main parts. The first part deals with the demographic information of respondents while the second part is devoted to responses given by the respondents in accordance with the research objectives. At the end of data collection, 93 employees made up of 37 from the private sector and 56 from the public sector were captured for the study.

Demographic characteristics of respondents

This section deals mainly with a distribution of the respondents by the type of institution they work, sex and level of education. The results are presented as follow:

Table 1: Distribution of respondents by sex

Sex category of respondents	Type of institution				Total	
	Government		Private			
	Freq.	%	Freq.	%	Freq.	%
Male	35	62.5	26	70.3	61	65.6
Female	21	37.5	11	29.7	32	34.4
Total	56	100	37	100	93	100
% Sample size	60.2%		39.8%		100%	

Source: Field Data, 2013.

Table 1 contains findings on respondents' sex distribution. As shown from the table, majority (60.2%) of the respondents were working in government/public institutions. Also, majority (65.6%) of the respondents were males, especially those working in the private institutions (70.3%). The findings show clearly that the number of male respondents outnumbered that of female respondents.

Table 2 presents findings on respondents' level of education by their sex. The table shows clearly that more (47.3%) of the respondents had master's degree. Specifically, majority (54.1%) of the male respondents had master's degree while half (50.0%) of them had bachelor's degree.

Table 2: Distribution of respondents by sex and level of education

Respondents highest level of Education	Sex of respondents		Total
	Male	Female	

65

	Freq.	%	Freq.	%	Freq.	%
Bachelor's Degree	20	32.8	16	50.0	36	38.7
Master's Degree	33	54.1	11	34.4	44	47.3
Professional qualification	8	13.1	5	15.6	13	14.0
Total	61	100	32	100	93	100

Source: Field Data, 2013.

However, 14.0 percent of the respondents had professional qualifications. Thus, it can deduced that even though majority of the respondents were generally second degree holders in business administration, accounting and finance which was in line with the males categories, majority of the female respondents were first degree holders.

The results show that employees in the petroleum revenue management are people with high level skills since their work demand such level of skills. The findings support the recommendation of the IEA (2010) that the nation needs employees with high level of skills and credentials who can take absolute control of the petroleum resources, capacity in both human and technology need in order to undertake the exploration, development, production and disposal of petroleum.

Analysis pertaining to the specific objectives of the study

This section presents the results pertaining to the research objectives. Statistical tools such as cross tabulation, frequency and percentage distributions were used. The results are presented as follow:

The extent to which Ghana's petroleum revenue management conforms to the internationally best practice

66

The first substantive objective of the study focused on the extent to which Ghana's petroleum revenue management model conforms to the international best practices. Ten items made up of four close-ended items and six open-ended items were used to elicit data concerning this objective. The percentages for the individual issues were computed with the help of Test Analytics for Surveys (TAfS), a tool of SPSS Predictive Analytic Software Version 18.0. The results are presented in Table 3.

Table 3: The need for laws in the management of petroleum revenue in Ghana

Responses	Does petroleum revenue in Ghana need laws for its management?				Total	
	Government		Private			
	Freq.	%	Freq.	%	Freq.	%
Yes	56	100	36	97.3	92	98.9
No	0	0.0	1	2.7	1	1.1
Total	56	100	37	100	93	100

Source: Field Data, 2013.

Table 3 depicts that all of the respondents working in government institutions and majority 97.3 percent of those working in the private institutions indicated that the petroleum revenue in Ghana needs laws for its effective management. Amongst the institution of the from the government set up are, large tax payer section of the Ghana Revenue Authority, commercial audit section of the Ghana Audit Service, the Treasury department of the Bank of Ghana, the Ministry of Finance and Economic Planning. On the other hand, cross section of the private institution are , the Institute of Economic Affairs, Kosmos energy, Tullow oil Ghana , corporate Investment Bankers. Even

67

though some of the institutions have broad mandate which on the wider view precludes petroleum issues, besides with the advent of petroleum industry in Ghana units, departments and sections have been positioned to handle petroleum affairs with the requisite personnel.

The findings show clear that there is the need for the country to formulate laws that will regulate and control petroleum revenue management in Ghana. This shows that the Petroleum Revenue Management Act, 2011(Act 815) is appropriate as per the majority (98.9%) of the respondents avers to the idea that there must be laws to regulate and control petroleum revenue management in Ghana. This will ensure transparency and the accountability in the use of the petroleum revenue to the benefits of the citizens as espoused by the Petroleum Revenue Management Act, 2011(Act 815).

According to the IEA (2010), citizens develop confidence and trust in regulations if they are back by laws. Besides the passing of the bill into law in the year 2011 after Ghana joined the ranks of oil producing countries in December 2010 is an indication of ensuring that there is a documented legal backing to the utilisation of the revenue generated from the oil and gas industry. The law if appropriately established and administered needs effective and efficient public institutions in order to thrive (Republic of Ghana, 2012). These scenarios suggest that, laws do not work automatically but need integral ardent institutions to implement them and ensure that they work as expected.

Table 4: The purposefulness of the petroleum revenue management law

68

Responses	Is the Ghana's petroleum management Act, 815 serving its purpose?				Total	
	Government		Private			
	Freq.	%	Freq.	%	Freq.	%
Yes	38	67.9	27	73.0	65	69.9
No	7	12.5	9	24.3	16	17.2
Uncertain	11	19.6	1	2.7	12	12.9
Total	56	100	37	100	93	100

Source: Field Data, 2013.

As indicated in Table 4, majority (69.9%) of the respondents admitted that the petroleum revenue management law in Ghana is serving its intended purpose. Their reasons were that the law regulate the spending of revenue and it allows for clear, accountable and efficient distribution of petroleum wealth. Some of the respondents added that it addresses consumption and investment needs of the nation, and also serves as a reference point for managers of present and future petroleum revenue institutions. This will ensure transparency in the management of petroleum revenue. One of the respondents even explained that with the law, no conflict had occurred in the distribution of the petroleum revenue.

However, 12.9 percent were uncertain about this issue. This may probably mean that respondent may not be fully updated with the development of the petroleum revenue management report, which means policy makers need to make information available to users of such information as cardinal feature of transparency and good governance. Respondents of 17.2 percent said it does not serve it intended purpose. This means that having robust legal

framework to manage the revenue from the petroleum resources is not enough. It must be supported with effective and efficient human resource (competent managers) in order to achieve the objective of the petroleum revenue management Act 2011(Act, 815) in a continuum basis.

The findings support the comments of the IMF (2009) that most petroleum revenue management laws, including that of Ghana, make provision for the future generation by the creation of future fund. Even though it has an element of saving policy, it seems not to be geared solely on the future generation in Ghana. The oversight responsibility role of the Ghanaian parliament with regard to management of petroleum revenue in Ghana ensures that the function of serving to protect the interests of citizens of the Ghana and their future generations is manifested. The findings further corroborates with the submissions of Duffuor (2010) that the laws of the petroleum revenue management in Ghana has succeeded in ensuring that there is proper management of petroleum revenue in Ghana.

Table 5 contains findings on the comparison of Ghana's petroleum revenue management law and international standards. As depicted in the table, majority (79.6%) of the respondents, especially those that work in government institutions (89.2%), assert confidently that the petroleum revenue law conform to international standard. The respondents gave reasons for their answer. This indicates that some of provisions of the petroleum revenue management Act 2011, (Act, 815) provides for the mechanisms that is akin to practices in most of the leading petroleum producing counties in the world.

Table 5: Conformity of Ghana's petroleum revenue management Act 2011, (Act, 815) with international best practice

70

Responses	Does Ghana's petroleum revenue management Act 2011, (815) conform to international standard?				Total	
	Government		Private			
	Freq.	%	Freq.	%	Freq.	%
Yes	50	89.2	24	64.9	74	79.6
No	3	5.4	9	24.3	12	12.9
Uncertain	3	5.4	4	10.8	7	7.5
Total	56	100	37	100	93	100

Source: Field Data, 2013.

According to them, the petroleum revenue management Act 2011, (Act, 815) has been hailed as world class since it replicates most of the attributes of major oil producing countries in the world. Some of the respondents were of the view that it has also created petroleum funds that are recognised by Sovereign Wealth Institution and the World Bank, like the Stabilisation and the Heritage funds. Among such countries according to IEA (2009), are Norway, Chile, and Trinidad and Tobago.

However, 12.9 percent of the respondents indicated that the petroleum revenue management law of Ghana does not conform to international standard. The reason behind their answer is that the mere fact that institutions of similar calibre and provisions that spells out commitment are provided for in the petroleum revenue management Act, 2011(Act 815) does not make an international guideline to the management of petroleum revenue. Some pinpointed that our system of executive government makes the revenue management prone to manipulation by the executive.

71

The findings of the majority are in line with the submission of Hamilton (2011) who posits that as a cardinal to any revenue management law, set of rules and basic principles governing the management of the oil revenue is expected to portray good governance, professional management, broad oversight and conformity to internationally best practice which can go a long way in projecting and protecting the integrity of the oil revenue and the petroleum revenue.

