

Essays on Oil and Gas Sector

by

IRENE IRIS AKAAB

A dissertation submitted to the

Graduate School – Newark

Rutgers, The State University of New Jersey

In partial fulfilment of the requirements

for the degree of

Doctor of Philosophy

Graduate Program in Management

written under the direction of

Prof. Wayne Eastman

and approved by

-----  
-----  
-----  
-----

Newark, New Jersey

October 2018

Copyright page:

© [2018]

IRENE IRIS AKAAB

ALL RIGHTS RESERVED

## **ABSTRACT OF DISSERTATION**

Essays on Oil and Gas Sector

By Irene Iris Akaab

Dissertation Director: Professor Wayne Eastman

All the three essays in my dissertation discuss issues in the oil and gas sector.

The first essay studies civil war, conflicts and vandalism in resources enriched countries, specifically in the oil and gas sector in sub-Saharan African countries, by examining select literature. It argues that vandalism, conflict and civil war is prevalent in these countries because of the dissatisfaction of indigenes who reside in the extraction area. Evaluation of how oil and gas revenue is distributed under the Sovereign Wealth Fund (SWF) of these countries suggests that these revenues are not managed properly, based on transparency and accountability rankings. This paper advocates for the management of the SWF to be outsourced so that the returns can be used to develop the country. In this essay, I propose that the Charter City model developed by Paul Romer be applied. The main concept of this model is about rules. Rules do matter, and when proper rules are put in place, people get motivated to come to come to the city to create wealth, save and invest. This is a new dimension which I am advocating for Sub-Saharan Africa oil producing countries to adopt in managing the revenue accrued from natural resources, especially in the oil and gas sector.

The second essay focuses on profitability and valuation of firms when the future path of government policy is uncertain. Specifically, I examine whether the economic risk caused by gridlock during periods of divided government influences profitability

and valuation of firms that operate in the oil and gas sector. Using U.S. publicly traded oil and gas firms from the Compustat database covering the period 1989 to 2016, the results show that firms are profitable when there is a divided government; however, there is no association between divided government and firm valuation. I find that firms are less profitable under unified government. Further, small Texas firms and those that operate in the crude petroleum and natural gas industry are less profitable in the periods of Democratic control. Large firms tend to be profitable during Republican control and small firms are more profitable when there is a divided government. In sum, political institutional factors affect the profitability of firms that operate in the oil and gas sector; however, this relation differs across firm size and industry.

The third essay focuses on corporate investment behavior of firms in the oil and gas sector during periods of divided government. The general thrust of this essay is to consider whether the effect of political control on the long-term calculations involved in investment decisions differs from the effect on profitability I examine in the second essay. In the third essay, I also investigate investment behavior during periods when one party controls both the executive (i.e. White House) and the legislative (i.e. the House and the Senate) branches of government, with the aim of determining how variations in political ideologies and the interaction of these ideologies influence investment in this sector. Using U.S. publicly traded oil and gas firms from the Compustat database covering the period 1989 to 2016, I find that these firms spend more on R&D during periods of divided government. They spend less when the Republican Party controls both the executive and legislative branches. I find that the effect of Republican control on R&D spending differs across industries in the sector. Further, there is evidence that small Texas firms and firms that operate in the crude petroleum and natural gas industry spend less in investment in tangible assets when the

Democratic Party controls both the executive and the legislative branches. I find that small Texas firms invest more under divided government. Taken together, I find that political institution factors (i.e., government control type) are associated with investments in tangible assets and R&D by oil and gas firms.

## **ACKNOWLEDGMENT AND DEDICATION**

To God be the glory for the strength He bestowed upon me to complete this Program. I would like to express my sincere gratitude to my advisor and Chair Prof. Wayne Eastman for the continuous support of my Ph.D study and research. I thank him for his patience, motivation, and enthusiasm. His guidance helped me in my research and writing of this dissertation. I will also like to thank the rest of my dissertation committee: Prof. James Thuo Gathii, Prof. Arash Azadegan and Prof. Weiwei Chen for their encouragement, insightful comments, and questions. I acknowledge the support of Accra Technical University for their funding that made my Ph.D program possible.

My special thanks to Prof. Clement Alo and his family for supporting, encouraging, and cheering me up. Not forgetting Dr. Alex Abakah for his help and support during the tough times in my research. Last but not the least, I would like to thank my Family: My mother Theresa Tanga, elder sister Pascaline Akaab and her husband for their prayers and encouragement. Finally, I would like to dedicate this work to my dear daughter Vera and my parents especially my late father and late Uncle Emmanuel Awori whose memories were always with me during my studies. Uncle Emma, remember you encouraged me to continue my education till I attain my Ph.D for you saw this in me when you came for my MBA graduation in UK. I hope this will make you happy and proud of me.

## TABLE OF CONTENTS

Abstract of Dissertation.....	i
Acknowledgement and Dedication.....	iv
List of Tables and Figures .....	viii

### **Essay 1: Adopting Outsourcing and the Charter City Model in Oil Producing Sub-Saharan African Countries: A Proposed Remedy for Civil War, Vandalism and Corruption**

1. Introduction .....	1
2. Literature review on Civil War, Vandalism and Conflict in oil Producing Countries in Sub –Sahara Africa.....	5
2.1: Nigeria and Oil Conflicts.....	10
2.2 Angola and Oil Conflicts.....	11
2.3 Sudan and Oil Conflicts.....	12
3. Ethnographic Research.....	14
3.1 Interview Process with Participants.....	14
3.2 Ethnographic Research Literature.....	16
3.3 Data Analysis and Results.....	19
3.3.1 Interview with Chief and Analysis .....	20
3.3.2 Interview with Fishermen Group 1 Leader.....	22
3.3.3 Interview with Fishermen Group 2 Leader .....	24
3.3.4 Interview with Bystanders .....	24
4. A Typical Oil Supply Chain of Ghana.....	27
5. Management of Oil and Gas Revenue .....	30
5.1 Norway’s Model of Oil Revenue Management .....	31
5.2 Norway’s Governance of the Revenue Fund.....	33
5.3 Norway’s Oil and Gas Investment Strategy.....	35
5.4 Norway’s Petroleum Cash Flow .....	37

6. Ghana's Model .....	39
6.1 Ghana's Investment Strategy.....	41
6.2 Ghana's Governance Strategy .....	42
7. Discussion.....	43
8. Outsourcing .....	46
9. Charter City Model for Oil and Gas Producing Sub-Sahara African Countries .....	49
10. Conclusion .....	56

**Essay 2: The Effect of Divided Government on Profitability and Valuation:  
Evidence from the Oil and Gas Sector.**

1. Introduction.....	81
2. Literature Review.....	86
3. Data Source and Summary Statistics.....	92
3.1 Data Source and Main Variables.....	93
3.2 Variable Construction.....	94
3.3 Descriptive Statistics and Analysis .....	94
4. Empirical Model.....	95
4.1 Model Specification.....	95
4.2 The Effect of Divided Government Control on Oil and Gas Sector.....	96
4.3 The Effect of Unified Government Control on Oil and Gas Sector.....	97
5. Oil and Gas Industry Type.....	98
5.1 The Effect of Divided Government Control by Industry Type.....	98
5.2 The Effect of Unified Government Control by Industry Type.....	99
6. Texas Firms .....	100
6.1 Texas Firms and the Type of Government Control.....	100
6.2 Size of Texas Firm and Type of Government Control.....	102
7. Conclusion .....	103



### **Essay 3: The Effect of Divided Government on Investment in Tangible Assets and R&D: Evidence from the Oil and Gas Sector**

1. Introduction.....	113
2. Literature Review.....	115
3. Data and Summary Statistics .....	118
3.1 Data Source and Main Variables .....	119
3.2 Variables' Construction .....	120
3.3 Descriptive Statistics .....	120
4. Empirical Model .....	121
4.1 Model Specification .....	121
4.2 The Effect of Government Type.....	122
5. Analysis on Oil and Gas by Industry Type .....	124
5.1 The Effect of Divided Government by Industry Type .....	124
5.2 The Effect of Unified Government by Industry Type.....	126
6. Texas Firms .....	126
6.1 Texas Firms and Type of Government Control.....	127
6.2 Size of Texas Firms and Type of Government Control.....	128
7. Conclusion .....	129
<b>References.....</b>	<b>140</b>

## LIST OF TABLES AND FIGURES

### **Essay 1: Adopting Outsourcing and the Charter City Model in Oil Producing Sub-Saharan African Countries: A Proposed Remedy for Civil War, Vandalism and Corruption**