The study further elicit data on the reasons why there is no provision in the Ghana's petroleum revenue management Act 2011(Act 815) for the sharing between the central and the sub government such as the district assemblies. Majority of the respondents were of the opinion that, petroleum revenue cannot be treated like any other revenue, it is unique and to ensure transparency and accountability in its usage the country need simple but a comprehensive legal and economic framework. As one of the notable practice in the world, mineral resources are vested in the central government whose responsibility is to ensure that economic rent generated are managed to the benefit of the whole country but to a specific geographical area of governance.

However the utilisation of the revenue will indirectly impact the local authorities since the budget is the only vehicle for the distribution of the petroleum wealth in the country. One of the respondents cited section 19 of the Act 2011 (Act 815) which states among other things that part of the revenue are used to support the budgetary formulation and implementation.

A cross section of the respondents aver that in Ghana, petroleum resources is seen as national asset in character and as such should be distributed evenly to the entire nation's development. Again some of the

respondents were of the view that it is to stall any controversy in the extractive industry in the sharing of revenue from the resources. There are other natural resources whose benefits have been shared by the citizenry through the central government. This actually will avoid replication of other regions advocating for the same treatment of unequal distribution of resources if it is allowed in the petroleum revenue management in Ghana.

The views of the respondents are consistent with the submissions of GNPC (2009) that petroleum revenue in Ghana is disbursed according to the provisions in the Petroleum Revenue Management Act 2011, (Act 815). The interim destination of the petroleum revenue in Ghana is the Petroleum Holding Account which transfers the disbursement proportionally as stipulated in the Petroleum Revenue Management Act 2011, (Act 815). The revenue is appropriated to the Annual Budget Funding Account and the Petroleum Fund. This segregation is perhaps to ensure that accounting for revenue received is done without much difficulty and also the revenue are to be used for different purposes.

Table 6 contains findings on the adequacy of institutional involvement in the management of the petroleum revenue in Ghana. As indicated from the table, majority (71.0%) of the respondents were of the view that the institutions involved in the management of the petroleum revenue and that their involvement are enough to ensure effective petroleum revenue management in Ghana.

Table 6: Involvement of institutions in ensuring effective management of petroleum revenue

Responses	Are the institutions involved in the management of the petroleum revenue enough to ensure effective revenue management?				Total	
	Government institution		Private institution			
	Freq.	%	Freq.	%	Freq.	%
Yes	39	69.7	27	73.0	66	71.0
No	11	19.6	8	21.6	19	20.4
Uncertain	6	10.7	2	5.4	8	8.6
Total	56	100	37	100	93	100

Source: Field Data, 2013.

The respondents further gave reasons for their views. According to them, the state institutions like Ghana Revenue Authority (GRA), Ministry of Finance and Economic Planning (MoFEP), Ghana National Petroleum Corporation (GNPC), Ghana Audit Service (GAS) among others put in place have the impetus to essentially ensure that managing of the fund is carried out according to international best practice. The petroleum revenue management Act also indicates institutions namely Ghana Revenue Authority (GRA), Ministry of Finance and Economic Planning (MoFEP), the Bank of Ghana, Ghana Audit Service (GAS) to manage the revenue from the petroleum wealth amongst others

However it can be better measured by the degree of the effectiveness of these institutions carrying out their specific mandates. Notably some of the respondents pinpointed out that, the legislature and the executive presence in the management of the petroleum revenue with the civil society playing vigilant oversight role is a good indicator for the country.

74

The present of the various institutions in charge of petroleum revenue management are meaningless if the country does not provide the needed support for these institutions. For instance as an advisory body, the investment advisory committee is to provide technical investment support to the managers of funds on how the petroleum revenue is to be invested. However if the linkages are not recognised by the institutions that are supposed to be engaged in the management of the funds, the objective of the investment drive of the funds would not come into fruition.

The findings corroborate with the comments that in order for the model to achieve its purpose of effective petroleum revenue management and to ensure good governance, the law spells in its provision a high degree of transparency and disclosure of information by the creation of Public Interest Accountability Committee (Republic of Ghana, 2012). The committee is therefore to monitor and evaluate compliance with the law by the government and other institutions connected to the management of the petroleum revenue in the performance of their mandate in the use and the management of the petroleum revenue and the resources as stipulated in the law. Relatively, the burden of the propriety of the fund rest with the MoFEP, the legislature remains the final approving authority in the utilisation of the petroleum revenue.

As indicated in Table 7, more (49.5%) of the respondents are of the view that the controls structured put in place by the system and structures are to ensure that people with political power are insulated from mismanaging the oil revenue. This response even though forms the larger proportion of the entire population, it can be explained that the lessons learned from other

petroleum countries like Nigerian, Gabon, Chad, Peru and other petroleum producing   countries lingers in the mind of respondent to support massively the question that the petroleum revenue management Act 2011 (Act 815) will insulate the political echelon to have their unguided way.

Table 7: Controls structured in insulating political powers from mismanaging the oil revenue

Responses	Does the inherent control system in the management of petroleum revenue insulate Political powers from mismanaging the oil revenue?				Total	
	Government		Private			
	Freq.	%	Freq.	%	Freq.	%
Yes	30	53.6	16	43.2	46	49.5
No	16	28.6	16	43.2	32	34.4
Uncertain	10	17.8	5	13.6	15	16.1
Total	56	100	37	100	93	100

Source: Field Data, 2013.

As part of the inherent controls, the fund is established with the Act to make it legal and mandatory for Ministry of Finance, which is accountable to the legislature, to manage the petroleum fund. The Ministry of Finance therefore delegates the day-to-day management to the Bank of Ghana. The investment of the petroleum revenue is also not allowed by the law to avoid the executive influencing it politically.

Governments being the principal stakeholder must continuously build sustainable stronger institutions to ensure transparency accountability in Ghana's Oil and Gas resources and revenues management. However, 16.1%

76

were uncertain on the premise that since 70% of the petroleum revenue is used to support the budget which is the financial policy of the government there is always uncertainty in the control inherent in the management of the fund by politicians. The 34.4%, who disagreed with the statement, asserted that the controls are not structured in a manner to insulate political powers from causing harm to the management of oil revenue. They contended that, parliament which is the bedrock of the control structure has always composed of majority to the ruling government which always give the ruling political party all the powers to manoeuvre in the use of resources provided it gets the majority approval from parliament. This concern mean the control mechanism can be politically biased in the management of the oil revenue even under the shelter of the law.

Transparency the management of petroleum revenue

The second substantive objective of the study finds out the extent to which Ghana's petroleum revenue management model depicts transparency and good governance. Issues examined include the trait the Ghana petroleum management has to deliver, the greater discipline ensure by the act and the greater effort it has in responding to the need for public accountability and transparency. Other issues assessed were the effectiveness of the law to prevent Ghana from repeating the mistakes in other oil producing countries, the law ensuring that revenue from the oil and gas are used for developing and improve standard of living of the citizenry and the public interest and accountability committee monitors and evaluates the government's management of the petroleum fund. The issues were measured on a three-point

scale ranging from one to three where one represent the least agreement to the issues while three represent the strongest agreements to the issues.

The percentages for the individual issues were computed with the help of Test Analytics for Surveys (TAfS), a tool of Predictive Analytic Software (PASW) Version 18.0, which is used to produce tables directly to enable data interpretation. As indicated, the percentage distributions of the responses are presented in Table 8.

As contained in Table 8, majority (73.0%) of the respondents agreed that Ghana's petroleum revenue management Act 2011 (Act 815) has the trait to deliver the best possible economic future for Ghanaians. This finding is in line with the comments of GNPC (2008). According to the GNPC, there are provisions which are made in the quest for Ghana benefiting from the petroleum revenue both present and in the future. Effective management of Ghana's petroleum revenue has the potential to ensure best possible economic future for Ghanaians. Similarly, 71.0 percent of the respondents were of the view that the PRMA 2011 (Act 815) is rules based with the view of ensuring greater discipline in the petroleum revenue management.

Table 8: Transparency in the Ghana's petroleum revenue management law

Statements	D %	U %	A %
Ghana's petroleum management Act 815 has the trait to deliver the best possible economic future for Ghanaians.	7.6	19.4	73.0
The PRMA (Act 815) is rules based with the view of ensuring greater discipline in the petroleum revenue management.	3.2	25.8	71.0
The act is simple, transparent and flexible to modern petroleum revenue management laws in the world.	20.5	26.8	52.7

	D	U	A
The law is as a result of intensive research and public consultation, both national and international.	17.2	19.4	63.4
The law makes great effort to respond to the need for public accountability and transparency.	17.2	22.6	60.2
The laws clearly set out the guidelines and assigns responsibility for the managers of funds.	10.8	18.2	71.0
The Act establishes clear procedure of the movement of petroleum revenue from collection to utilisation.	11.8	31.2	57.0
The Act 815 can help prevent Ghana from repeating the mistakes in other oil producing countries relating oil revenue management.	18.3	35.5	46.2
The law can ensure that revenue from the oil and gas are used for development and improve standard of living of the citizenry.	18.3	20.4	61.3
The management of petroleum revenues and savings has always been carried out with the highest internationally accepted standards of transparency and good governance.	16.2	46.2	37.6
The Public Interest and Accountability Committee monitors and evaluates the Government's management of the Ghana Petroleum Funds and facilitate public debate.	18.3	60.2	21.5

Source: Field Data, 2013.   (n = 93)

Where D = disagree, U = uncertain and A = agree

This finding support the submission of the UNDP (2006) that in most of the success stories learned from advanced oil producing economy, petroleum revenue fund lay bare the following, it accumulates sizeable savings for future use, enjoys the support of the public and stakeholders, curtails government spending and maintains financial discipline in the fund's rules and functions.