Appendix 1: Interview Script with Chief .....	58
Appendix 2: Interview with Group Leader 1, 2, and Fishermen bystanders.....	70
Appendix 3: 2015 Sovereign Wealth Fund Scoreboard .....	76
Appendix 4: 2017 Sovereign Wealth Fund Ranking.....	78
Table i: Mineral Resources and Secessionist Movement.....	8
Figure i: Map of Western Region (WR) in Ghana and Areas of Oil Extraction ...	18
Figure ii: A Typical Petroleum Supply Chain.....	29
Figure iii: Ghana Oil and Gas Supply Chain.....	29
Figure iv: Norway's Sovereign Wealth Fund (SWF) Flow Chart.....	32
Figure v: Norway's SWF Governance Model.....	34
Figure vi: Norway's SWF Investment Strategy.....	35
Figure vii: Ghana's Petroleum Fund Cash Flow.....	39
Figure viii: Ghana's Management and Accountability Structure.....	42

### **Essay 2: The Effect of Political Divide on Profitability and Valuation: Evidence from the oil and gas sector**

Appendix A: Variable Definitions.....	104
Table 1 Summary Statistics on Industrial classification.....	105

Table 2 The Effect of Government Type on Profitability and Valuation.....	106
Table 3 Divided Government Effect Conditional on Firm Type.....	107
Table 4 Unified Government Effect Conditional on Firm Type.....	108
Table 5 Divided Government Effect Conditional on Firm Type – Texas Firms Only.....	109
Table 6 Unified Government Effect Conditional on Firm Type – Texas Firms Only.....	110
Table 7 Divided Government Effect Conditional on Firm Size- Texas Firms Only .....	111
Table 8 Unified Government Effect Conditional on Firm Size- Texas Firms Only.....	112

### **Essay 3: The Effect of Political Divide on Investment in Tangible Assets and R&D: Evidence from the oil and gas sector.**

Appendix A: Variable Definitions.....	131
Table 1 Summary Statistics of Publicly Traded Oil and Gas Companies in USA.....	132
Table 2 The Effect of Government Control Type on Investment .....	133
Table 3 Divided Government Effect Conditional on Firm Type.....	134
Table 4 Unified Government Effect Conditional on Firm Type.....	135
Table 5 Divided Government Effect Conditional on Firm Type – Texas Firms Only.....	136

Table 6 Unified Government Effect Conditional on Firm Type	
– Texas Firms Only.....	137
Table 7 Divided Government Effect Conditional on Firm Size-	
Texas Firms Only .....	138
Table 8 Unified Government Effect Conditional on Firm Size-	
Texas Firms Only.....	139

## **Essay 1: Adopting Outsourcing and the Charter City Model in Oil Producing Sub-Saharan African Countries: A Proposed Remedy for Civil War, Vandalism and Corruption**

### **1. Introduction**

Many developing countries, including sub-Saharan Africa, have discovered oil recently or over the past several decades. In Nigeria and Angola in particular, the production of petroleum in commercial quantities has been accompanied by continued underdevelopment, corruption, civil unrest, and vandalism, especially in the regions/areas where the oil is being extracted. Given the decline of oil prices globally, African oil producing countries may expect to experience continued challenges leading to political turmoil and public outcry. The aim of this study is to examine the underpinnings of high prevalence of civil wars, conflicts and vandalism in African oil-producing countries with an ultimate goal of proposing a new direction that will give these countries a better way forward in the management of oil, to enhance the economic growth and development of these countries. Such a new oil revenue management approach would potentially be especially beneficial to Ghana, a nation in which petroleum has been discovered recently, and which has a relatively good reputation in the region for its economic and political stability and level of freedom.

There is a vast literature in political science, economics, and other disciplines on civil war and other conflicts associated with the “resource curse” of oil in oil producing countries. Collier and Hoeffler (1998 and 2000a) showed that natural resources increase the likelihood of a war and that high level of natural resources reduces the intensity of the war once it has started. Collier and Hoeffler (2000b) concluded that, a state that depends primarily on commodity exports is likely to have a

separatist civil war. Other studies, including Fearson and Laitin (2003), Hegre (2002) Humphrey (2003), De Soysa (2000b), all concurred that resources increase the likelihood of Civil war or conflicts. More recently, Valley Koubi et al. (2014) showed that resource abundance is associated with conflicts while, Struver and Wegenast (2016) suggested that oil is linked to conflicts between countries. This large body of studies thus support the notion that oil discovery comes with the likelihood of civil wars or conflicts.

This “oil curse” phenomenon, however, seems to exhibit a strong country economic classification dependency. Most developed countries that have oil have been able to manage their oil production effectively and have not experienced civil war /conflict. Ross’ (2004) research on natural resources and civil war clearly showed that majority of the countries experiencing oil-related conflicts are African countries. It is therefore important to explore policies that have potential to reduce civil war/conflict in sub Saharan African oil producing countries.

Most African oil producing countries, including Angola, Nigeria and Sudan, have experienced civil unrest, vandalism and even civil war that are attributable to grievances from indigenes who live in regions where natural resources are found but do not believe they are receiving the benefits from these resources. It is therefore prudent that, Ghana and other African countries yet to discover oil in commercial quantities should look into how they will manage oil production and revenue so as not to experience civil unrest, vandalism, conflicts and war.

My research in Ghana which I will describe in this essay shows the potential for such conflicts. My interviews with indigenes of Atuabo, an area in Ghana where oil is being extracted, in June 2015, revealed that these indigenes are dissatisfied with the

way the process was working. According to a Chief of the village, a spokesman for the indigenes, they expected to see good schools, hospitals, good roads and an increase in employment for the youth in that area but have not seen that since oil extraction began in 2007.

Fishermen I interviewed in Atuabo where fishing is their main economic activity complained bitterly about the oil industry. According to them, the discovery of the oil was originally seen as a blessing that would help alleviate poverty and improve livelihood, but unfortunately, they have not seen any improvements. Instead they said the extraction of the oil has made fishing more difficult, with reduced catches and increased problems from oil related waste (which is leading to algal blooms) in the water body. They even threatened to go on a demonstration to their Chief, so he sends their grievances to the relevant authorities on their behalf.

These are teething problems that, if not solved has the capability to lead to civil unrest, vandalism and war as these have been identified to be the same reasons for civil unrest in Angola, Nigeria and Sudan. This is an important lesson that Ghana and other African oil producing countries ought to learn and manage the revenue accrued from the oil extraction effectively to reduce these problems.

Most countries, including Sub Saharan African oil producing countries, have adopted the Sovereign wealth fund model (SWF) in managing their revenues. Unfortunately, in an evaluation of SWF by Peterson institute for International Economics (2013), most African countries failed to effectively manage their revenue. In 2016, a progress report on SWF 2015 showed that 60 countries fell short of what citizens in their various countries expected (Stones & Truma, 2016). These problems in revenue management can lead to more civil unrest in these oil producing countries.

Although Ghana has adopted SWF in managing the revenue generated, the National Resource Governance institution in collaboration with Columbia center on sustainable Investment (2013) disclosed that funds from the revenue of oil and gas have been invested in “Euroclear Bank in AAA rated, low risk bonds), however the countries in which Ghana has invested in was not revealed.

Many researchers have recommended that in managing the revenue accrued especially in sub Saharan African countries. Notable amongst them are those who have advocated for direct transfer of money to the citizens and indigenes. (Pally, 2003, Sala-I-Martin & Subananmai, 2013, and Birdsall & Subramanian, 2004))

As Ghana and other African countries have adopted SWF and still have not seen any impact, it is my recommendation that we outsource the management of the revenue accrued from the extraction of the oil and then use the returns from the investment to develop the Country by adopting the Charter City Model by renowned economist Professor Paul Romer (2015) and using Hong Kong and Shenzhen as examples. It is believed that, in this way we will be able to develop and manage the revenue so as not to experience civil unrest, vandalism and civil war like it is happening in Nigeria, Angola and Sudan.

Therefore, the objective of this paper is to understand the root causes of vandalism and possible civil unrest in these countries. The paper further sheds light on the advantages and disadvantages of adapting revenue management outsourcing and charter city model for avoiding civil unrest and corruption in Sub Saharan Africa countries taking Ghana as a case study.