Greater number of the respondents admitted that the act is simple, and flexible to modern petroleum revenue management laws in the world (52.7%) and also it is as a result of intensive research and public consultation, both national and international (63.4%). The findings corroborate with that of Sunley et al. (2008) who posit that the laws that govern the control and regulation of natural resources such as petrol and gas in any country must be

79

simple, flexible and transparent to ensure full participation of all stakeholders. This ensures that there is equity in the system.

Majority (60.2%) of the respondents was of the view that the law makes great effort to respond to the need for public accountability and transparency. The finding corroborates with the views of Bainomugisha et al. (2006) who posit that the laws governing the extraction of natural resources such as petrol and gas must ensure that the state petroleum fun works as a testament to the powerful role that transparency and an entrenched sense of public ownership play in encouraging fiscal accountability. Chima (2007) added that such a regulation could encourage controlled spending which will further ensure transparent and entrenched sense of public ownership that will encourage fiscal accountability and transparency in the long run.

Similarly, majority (71.0%) of the respondents agreed that the laws clearly set out the guidelines and assigns responsibility for the managers of funds. The finding is in line with the recommendations of the Petroleum Income Tax Law (1987) that in order to ensure that, the upstream industry to be operated in the country with the necessary precaution and the appropriate guidelines myriad legislative instrument have been enacted to regulate the industry efficiently. Notably amongst the laws is Petroleum Act, 1984 (PNDCL 84).

Another guideline in the downstream sector of the petroleum industry is the National Petroleum Authority Act 2005 (Act 691). It oversees and monitors the activities in the petroleum downstream industry and, does it in pursuance of the prescribed petroleum pricing formula and grants licenses to applicants and provides guidelines for petroleum marketing companies. The

finding further supports the comments of the Norwegian Ministry of Finance (2009) that the developments in the non-oil budget deficit are guided by the fiscal policy guidelines.

Table 8 further indicates that widely held (57.0%) view of the respondents was that the act establishes clear procedure of the movement of petroleum revenue from collection to utilisation. However, more (46.2%) of the respondents avers that the Act 815 can help prevent Ghana from repeating the mistakes in other oil producing countries relating oil revenue management. The findings are congruent with the submissions of Duffuor (2010) who hypothesis that the passage of the law will prevent Ghana from repeating mistakes of other oil producing countries. The basic feature of the law is the establishment of the petroleum account to be held and managed by the Bank of Ghana. The Central Bank being the operational manager of the petroleum fund which it shall operate with a framework provide by the minister.

Majority (61.3%) of the respondents agreed that the law can ensure that revenue from the oil and gas are used for development and improve standard of living of the citizenry. The finding is consistent with the comment of the IEA (2010) that the lucrative profits associated with natural resources such as oil tend to create a situation where individuals as well as the population in general see themselves as a sure way of getting out of poverty. This is because, as social contract demands, citizens expect government to use oil revenue to improve standard of living through socio-economic development.

However, with regard to the issue that the management of petroleum revenues and savings has always been carried out with the highest

81

internationally accepted standards of transparency and good governance, more (46.2%) of the respondents were uncertain. Also, greater number (60.2%) of the respondents were uncertain regarding the idea that the Public Interest and Accountability Committee monitors and evaluates the government's management of the Ghana Petroleum Funds and facilitate public debate. These findings are incongruent with submissions of GNPC (2009) and IEA (2010) that the management of petroleum revenues and savings has always been carried out with the highest internationally accepted standards of transparency and good governance. They further commented that the Public Interest and Accountability Committee monitors and evaluates the government's management of the Ghana Petroleum Funds and facilitate public debate.

The reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue

The third objective of the study examined the reasons behind the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue. Eleven items were used to elicit data in order to tackle this objective. Five close-ended and six open-ended items were used. Issues examined include the importance of collateralisation of future oil revenue, early economic benefit for using oil revenue to secure loans, the risk associated with the usage of oil revenue to collateralised loans and the liableness of Ghana's future oil revenue management. The percentages for the individual issues were computed with the help of Test Analytics for Surveys (TAfS), a tool of Predictive Analytic Software (PASW) Version 18.0, which is used for coding data and analysing responses to close and open-ended items

and produces tables and charts directly to enable data interpretation. The percentage distributions of the responses are presented in Table 9.

Table 9: Importance of the collateralisation of future oil revenue

Responses	Type of institution					
	Government		Private		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	44	78.6	36	97.3	80	86.0
No	12	21.4	1	2.7	13	14.0
Total	56	100	37	100	93	100

Source: Field Data, 2013.

Table 9 contains findings on the importance of the collateralisation of future oil revenue in effective petroleum revenue management in Ghana. As depicted in the table, greater number of the employees working in government institutions (78.6%) and private institutions (97.3%) admitted that the collateralisation of future oil revenue is important in effective petroleum revenue management in Ghana. Their concern were the discipline that must be adhered to when the loans are secured for the intended purposes but not the loan per se Majority (86.0%) of the respondents who admitted that collateralisation of future oil revenue is important in effective petroleum revenue management in Ghana further indicated that since the nation does not have the needed financial capacity to do oil drilling operation for further discovery alone, loans must be secured if it would be used in the oil and gas sector as well as other infrastructural development.

On the other hand 14% of the respondent who were of the view that it was not cardinal to the petroleum revenue management said it will aggravate the debt stock of the country and will not encourage the government to

83

endeavour to pioneer in domestic revenue mobilization. Again if the loans are mobilized domestically from the commercial banks the negative effect would be crowding out of private businesses since the government would be competing with the private sector for funds thereby increasing the cost of borrowing domestically.

There is a general economic consensus that mobilisation of domestic revenue is preferred to securing debts, be it domestic or foreign. The direction responses of the collateralisation of future revenue from the oil resources at every point in time when assessing the debt stock would be part of it. The finding is consistent with the assertion that rules and regulations must be put in place to ensure good governance and value for the usage of the revenue generated in Ghana (Republic of Ghana, 2012). This will ensure that the petroleum revenue management help of the country help in catapulting economic development and contribute to prosperity for both current and future generations without putting its property and access it to jeopardy for non future use.

As presented in Table 10, majority (51.8%) of the employees working in the government institutions and more (37.8%) of the employees working in the private institutions were of the view that the use of the annual budget funding account as collateral for liabilities of government does not defeats the prohibition of the use of oil revenue for collateralisation as provided by section 5(1) (a) the petroleum revenue management Act 2011 (Act 815). This is because the annual budget funding amount which is used to collateralised loan cannot be directly linked with prohibition use of petroleum holding fund

provided by 5(1)(a) as collateral for debt, guarantee, commitment and any other liability of any entity amongst other things.

Table 10: Annual budget funding account serving as collateral for liabilities of government defeats

Responses	In your opinion, does the use of the annual budget funding account as collateral for liabilities of government defeats the prohibition of the use of oil revenue for collateralisation as stipulated in the Act?				Total	
	Government		Private			
	Freq.	%	Freq.	%	Freq.	%
Yes	11	19.6	9	24.4	20	21.5
No	29	51.8	14	37.8	43	46.2
No idea	16	28.6	14	37.8	30	32.3
Total	56	100	37	100	93	100

Source: Field Data, 2013.

However, 32.3 percent of the respondents did not share any opinion in the use of the annual budget funding account in relation to loan acquisition. More (46.2%) of the respondents expressed that it does not defeat the collateralisation which may be linked to the Act providing that the government may borrow against no more than the first ten years of petroleum revenues allocated to annual funding account. This is when after the total revenue has been appropriated into their respective destination as far as the segregation is concern. However since is based on the expected revenue, the nation stands at disadvantaged in terms of servicing the loan when targets are not met (IEA, 2010).

85

On the other hand 21.5 percent of the respondents indicated that since it is oil revenue distributed or not it violates the premise that oil revenue should not be used as collateral. This is because whether the revenue is appropriated to the annual budget funding account, the idea is to ensure judicious use of oil revenue to secure loans in other not to replicate challenges of using oil revenue to secure loans.

The study further elicited data on the 10 year period limit for the usage of oil revenue to collateralise loans and whether it prevents government from excessive borrowings. The percentage distribution of the responses is presented in Table 11.