The rest of the paper is organized as follows. Section 2 provides a literature review on civil war, vandalism and conflicts in oil using Nigeria, Angola and Sudan as



examples. Section 3 talks about ethnographic research and discusses the interview section with indigenes of Atuabo in WR of Ghana. Section 4 looks into Oil Supply Chain and what pertains in Ghana and the differences between these Supply Chains, Section 5 describes how SWF is managed using the Norway Model and comparing it with what pertains in Ghana. Section 6 is the discussion part, Section 7 will come out with my proposal to outsource the management of the SWF and then section 8 will come out with how the revenue accrued from the management of the fund should be used using the Charter city model by Professor Paul Romer taking into consideration what pertains in Hong Kong, Shenzhen and Now Honduras and finally the conclusion comes in section 9.

## **2. Literature Review: Civil War, Vandalism, and Conflict in oil Producing Countries in Sub –Sahara Africa**

Africa is a region which has a diversity of natural resources. Most of these countries boast vast quantities of oil and gas (Oyefusi, 2010). As a result, countries in the region have experienced a rapid growth in their GDPs. However, the large oil reserves which should have ensured the development of the regions have turned into a resource curse. According to Basedau and Richter (2011), a resource curse is a concept which is used to describe countries which have many minerals and other natural resources, yet they have little or no economic growth and development. Currently, the energy demand globally is increasing rapidly due to industrialization. Although most African countries are export oil and other natural resources, the common citizen in the developing and underdeveloped countries does not benefit from the trade. For instance, Nigeria has the third biggest economy in Africa. Oil and gas exports contributed approximately 98% of the total earnings of the country in 2000 (Oyefusi, 2010). The country's GDP doubled between 2005 and 2010. However, the living standard of most

Nigerian citizens is below the poverty line. A research conducted by Basedau and Richter (2011) shows that 45% of the citizens live below the poverty line which clearly indicates that the wealth from crude oil does not trickle down to the citizens. Sudan has a very weak economy and it is very underdeveloped. The country mostly depends on oil. Basedau and Richter (2011) show that the products from the agricultural sector decline rapidly when a country becomes an oil producer. William (2015) show that civil wars and social unrest in most developing countries come about as a result of the discovery of natural resources.

In most developing countries, the revenue from oil and other natural resources is often used to finance the defense of a few elites in the countries (Basedau & Richter, 2011). According to Basedau and Richter (2011), whenever conflicts occur, the government elite group maintains its status quo and employs forces which are used to suppress any form of opposition that they face. These activities often result in bad governance.

There is a vast literature in political science, economics, and other disciplines on civil war and other conflicts associated with the resource curse in underdeveloped nations. Collier and Hoeffler (1998 and 2000a) investigated the causes of civil wars using data based on the onset and duration of 27 wars from 1960 to 1992. Their findings showed that natural resources increase the likelihood of a war, but that a high level of natural resources reduces the magnitude and length of the war once it started. Furthermore, Collier and Hoeffler (2000b) in their paper on the causes of separatist conflicts from 1960 to 1999, show that a state that depends primarily on commodity exports is most likely to have a separatist civil war. Other studies, including Fearon and Laitin (2003) (oil exporters and civil war onset), Hegre (2002) (primary commodity exporters and civil war onset), Humphreys (2003) (oil production, and civil war onset),

and De Soysa (2002b) (oil exporters and conflict onset) concluded that resources increase the likelihood of civil war or conflicts.

In 2004, Ross carried out a meta-analysis in which he reviewed all studies on natural resources and Civil war. He looked at 14 cross-national econometric studies alongside qualitative research areas and find that these papers have a collective regular result; Oil increases the likelihood of civil war (Separatist); 'Lootable' commodities like Gemstone and drugs are not likely to begin wars; There is no link between agricultural commodities and civil wars; The primary commodities (broad category including oil) link with the onset of civil war is not robust.

Valley et al. (2014) reviewed existing theoretical arguments and empirical findings linking renewable and non-renewable resources to the onset, intensity and duration of intrastate as well as interstate armed conflicts. They found that renewable resources are connected to conflicts due to its scarcity and non-renewable resources lead to conflicts because of their abundance. They concluded that empirical research support for the resource scarcity argument is weak but there was evidence to show that resource abundance is associated with conflicts.

Strüver, and Wegenast, (2016) studied natural resources, especially oil, and its harm to international peace. They investigated the impact of oil on militarized interstate disputes on a dyadic level from 1946 to 2001 and found that oil is linked to potential conflicts amongst countries. Their results, which are based on a logistic regression, showed that oil dependence and oil abundance increase the risk of dispute. Oil dependence, oil reserves and oil exports, according to the researchers, have higher risk of initiating conflicts and that countries with large oil reserves are targets for militarization. The more oil deposits a country has, the more its likelihood of having

international disputes. They further found that per capita, oil production does not affect a country's dispute proneness.

The linkage between oil production and civil war/conflicts found in these studies suggests that oil discovery comes with the likelihood of civil war or conflicts. Fortunately, most developed countries, for e.g. USA, Canada and Norway, have been able to manage their oil production properly which turned the resource curse (civil war /conflicts) into a blessing. Conversely, Sub Saharan African oil-producing countries continue to battle with civil unrest, conflicts and vandalism and therefore are still underdeveloped and continue to live in poverty.

Based on Table II on Ross (2004) paper on Natural resources and Civil war page 343, majority of civil wars occur in African countries.

**Table i:** Mineral Resources and Secessionist Movement

Country	Region	Duration	Resources
Angola	Cabinda	1975	Oil
Burma	Hill tribes	1949	Tin, gems
Democratic Republic of Congo	Katanga/Shaba	1960-65	Copper
Indonesia	West Papua	1969	Copper, Gold
Indonesia	Aceh	1975	Natural Gas
Morocco	West Sahara	1975 – 88	Phosphates, oil
Nigeria	Biafra	1967-70	Oil
Papua New Guinea	Bougainville	1988	Copper, gold
Sudan	South	1983	Oil

(Adopted from M. L Ross, Natural Resources and Civil War, page 343, Table II)

Due to these conflicts, vandalism and civil wars, most oil companies have opted for protection of their operations with the increased militant attacks in the oil field (Mähler, 2010). The companies opt for private protection when they feel that the government is offering them insufficient security. These private armies are often poorly trained and inadequately equipped making them unsuccessful in stopping the attacks. They are often underpaid by the oil companies, hence very ineffective in stopping the attacks. In some cases, the oil companies contract militant groups for protection of their assets and human resources (Paty, 2010). According to the research conducted by the World Bank, the companies operating in the Niger Delta have had contracts with the militant groups. The contracts can be direct contracts or indirect contracts. Direct contracts are given to locals who in turn protect the oil field infrastructure, for example, the surveillance contracts. The militant groups can be paid off to prevent attacks from other groups hence it is an indirect contract. Although these two methods of pay off are cheaper compared to the cost of repairing damages caused by the attacks, they often sustain violence in the problematic areas (Mähler, 2010). For instance, the buy off of militant groups is responsible for the sustained violence in the Niger Delta.

Consequently, the most vital questions to ask are: why do civil wars and unrest occur only in Sub Saharan African countries and not in developed countries? Is the Supply chain for extraction of oil in the Sub Saharan African countries different from that ones in these developed countries? If no, then why can't Sub Saharan African countries manage their oil to reduce poverty, civil unrest and vandalism especially in the regions and areas where the extraction of oil takes place? On the other hand, if the Supply Chain of extraction is different from those in developed countries, what should Sub-Saharan African countries be doing differently? Most African oil producing countries have experienced civil unrest, vandalism and even civil war from time to time,

which is attributable to grievances from indigenes from natural resources regions especially oil (for e.g., Nigeria, Angola, South Africa, Libya, Sao Tome and Principe, Guinea Bissau). As examples, the next three subsections discuss oil conflicts in the top three African oil producing countries, namely Nigeria, Angola and South Sudan.

## 2.1 Nigeria and Oil Conflicts

There has been a vast amount of literature about oil and gas and civil war and conflicts in Nigeria (Niger Delta). Nigeria is the largest African producing oil country and the world 6<sup>th</sup> largest exporter of oil (Energy Information Association (EIA) 2005b; 2006). Yet since the 1990s, violence has increased in Niger Delta (Mahler, 2010). According to Mahler (2010), oil has indirectly boosted the risk of violent conflicts through the distortion of the national economy. She concluded that the increasing violence in Niger Delta is driven by economics of violence which involve security forces, politicians, and international business men in illegal oil theft which explains the perpetuated violent conflicts (Mahler, 2010).