As indicated in Table 11, 15.1 percent of the respondent indicated that the 10 year period limit for the usage of oil revenue to collateralise loans prevent government from excessive borrowings. They further added that it will not allow government to use petroleum revenue for sourcing external loans which will undermine domestic revenue mobilisation. The finding corroborate with the views of Somers and Svara (2009) who posit that many oil and gas producing countries in the mist of oil export boom have ended in debt because they spent more than one hundred percent of increased income from oil revenue. Somers and Svara (2009) added that this can be attributed to uncertainties in the flow of oil income which makes borrowing against future oil revenue very precarious.

Table 11: The ten years period limit for the usage of oil revenue to collateralise loans

Responses	In your opinion, will the 10 year period limit for the usage of oil revenue to collateralise loans prevent government from excessive borrowings?		
	Government	Private	Total

	Freq.	%	Freq.	%	Freq.	%
Yes	12	21.4	2	5.4	14	15.1
No	24	42.9	25	67.6	49	52.7
No idea	20	35.7	10	27.0	30	32.3
Total	56	100	37	100	93	100

Source: Field Data, 2013.

However, majority (52.7%) of the respondents admitted that the 10 years period limit for the usage of oil revenue to collateralise loans does not prevent government from excessive borrowings. They further added that since there is sovereign guarantee, which means as far as the economy is viable the issuance of debt or borrowing may occur. Besides government excessive borrowing is not dependent on oil revenue used as collateral. The finding is in line with the comments of Somers and Svara (2009) who indicated that one of the important provisions in the petroleum management fund is the prohibition against using the fund as collateral for government borrowing. They further posit that most countries, including Norway, use the state petroleum fund as a fund principally to finance the fiscal deficit.

Table 12 contains findings on the early economic benefit for using oil revenue to secure loans. As presented in the table, a small number (18.3%) of the respondents were of the view that there is early economic benefit for using oil revenue to secure loan. The reasons behind their response were that the loans may foster economic growth and development through industrialisation and creation of jobs. Some of the comments were that there will be more loan funds which may aid economic expansion.

Table 12: Economic benefit for using oil revenue to secure loan

87

Responses	Is there any early economic benefit for using oil revenue to secure loans?					
	Government		Private		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	9	16.1	8	21.6	17	18.3
No	47	83.9	29	78.4	76	81.7
Total	56	100	37	100	93	100

Source: Field Data, 2013.

This goes further to buttress the point that the gas project in the Western Region of Ghana which was funded from the three billion dollar collateralised loan with oil revenue from china is appropriate. Its economic benefit would be the use of the power that would be generated by industry which may improve cost structure of various industries (Gatsi 2012). Again loans if secured may be characterised by lower borrowing rates thereby reducing cost of capital. However, majority (81.7%) of the respondents indicated that there is no early economic benefit for using oil revenue to secure loans. This might be because of the experiences has characterised notable oil producing countries like in the impropriety in the management of loans and its repercussion of debt overhang.

The views of the minority sounds better in theory but might not be practically viable since the management of the loan secured with oil revenue arguably has not always been used for its intended purpose but rather fuelling Dutch disease and the shrinking of the non-oil economy, fomenting waste and corruption in spending and accentuating lack of transparency and

88

accountability as result of ineffective and inefficient management of loan facility (Guimaraes et al., 2002).

The views of the majority are incongruent with the view of Tsalik (2003) who posits that in using petroleum resources to secure loans many countries have developed mechanism to ensure that the benefit of oil revenue is actualized. This is because petroleum revenue is non renewable resource whose economic benefits should be managed efficiently as soon as it realised (Tsalik, 2003). Akinwale (2012) added that oil revenue and its prospects are usually used to secure loans that are usually used to finance politically motivated development programs by providing economic benefits to particular groups, whiles creating rent-seeking opportunities for the few who are in the helm of governance.

The study further elicited data on some of the associated risk in using oil revenue to collateralise loans in Ghana. Most of the respondents assert that such a facility will result in lack of concentration of domestic tax mobilisation. They further stated that succeeding government in attempt to create wealth for themselves will mortgage the oil revenue leaving their successors to suffer financial distress. Again some of the response were of the opinion that in a situation where due diligence is not taken due to political pressure poorly negotiated loans with high interest may surface. Besides this can endanger the country's debt portfolio worsening the balance of trade position which may promote Dutch Disease risk (Opeyemi, 2012).

As a result of myriad of opinion from the respondents some were of the view that since the petroleum revenue is a function of world market prices and production level one cannot guarantee the projection due to the volatility

89

of these factors mentioned. This risk the country's oil resources in case of any default due to world oil price fluctuations. In practice borrowing could be essential to economic growth and human development (IEA, 2010).

Table 13 presents findings on Ghana's future oil revenue management susceptibility to resource curse. The table depicts that majority (53.8%) of the respondents admitted that Ghana's future oil revenue management is liable to resource curse. The majority who were of the view that it is susceptible to resource curse further indicated that it is an attitude which does not surface and die overnight with law but rather gradually manifest through institutional bottlenecks and indiscipline in the management of oil revenue coupled with flagrant corrupt practices of political actors.

Table 13: The liableness of Ghana's future oil revenue management to resource curse

Responses	Does Ghana's future oil revenue management liable to resource curse?				Total	
	Government		Private			
	Freq.	%	Freq.	%	Freq.	%
Yes	30	53.6	20	54.2	50	53.8
No	13	23.2	8	21.6	21	22.5
Uncertain	13	23.2	9	24.2	22	23.7
Total	56	100	37	100	93	100

Source: Field Data, 2013.

Similarly, they stated that the government is reminded the task ahead of the management of the petroleum resources to avoid the resource curse and constantly ensures that controls are in place by government strategized social

economic development. All these strategies are to avoid weaker economic performance in relation to non-oil based economies as well. The views of the majority support the submissions of Hussain et al. (2006) who posit that most resource rich nations are obsessed with dilemma of this phenomenon.

On the other hand the 22.5 percent of the respondents indicated that Ghana's future oil revenue management is not liable to resource curse because the laws have measure to curb this misfortune. However, they asserted confidently that their central concern is how the institutions manage oil and gas revenues in transparent and accountable manner and how successive government deal with corrupt practices so that oil and gas resources will be a blessing and not a curse. It can be deduced from the responses that, whichever angle of the liableness it is perceived, human attitude play very vital role in to curb or eschew such a challenge.

The benefits of segregation of the petroleum revenue, limits for the mandatory savings plan and the annual budget funding of the petroleum revenue

The last substantive objective of the study focused on the benefits of segregation of the petroleum revenue, the limit on mandatory savings and budgetary support in the management of petroleum revenue. Issues examined include the segregation of petroleum revenue fund as a pre requisite for effective petroleum revenue management, the relevance of the ceiling of 70 percent upper limit distribution and the benefit the economy stand to gain from investing the petroleum funds abroad. Both close and open ended items were used to elicit data on the issues. The percentage distributions of the responses are presented as follow:

Table 14 presents findings on the segregation of petroleum revenue holding fund as a pre requisite for effective management. As contained in the table, majority (78.5%) of the respondents admitted that the segregation of petroleum revenue is a pre-requisite for effective petroleum revenue management. They further give reasons for their response. According to them, the revenue has different purpose in its utilisation and therefore the need for the segregation to monitor the usage for specific purposes. Some were of the view that it enhance transparency and accountability enable performance measurement as far the returns on their investment drive is concern.

Table 14: Segregation of Ghana's petroleum revenue fund as a pre-requisite for effective management

Responses	Is the segregation of petroleum revenue holding fund a pre requisite for effective management?					
	Government		Private		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	42	75.0	31	83.8	73	78.5
No	6	10.7	6	16.2	12	12.9
Uncertain	8	14.3	0	0.0	8	8.6
Total	56	100	37	100	93	100

Source: Field Data, 2013.

This mean that there would be clear portfolio in the portioning the revenue generated from the oil wealth and different appropriate performance measure assigned them. The finding is consistent with the comment of GNPC (2009) that segregation is perhaps to ensure that accounting for revenue received is done without much difficulty and also the revenue are to be used

92

for different purposes which ensures effective management of petroleum revenue.

However 12.9 percent of the respondents were of the view that the segregation of petroleum revenue fund is not a pre-requisite for effective management. They further give reasons for the response. They stated that effective revenue management in a public institution would require clear cut policy guidelines and very minimal political interferences. Therefore when policy guide lines are put in place, the funds can perform well without the division. On the contrary, petroleum revenue has followed a peculiar model of its management and utilization of which Ghana cannot depart from it if she is to succeed.

The result on Ghana's petroleum fund being synonymous to sovereign wealth fund in most oil producing countries is presented in Table 15. The table shows that majority (63.4%) of the respondents aver that Ghana's petroleum fund is synonymous to sovereign wealth fund in most of the oil producing countries. The finding supports the comments of Katz and Ojong (2009) who asserted that investment vehicles that are created and owned by governments or sovereigns with the strategic aim offer economic and financial benefits to a country. Funds thrive under sound oil revenue management frameworks which can help to mitigate fluctuations in prices of oil cycles in the home countries, and facilitate the saving and transfer across generations of proceeds from fiscal surpluses emanating primarily from oil.

Table 15: The synonymous nature of the Ghana's petroleum fund to sovereign fund in most countries

93

Responses	Is Ghana's petroleum fund synonymous to sovereign wealth fund in most oil producing countries?					
	Government		Private		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	37	66.1	22	59.5	59	63.4
No	8	14.3	8	21.6	16	17.2
Uncertain	11	19.6	7	18.9	18	19.4
Total	56	100	37	100	93	100

Source: Field Data, 2013.

In relation to Ghana's oil revenue management and cushion annual financial policy of the government, the stabilisation fund is set up to serve as financial bolster to the financing of the budget. The fund is to receive 70% of the 30% of the petroleum revenue received into the petroleum account. This segregation is similar to most oil producing countries.

However, 17.2 percent of the respondents did not agree that it is synonymous to sovereign wealth fund in most oil and gas producing countries. These opinions might be due to the reason that Ghana is not a member of International Working Group of Sovereign Wealth Funds cited in (Behrendt, 2010). However the objective of the sovereign wealth fund compared to the investment drive of our petroleum fund is not far from the responses of the majority of the respondent.

Table 16: The sharing ratio of 70:30 to annual budget funding account

Responses	In your opinion, is the sharing ratio of 70:30 to the annual budget funding account and Ghana petroleum fund respectively appropriate to ensure early economic distribution?

	Government		Private		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	30	53.6	19	51.4	49	52.7
No	10	17.8	7	18.9	17	18.3
No idea	16	28.6	11	29.7	27	29.0
Total	56	100	37	100	93	100

Source: Field Data, 2013.

Table 16 contains findings on the sharing ratio of 70:30 to the annual budget funding account and Ghana petroleum fund respectively which appropriately ensures early economic distribution. The table shows that majority (52.7%) of the respondents indicated that the sharing ratio of 70:30 to the annual budget funding account in the distribution of petroleum wealth was to necessitate early distribution of revenue from petroleum which will be used annually all things being equal in the government fiscal policy to ensure early socioeconomic development .

The required percentage used to support the budget can therefore be used in both capital and current expenditure. This means the majority of the respondents believe that the sharing ratio is economically prudent in its distribution. However the responsibility rest on the government to improve budgetary processes through planning, tracking, implementation and effective monitoring of expenditure. The respondents who do not think that the ratio is not to ensure early economic distribution through the annual budget further added that the state must ensure limited spending and increase savings for the future while intensifying effort to improve domestic tax revenue mobilisation to support the budget.

The study additionally elicited data on the relevance of 70% upper limit ceiling on the distribution to the Annual Budget Funding Amount and its significance to the management of petroleum revenue in Ghana. Majority of the respondents was of the view that the limit was place on the distribution of oil revenue to the annual budget funding account to ensure that there is a provision made for future generation since petroleum resources belong to both the present and the future. In this scenario, even when the resources become exhausted as it is one of the characteristics of petroleum resources, then there would be intergenerational equity. Consider a government that prepares a budget on the basis of revenue constraint without any limit may fall on oil revenue if there no proper legislative restriction on the use of the revenue to finance the annual budget (IEA, 2010).

The results on the creation of the heritage fund as the only means of managing petroleum wealth for the future generation in Ghana is presented in Table 17. As indicated in the table, bulk (68.8%) of the respondents admitted that the creation of heritage fund is the only means of managing portion of the petroleum wealth for the future generation in Ghana.

Table 17: Creation of the heritage fund the only means of managing wealth for the future generation

Responses	Is the creation of the Heritage fund the only means of managing petroleum wealth for the future generation in Ghana?

	Government		Private		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	39	69.6	25	67.6	64	68.8
No	17	30.4	12	32.4	29	31.2
Total	56	100	37	100	93	100

Source: Field Data, 2013.

The finding support the view of Copacino (2003) who posits that since petroleum resources are considered to be non-renewable that cannot be recovered after its depletion, the heritage fund has been created to create stream of future income. The heritage fund, according to the Petroleum Revenue Management Act 2011 (Act 815), is to receive the remaining 30% (minimum) of the saving fund after allocating the 70% to the stabilisation fund. This fund is expected to be invested in financial instrument outside the country in qualified financial instruments. The Norwegian model was cited as a reference point to the assertion made. This type of fund which is also designated intergenerational fund in other jurisdiction is for investment with the aim of creating value. This means respondents show importance of the heritage fund which is in the agreement that Ghana's oil and gas resources belong to present and future generations. Spending of petroleum revenue should therefore take into account the future generations of Ghanaians (GNPC, 2009).

However, 31.2 percent of the respondents do not agree that heritage fund is the only means of reserving part of the petroleum wealth for future generation. They were of the view that government must utilise the revenue earmarked for the heritage funds in massive infrastructural development drive

now rather investing the funds in qualifying financial asset abroad. They asserted that investment in capital expenditures through the annual budget funding amount is equally to the benefit of the future generation. This means a more diversified alternative in addition to the heritage fund as far as infrastructural development is concern according to the responses.

Table 18 depicts results on respondents' opinions as to whether there are any reasons for investing the petroleum funds abroad. Majority (75.3%) of the respondents indicated that there is a reason for investing the petroleum fund abroad, backing the petroleum revenue management Act 2011(Act 815) for the investment in qualifying instrument as per section 27(1) of the Act 815. They were of the opinion that, it will ensure proper diversification of risk through different economic jurisdiction. They contended that developed economies are well protected. Linking the opinion of the respondents to one of the characteristic of sovereign wealth fund, most of such funds are invested abroad (OECD, 2008).
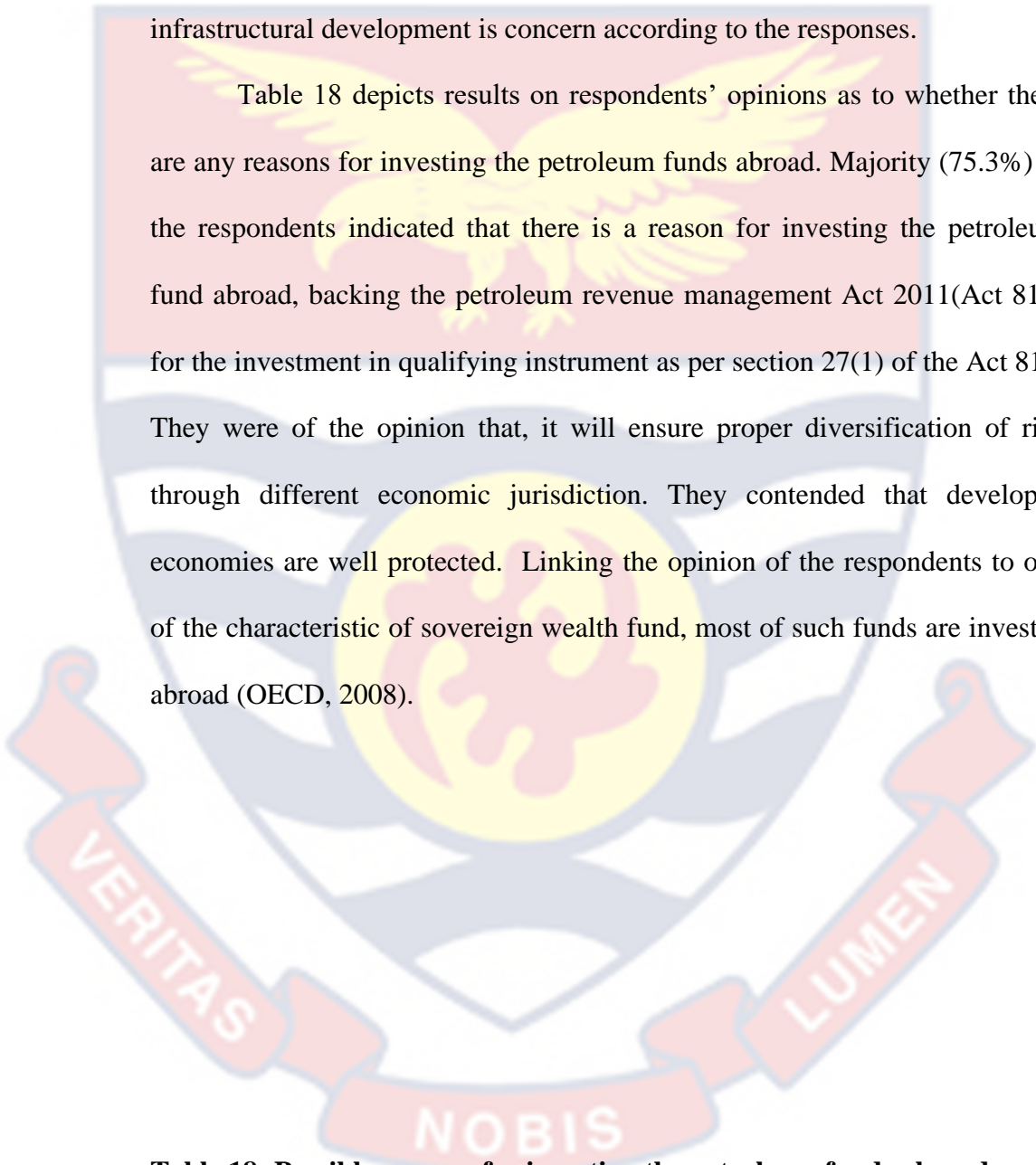
Table 18: Possible reasons for investing the petroleum funds abroad

Responses	In your opinion, are there any reasons for investing the petroleum funds abroad?		
	Government	Private	Total

	Freq.	%	Freq.	%	Freq.	%
Yes	41	73.2	29	78.4	70	75.3
No	5	8.9	6	16.2	11	11.8
No idea	10	17.9	2	5.4	12	12.9
Total	56	100	37	100	93	100

Source: Field Data, 2013.