Ikelegbe (2006) examined the “interface between Nigeria state, Multinational oil companies, the international community, and youth militias within the economy.” He finds out that although the economy did not cause the conflicts it was part of the resistance and a resource in sustaining the conflict. Since 1960, Niger Delta has been involved in resistance against the political economy of oil in Nigeria and this has intensified since 1997 (Ikelegbe, 2006). The economy of conflicts in Niger Delta resources conflict was as a result of “interventions by opportunists and merchants” (Ikelegbe, 2006). Niger Delta, according to Ikelegbe (2006), is restive with “pockets of insurrection and armed rebellion”. Years of “oil exploitation, environmental despoliation and state neglect” which had led to an “impoverished, marginalized and exploited citizenry for decades” resulting in youth resistance. The result is a Niger Delta

state of “intense hostilities, violent confrontation and criminal violence’. An estimated 100,000 barrels of oil at about \$2.8 million is stolen daily with the help of militants and gangs (Nigeria Economic Summit Group (NESG), 2003). As of 2014, 350,000 barrels of oil were lost per day, which accounts for 15% of the country’s oil production (Bell & Wolford, 2015).

Nigeria has also proven that it is unable to protect oil pipelines from theft. The country is incapable of ensuring that oil drilling and production does not harm the local community, which has affected the environment and communities living next to the oil fields (Paty, 2010). From 1970 to 2000, a total of approximately 7000 oil spills were reported in the Niger Delta.

## 2.2 Angola and Oil Conflict

Oil conflicts are not only seen in Nigeria, but also in Angola, the second largest producer of oil in Africa. Angola as at 2014 produced nearly 1.8 million barrels of oil per day (William, 2015). Jedrzej and Geoffrey (2001) investigated the impact of oil on the war in Angola and showed that mineral wealth did not only finance the war but also “intimately shaped the contours” of the conflicts (Jedrzej & Geoffrey, 2001). In 1993, the National Union for the Total Independence of Angola (UNITA) forces on two different occasions attacked the Soyo oil fields and caused a huge destruction to the fields which lead to the closure of production not only in this field but others nearby. This reduced production of oil by 15% from 555,000 to 474,000 barrels a day (Jedrzej & Geoffrey, 2001). Again in 2001, The Angola Army fought against UNITA and 9 people were killed close to a new oil refinery in Sonangol (Jedrzej & Geoffrey, 2001). These conflicts as they escalate causes threats to oil companies because some of their workers are kidnapped and/or killed, and oil installations sabotaged (Jedrzej & Geoffrey, 2001). The researchers further stated that the inability of the Government of

Angola to redistribute the oil resources in an even and just manner resulted in unrest. There were grievances of state neglect and “the prospect of huge revenues” caused the conflicts in Cabindan separatist groups which included the Frente de Libertacao do Enclave de Cabinda (FLEC) (Jedrzej & Geoffrey, 2001). Governing practices that are responsible for the war still exist. In 2008, the human rights watch and the department of State reported killings which were carried out by police and private security forces. The country has transparency issues and a high level of corruption. The government threatened oil companies which wanted to disclose their earnings. Lack of transparency is responsible for the wars and conflicts that break out in the country. The research showed that Angola’s oil wealth funded the arms purchased by the government. The researchers concluded that, without the oil and diamond revenue, UNITA and the Government of Angola would have found it difficult to continue the war after the departure of foreigners (Jedrzej & Geoffrey, 2001).

### 2.3 Sudan and Oil Conflicts

Sudan is endowed with nonrenewable resources like Petroleum, uranium, copper, diamonds, iron ore, gold, zinc, and silver among others (Patey, 2010). Sudan, the third largest producer of Oil in Africa, has also experienced conflicts. Sudan has significant volumes of these natural resources. However, most of the resources have not been properly utilized due to the constant war in the country. Chevron, an American oil company, made the first oil discovery in Sudan in the 1980s. However, its operations were cut short by the second civil war which occurred in 1983. The current conflicts in South Sudan are as a result of the control of oil and other natural resources. A study by Switzer (2002) showed that conflicts in Sudan were intensified by “competing claims of access to and control over oil fields and the land area” and also by the impact of



environmental oil exploration and production with its social consequences. The study revealed that oil money was a key factor in Sudan's war.