This is to diversify and improve the return on foreign exchange reserves or commodity notably oil revenue, and sometimes to shield the domestic economy from inducing fluctuations in commodity prices, besides most such invest are made in foreign assets. Their responses confirm one of the obligation of the Bank of Ghana as per section 26 (2)(a) of the petroleum revenue management Act 2011 (Act 815) that there is the need to support the national currency against destabilizing factors in accordance with national monetary and foreign exchange policies.

It can also be observed from the table that, 11.8 percent of the respondents did not agree to the need for investing the funds outside the country on the reason that, the revenue generated from the oil can be directed to sectors of the economy that is in need of capital injection whilst 12.9 percent indicated that they have no idea of the reason for locating fund abroad.

Majority of the respondents who were in support of investing the fund abroad further added that it is meant to diversify risk by not investing in the domestic economy where the economy is susceptible to unstable macroeconomic performance indicators. The diversification of national wealth by investing internationally and in a greater range of assets can help reduce these concentration risks and also avoiding domestic monetary pressure.

99

Arguably, it is the most efficient way of achieving capital outflow which reflect the current account surplus in foreign trade assessment and also to avoid misallocation of capital (Rosser, 2006). In the nutshell by using the stabilisation fund and the heritage fund in investing in myriad of assets can help shield an economy against volatility in markets of critical value in the domestic economy (IEA, 2010).

Again some of the respondents stated that government quest to maintaining the value of the principal while maximising total return was one reason for investing the money abroad. This suggests that governments can realise substantial net benefits in the long run by constantly redirecting excess petroleum revenues to the funds abroad since most of the developed economy are less volatile compared to domestic economy

The illustration in Table 19 depicts findings on whether the Ghanaian economy stands any chance of benefiting from investing the petroleum funds abroad. As indicated in the table, majority (77.4%) of the respondent were of the view that the Ghanaian economy is in a pole position of benefiting from investing the petroleum fund abroad whilst 22.6 percent are of the contrary view to the issue.

Respondents who were of the opinion that the country stands a chance of benefiting from investing the funds added that the foreign financial institutions have manager who will better manage the funds in an environment which is characterised by higher degree of transparency and good governance devoid of political influences compared to home country. Similarly, a significant share of the overseas portfolio investment could be

100

outsourced to external fund managers that have sound knowledge of the international market conditions.

Table 19: The chance the economy stands in benefiting from investing the petroleum funds abroad

Responses	Does the economy stand any chance of benefiting from investing the petroleum funds abroad?					
	Government		Private		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	44	78.6	28	75.7	72	77.4
No	12	21.4	9	24.3	21	22.6
Total	56	100	37	100	93	100

Source: Field Data, 2013.

Some of the respondents were also of the view that the country stands a chance of increasing returns on the investment and Ghana could earn more foreign exchange thereby boosting the country foreign reserves. The reasons given are pertinent traits to the management of funds that are owned by a state which Ghana's petroleum fund is of no exception. The finding corroborate with the views of Katz and Ojong (2009) who posit that investing of fund abroad for a special purpose has a benefit of a sound macroeconomic management outcomes. It is normally created for macroeconomic purpose which holds, manage or administer assets to achieve financial objectives and employ sets of investment strategies that include investing in foreign financial assets as part of its policies. It allows the government to invest some of the petroleum funds abroad.

101

This means investing the fund outside the domestic economy coupled with good economic climate in the foreign countries might inure to the benefit of the nation. Petroleum fund may therefore be a useful instrument to manage the petroleum wealth. Since diversification alone cannot be a panacea for economic woes domestically, the government must ensure that allocation of the revenue to production sector is done judiciously and appropriately for an a levelled economic growth.

However, 22.6 percent of the respondents were of the view that if the nation continues to borrow from abroad with economic obligations which result in huge debt overhang then they don't see the reason why such benefit could accrue to the nation whilst we continue to borrow and service the debt with the interest. In their opinion the returns on the investment abroad would be used to service debt which will result in an economic set off.

CHAPTER FIVE

102
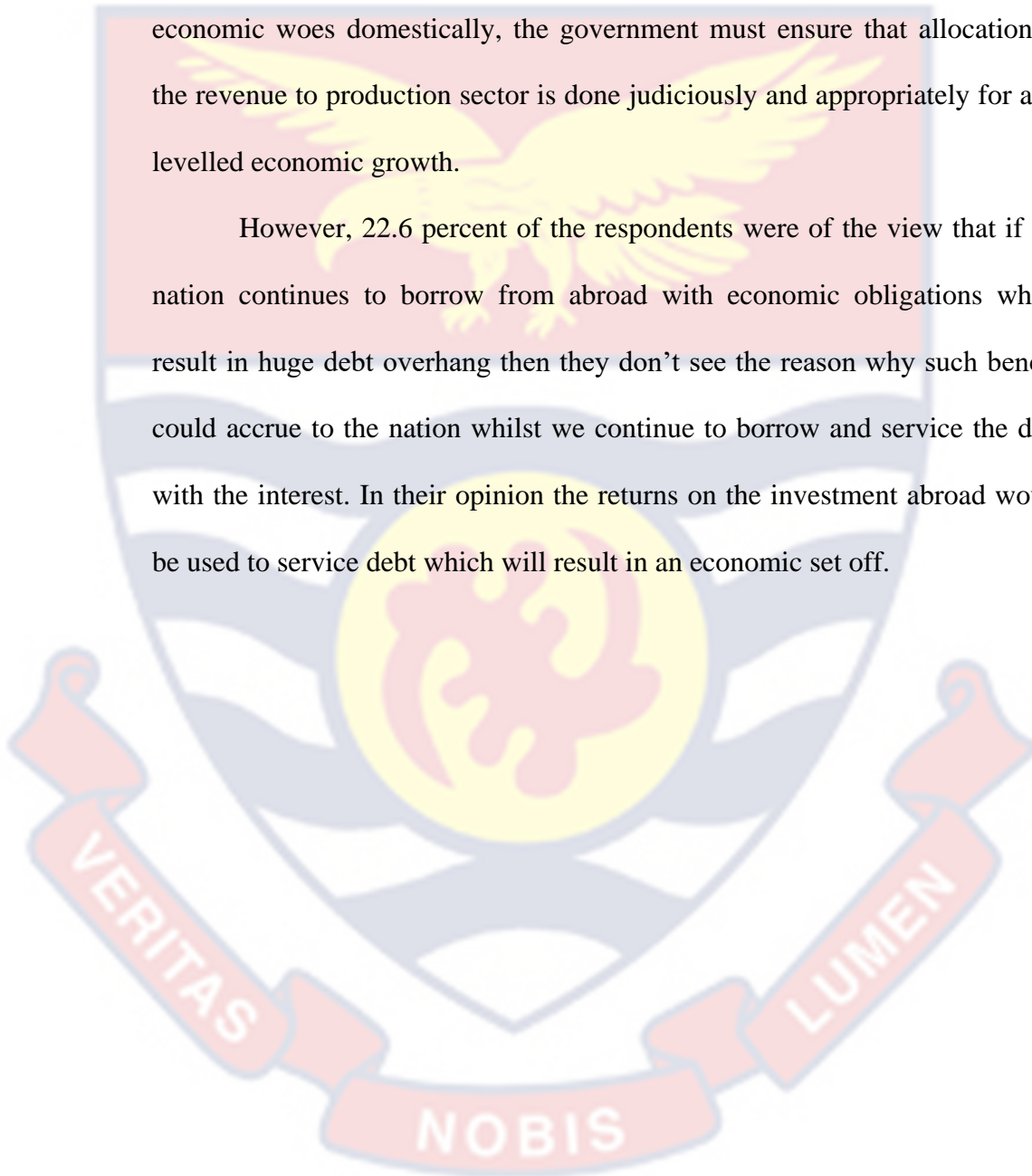
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the summary of major findings of the study and the conclusions drawn from the study. The first part focuses on the summary of the study and the key findings. The key findings are reported, based on the objectives of the study. These are followed by the conclusions and recommendations. The last section provides suggestions for further research.

Summary

The purpose of this study was to examine the analysis of petroleum management in Ghana. The study examine the management of oil revenue in Ghana in relation to the treatment of fiscal instrument under the petroleum contract entered into by the state and its partners in the quest for revenue generation and future development of the oil and gas industry in Ghana. Specifically, it focuses on the conformity of Ghana's petroleum revenue management model to the international recognised standard, transparency and governance in the Ghana's petroleum revenue management and the reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue. The study also ascertains the benefits of segregation of the petroleum revenue and limits for the mandatory savings plan and the annual budget funding of the petroleum revenue.

The study was conducted with a sample size of 93 elements made up of 56 employees from government institutions and 37 from private institutions. The stratified random sampling was used to select policy makers, implementers and analysts while the lottery method of simple random sampling was used to select some of the employees in the ministries and other

103

public institutions. A questionnaire made up of 39 items with both close-ended and open-ended items with five sections were used to elicit data from employees who work in either government or private institutions in Ghana. This was used to address the research objectives. Data analyses were applied, including cross tabulation, frequency and percentage distributions using the SPSS Predictive Analytical Software (PASW) Version 18.0.

The first substantive objective of the study focused on the petroleum revenue management model in Ghana and international best practices. The main findings emerged were that ;

All (100%) the respondents working in government institutions and majority (97.3%) of those working in the private institutions indicated that the petroleum revenue in Ghana needs laws for its effective management. The petroleum revenue therefore is separated from general revenue that is lodged into the consolidated fund compared to the Mineral and Mining Act, 2006 (Act 794).

Majority (69.9%) of the respondents admitted that the petroleum revenue management law in Ghana is serving its intended purpose because the law regulates the spending of revenue and it allows for clear, accountable and efficient distribution of petroleum wealth. The management of the fund currently is in conformity with the objectives of the law since it addresses immediate and future usage of the fund.

Greater number (79.6%) of the respondents, especially those that work in government institutions (89.2%), assert confidently that the petroleum revenue law conform to international standard because the petroleum revenue management Act 2011, (Act 815) has been hailed as a world class and has a

104

characteristics of most of the petroleum producing countries revenue management mechanism and other international organisation investment funds attributes. The management of fund had been separated from the ownership as it is practiced in most of the renowned petroleum producing countries in the world.

Majority of the respondents aver that, petroleum revenue cannot be treated like any other revenue, it is unique and to ensure transparency and accountability in its usage the country need simple and flexible but effective framework. With reference to Mineral and Mining Act, 2006 (Act 794) where the fund is not treated separately, the petroleum revenue is managed as an entity with clarified compartments of the revenue.

The second substantive objective of the study finds out whether Ghana's petroleum revenue management exhibits transparency. The key findings emerged were:

Majority (73.0%) of the respondents agreed that Ghana's Petroleum Revenue Management Act, 2011 (Act 815) has the trait to deliver the best possible economic future for Ghanaians. The Act makes provision for budgetary support annually for capital and revenue expenditure and well investing portions of the fund for generation through investment international currency.

Greater number of the respondents admitted that the Act is simple, and flexible to modern petroleum revenue management laws in the world (52.7%) and also it is as a result of intensive research and public consultation, both national and international (63.4%). Ghana's petroleum revenue law is hybrid

105

which has myriad of a feature from Norway, Alaska and Azerbaijan petroleum wealth management model for example.

Majority (60.2%) of the respondents were of the view that the law makes great effort to respond to the need for public accountability and transparency. This is espouse by the establishment of Public interest and accountability committee which provide a platform for public debate on spending prospect of petroleum revenues in line with development priorities by the petroleum revenue management law.

Similarly, majority (71.0%) of the respondents agreed that the laws clearly set out the guidelines and assigns responsibility for the managers of funds. This

Widely held (57.0%) view of the respondents was that the Act establishes clear procedure of the movement of petroleum revenue from collection to utilisation. The collection of the revenue is entrusted to Ghana Revenue Authority with the treasury of the Central Bank being the custodian of the fund. The utilization of the fund is predominantly done through the Annual Budget Funding Amount by the Ministry of Finance. This automatically creates segregation of functions and responsibilities.

Majority (61.3%) of the respondents agreed that the law can ensure that revenue from the oil and gas are used for development and improve standard of living of the citizenry. Through the budgetary support which part of the petroleum revenue expected to be used for may have the impetus to improve public finance which may afford the private sector building of infrastructure and provision of services which has the propensity of job creation.

106

The third objective addressed the reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue and the following main findings emerged:

Majority (86.0%) of the respondents admitted that collateralisation of future oil revenue is important in effective petroleum revenue management in Ghana. This is because the nation does not have the capital to finance the exploration for further discovery. The oil backed loans may be used in the oil and gas sector.

Majority (52.7%) of the respondents admitted that the 10 years period limit for the usage of oil revenue to collateralise loans may not prevent government from excessive borrowings. This because since there is sovereign guarantee which allows the government to issue debt instrument the nation can borrow without oil collateralization. Therefore the collateralisation can not only contribute to excessive borrowing.

However, majority (81.7%) of the respondents indicated that there is no early economic benefit for using oil revenue to secure loans. This is for the reason that securing loans backed by oil revenue does not automatically inure to an economy until prudent economic measures coupled with sound investment principles are adhered to.

Most of the respondents assert confidently that using oil revenue to collateralise loans may result in lack of concentration on domestic tax mobilisation. This is because if oil backed loans become alternative source for generating revenue, the focus would not be on domestic mobilization of tax and non-tax revenue which core to public finance.

107

1. Majority (53.8%) of the respondents admitted that Ghana's future oil revenue management is liable to resource curse since it is not an attitude which occurs at the spell of time but rather gradually process which manifest through managerial deficiency of wealth of natural resources.

The benefits of segregation of the petroleum revenue, the limit on mandatory savings and budgetary support in the management of petroleum revenue were examined as the last substantive objective and the key findings were that:

Majority (78.5%) of the respondents admitted that the segregation of petroleum revenue is a pre-requisite for effective petroleum revenue management. This is because the revenue has different purpose in its utilisation and therefore the need for the segregation to monitor the usage for their intended purpose. It also enhances transparency and accountability enable performance measurement as far the returns on their investment drive is concern.

More than half (52.7%) of the respondents indicated that the sharing ratio of 70:30 to the annual budget funding account in the distribution of petroleum wealth was to create early distribution which will be used annually. The use of oil revenue to support the national budget through capital expenditure annually will create impetus for development with oil revenue through the Annual Budget Funding Account.

Most of the respondents were of the view that the limit was place on the distribution of oil revenue to the Annual Budget Funding Account to ensure that there is a provision made for future generation since petroleum resources

108

belong to both the present and the future. This places restriction on the executive to the use of petroleum revenue.

Majority (68.8%) of the respondents admitted that the creation of Heritage Fund is the only means of managing portion of the petroleum wealth for the future generation in Ghana.

Majority (75.3%) of the respondents indicated that the petroleum fund is invested abroad to diversify risk by not investing in the domestic economy where the economy is susceptible to unstable macroeconomic performance indicators.

Large chunk (77.4%) of the respondents was of the view that the Ghanaian economy is in a pole position of benefiting from investing the petroleum fund abroad. The unpredictability of the local economy does not provide conducive investment environment for the funds to be invested in the local economy

Conclusions

The study has shown that Ghana's petroleum revenue management model is consistent with international best practices. The petroleum revenue in Ghana still needs laws for its effective management. Currently, the petroleum revenue management law in Ghana is serving its intended purpose through the regulation of the spending of revenue and it allows for clear, accountable and efficient distribution of petroleum wealth. The petroleum revenue law conform to international standard because the Petroleum Revenue Management Act 2011, (Act 815) because the institutions involved in ensuring prudent management are not relented in their mandate. More especially the PIAC through its mandate provide to the public with the utilization of the petroleum revenue generated. It is clear that the petroleum revenue cannot be treated like

any other revenue, it is unique and to ensure transparency and accountability in its usage the country need simple but effective framework.

Ghana's petroleum revenue management depicts transparency and good governance. Ghana's petroleum revenue management Act 2011, (Act 815) has the trait to deliver the best possible economic future for Ghanaians. The act is simple, and flexible to modern petroleum revenue management laws in the world due to the intensive research and public consultation, both national and international by management. The managers of Ghana's petroleum revenue must ensure that there is public accountability and transparency in their operations. The laws clearly set out the guidelines and assigns responsibility for the managers of funds. It establishes clear procedure of the movement of petroleum revenue from collection to utilisation. The law ensures that revenue from the oil and gas are used for development and improve standard of living of the citizenry.

In relation to the reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue, it is clear that the collateralisation of future oil revenue is important in effective petroleum revenue management in Ghana. This is so because the nation does not have the needed cash to single headedly finance the oil drilling operation for further discovery. Therefore, loans must be secured if it would be used in the oil and gas sector. However, the 10 years period limit for the usage of oil revenue to collateralise loans prevent government from excessive borrowings since there is sovereign guarantee, which means as far as the economy is viable the issuance of debt or borrowing may occur. Even though, there are no significant early economic benefits for using oil revenue to secure loans. Oil

110

revenue to collateralise loans generates lack of concentration on primary source of revenue being domestic tax mobilisation.

Ghana's future oil revenue management is liable to resource curse since it is an attitude which does not surface and die overnight with law but rather gradually manifest through institutional bottlenecks. Segregation of petroleum revenue is a pre-requisite for effective petroleum revenue management because the revenue has different purpose in its utilisation and therefore the need for the segregation to monitor the purpose to which it is put into use. It helps in enhancing transparency and accountability which enable performance measurement as far the returns on their investment drive is concern. Ghana's petroleum fund is synonymous to sovereign wealth fund in most of the oil producing countries.

Recommendations

Based on the key findings and conclusions of this study, it is recommended to stakeholder of Ghana's petroleum revenue and policy makers to ensure that:

Policy formulators in Ghana's petroleum industry should ensure that petroleum revenue management practices are in line with dynamics in the world's petroleum industry. For instance, the Public Interest and Accountability Committee must constantly monitor and evaluate of the utilization of petroleum revenue and report in compliance of the Act to promote public debate.

The utilization of the fund must focus on efficiently on developing of infrastructure since petroleum revenue according to Hoteling's theory is dependent on production which has the tendency of depletion after peak

111

production is attained. This recommendation is important because petroleum revenue cannot be treated as permanent income that can be relied on with certainty.

Again reasons for the statutory limits on collateralisation of government's borrowing against the projected petroleum revenue are not circumvented to instil conformity to the Act. This is because there is no scientific exactness in projecting revenue to be generated from the production of oil

Lastly the limit on mandatory savings and budgetary support in the management of petroleum revenue are strictly obeyed by all especially the executive arm of government since the wealth also belong to the future generation of which they must share in its benefit when the resources is depleted .

Suggestions for further research

The following related areas can be researched to add up to the knowledge of what this study has produced. First, there is a need to carry out a comparative evaluation of an analysis of petroleum revenue management in West-Africa with regard to the treatment of fiscal instrument under the petroleum contract entered into by the various states and their partners in the quest for revenue generation and future development of the oil and gas industry.

Secondly, a research should be done to evaluate the impact of Ghana's petroleum revenue management model and its effect on the country's operation of the sector using interview guide, questionnaire and observation guide in order to have a more in-depth on the concept. This will help policy makers and management within the sector to understand the contribution of

112

the law to effective petroleum management better. Lastly, a study should be done to establish integration of the petroleum sector to other subsectors in the energy industry. Such a study will help operators in the energy sector learn and understand the integration of all the subsystems in order to assess their activities synchronically.

113

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APPENDIX A

Table for determining a sample size for a given population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Source: Krejcie and Morgan (1970)

Note: "N" is population size   AND   "S" is sample size.

APPENDIX B

122

QUESTIONNAIRE FOR EMPLOYEES

The researcher is a student of the UNIVERSITY OF CAPE COAST pursuing a Master of Business Administration in Finance and conducting a research on petroleum revenue management in Ghana. The researcher would be grateful if you could provide responses to the questions below. The information provided would be treated strictly confidential and only be used for the purpose of the study. Thank you for your co-operation.

SECTION A: BACKGROUND INFORMATION

1. Sex: Male (   )   Female (   )

2. Name of Institution / MDA …………………………………………………

3. Name of Department ……………………………………………………

4. Type of Institution   government institution ( )   private institution ( )

5. Area of Specialisation……................……………………………………..

6. Position ………………………………………………………………………

7. Level of education First Degree ( ) Second Degree ( ) Professional ( )

SECTION B: PETROLEUM REVENUE MANAGEMENT IN GHANA
AND INTERNATIONAL BEST PRACTICE

1. Does petroleum revenue in Ghana need a law for its management?

   Yes (   ) No   (   )

2.   Does the Ghana's Petroleum Revenue Management Act 2011, (815) serve

   its purpose?   Yes ( )   No ( )

a. If (yes) give reasons? ......………………………………………………

b. If (no), give reasons?......……………………………………………

123

Does Ghana's Petroleum Revenue Management Act 2011, (815) conform to international best practice?   Yes ( )   No ( )

a. If (yes) give reasons ………………………………………………………

b. If (no) give reasons ………………………………………………….

3. In your opinion, why is there no provision in the Ghana's Petroleum Revenue Management Act 2011(815) for the sharing of revenue between the central and the sub government such as the District Assemblies

    ……………………………………………………………………………

    ……………………………………………………………………………

4. Are the institutions involved in the management of the petroleum revenue enough to ensure effective revenue management Yes (   ) No ( )

    Could you please give reasons for your answer in question 5?

    ……………………………………………………………………………

    ……………………………………………………………………………

5. Does the inherent control system in the management of petroleum revenue insulate Political powers from mismanaging the oil revenue? Yes ( )No ( )

SECTION C: TRANSPARENCY IN PETROLEUM REVENUE MANAGEMENT

Please indicate the extent to which you agree to the statements concerning Ghana's petroleum revenue management law in conformity to transparency by ticking the appropriate option. 1=Disagree (D) 2= Uncertain (U) 3= Agree (A)

STATEMENTS	1	2	3
Ghana's petroleum management ACT 815 has the trait to			

124

deliver the best possible economic future for Ghanaians.			
The PRMA (Act 815) is rules based with the view of ensuring greater discipline in the petroleum revenue management.			
The Act 815 is simple, transparent and flexible to modern petroleum revenue management laws in the world.			
The Act is as a result of intensive research and public consultation, both national and international.			
The Act 815 makes great effort to respond to the need for public accountability and transparency.			
The Act 815 clearly set out the guidelines and assigns responsibility for the managers of funds			
The Act 815 establishes clear procedure of the movement of petroleum revenue from collection to utilization			
The Act 815 can help prevent Ghana from repeating the mistakes in other oil producing countries relating oil revenue management			
The law can ensure that revenue from the oil and gas are used for development and improve standard of living of the citizenry			
The management of petroleum revenues and savings has always been carried out with the highest internationally accepted standards of transparency and good governance			

125

The Public Interest and Accountability Committee monitors and evaluates the Government's management of the Ghana Petroleum Funds and facilitate public debate.		

SECTION D: COLLATERALISATION AND OIL REVENUE

1. Is collateralisation of future oil revenue important in effective petroleum revenue management in Ghana? Yes ( )   No ( )

If yes, why ……………………………………………………………

2. In your opinion, does the use of the Annual Budget Funding Account as collateral for liabilities of Government defeats the prohibition of the use of oil revenue for collateralisation as stipulated in the Act 815 ?

    Yes (   )   No (   )   No idea (   )

3. In your opinion, will the 10 year period limit for the usage of oil revenue to collateralise loans prevent government from excessive borrowings?

    Yes (   )   No (   )   No idea (   )

a. If yes, give reasons ……………………………………………………

b. If no, give reasons ……………………………………………………

4. Is there any early economic benefit for using oil revenue to secure loans?

    Yes ( ) No ( )

a. If yes, give two reasons …………………………………………………

………………...

5. What are two associated risk in using oil revenue to collateralise loans?

    ....

6. Does Ghana's future oil revenue management liable to resource curse?

    Yes (   )   No (   )

a. Could you give reasons for your answer? ……………………………………

……………………………………………………………………………………....

SECTION E: SEGREGATION OF PETROLEUM FUND

1. Is the segregation of Petroleum Revenue Holding Fund a pre requisite for effective management?   Yes ( )   No ( )

a. If yes, give reasons …………………....…………………………………

b. If why no ......…………………………………………………………

2. Is Ghana's petroleum fund synonymous to sovereign wealth fund in most oil producing countries?   Yes ( )   No ( )

3. In your opinion, is the sharing ratio of 70:30 to the Annual Budget Funding Account and Ghana Petroleum Fund respectively appropriate to ensure early economic distribution?   Yes ( )   No ( )   No idea ( )

4. What relevance does the ceiling of 70% upper limit distribution to the Annual Budget Funding Account has on the petroleum revenue management in Ghana? ……………….....……………………………………

…………………………………………………………………………………

………………………………….................................……………………

5. Is the creation of the Heritage fund the only means of managing petroleum wealth for the future generation in Ghana?   Yes ( )   No ( )

6. Please specify any alternative if no, …………………………………………

7. In your opinion, are there any reasons for investing the petroleum funds abroad?   Yes ( )   No ( )   No idea ( )

a. If yes, give reasons ....………………………………………

………………….....………….…………………………………………

……………….....................................………………………………………..

127

8. Does the economy stand any chance of benefiting from investing the petroleum funds abroad?   Yes ( )   No ( )

   If yes, give reasons …………………………………………………………

   ...………………………………………………………………………..

   ………………………………………………..

   ....

THANK YOU