The ongoing conflict is as a result of the fight over oil resource (William, 2015). When war broke out in 2013, the two main blocks in South Sudan ceased production. The rebel forces that were responsible for the war had two main reasons for starting the war. They wanted to ensure that the government no longer generated revenue from oil and they also hoped to attain a negotiating power in the oil fields (Basedau & Richter, 2011). The rebels used the oil revenue to finance the war. As a result of the war, the oil production for South Sudan reduced by half in 2013.

Taking these scenarios into consideration, one needs to wonder about the roles of economics and a sense of grievance in civil conflicts. According to Collier and Hoeffler (2004) in their analytical model on greed and grievance in civil war, rebellion is motivated by greed and the availability of finance. According to them, the income that can be achieved either through looting or the control of state revenue brings about civil wars, especially in primary commodity export countries. They go on to argue that primary commodity dependence worsens governance, and so generates a stronger sense of grievance, which in combination with economic factors leads to civil war.

Stewart, Brown and Langer (2008) in their major findings and conclusion show that, the probability of conflict rises where socioeconomic inequalities (horizontal inequalities within the country) are high, because this leads to grievances and subsequently civil war and vandalism. They also show that violent conflict, contrary to what one might expect, is more likely to occur in areas with relatively low levels of economic income inequality. Instead, their findings suggest that conflict is more likely to occur when political and socioeconomic inequalities are severe.

It can be seen from the afore mentioned literature on Nigeria, Angola and Sudan that up and coming oil producing African countries like Ghana need to learn a lesson from these countries look into how best to manage the extraction of oil, given it has been estimated that, by 2015, 13% of global oil production will come from Africa. (Jayaram et al, 2017)

### **3 Ethnographic Research**

#### **3.1 Interview Process with Participants**

I conducted interviews with a Chief of Atuabo in the Western Region (WR) and two groups of fishermen at the seaside as part of my thesis research. Some individuals who were standing by at the interview location also contributed to the research by giving their opinion on the extraction of oil and gas in Western Region, precisely, Atuabo. For the interview to be successfully, I had permission from the Director General of Petroleum. I told him the purpose of my research and how I would like to interview the chiefs and indigenes of Atuabo in the Western Region. He introduced me to the Director of Research and asked him to make appointment with the chief. The director of research went with me to the Chief, introduced me and told him about our mission. After the interview, the chief asked one of his guards to go with us to the seaside the following morning and introduce us to the fishermen so that they will give us audience.

The Chief, who was interviewed in 2015, is the oldest Paramount chief who has been on the stool for 49 years. He has been a community leader since the days of Ghana's first President Osagyefo Dr. Kwame Nkrumah. He is also a rubber farmer and has a big farmhouse in the village. Rubber farming is one of the main economic activities of the people of the Western Region (WR). The Chief was chosen to be interviewed because he is the paramount chief of Atuabo where the extraction of oil is

a major economic activity. and as such the spokesman of the village. The interview session with the Chief took about 1 hour and 25 minutes. I asked for his permission to record the interview, which he agreed to. The interview was, therefore, recorded and later transcribed into a script.

To be able to interview the fishermen, I had to get to the seaside by 6 a.m. Upon arrival at the seaside where the fishing activities took place, I met with the first group of fishermen with their nets in the process of drawing out what they had caught that day. The group consisted of 30 individuals. None of them was prepared to talk to me. They instead asked me to talk with their leader since what he says was a representation of what they stand for. I met their leader and informed him of my mission. Afterwards, he agreed to be interviewed and also to be recorded in their local language, “Fanti”. The interview session took about 30 minutes. I moved to another part of the seaside and met the second group of fishermen. I asked for the leader of the group and also informed him of my mission and requested permission to interview and record him. He agreed to be interviewed only if the interview was anonymous. I agreed to his request and carried on with the interview. The interview session took about 25 minutes.

The fishermen were chosen to be interviewed because the extraction of gas and oil is offshore, and the main economic activity in Atuabo is fishing and farming. The chief, therefore, stands as the spokesperson of the people of Atuabo, and the fishermen stand for the main occupation in the community. This enabled me to be able to understand their opinion from different perspectives. This method was used because I wanted to know the opinions and beliefs of the indigenes of Atuabo’s regarding the extraction of oil and gas. Therefore, this is an ethnographic research.

### 3.2 Ethnographic Research Literature

“Ethnography is a social science research method (whether in political science, anthropology, sociology, economics, or psychology) and it can be qualitative or quantitative” (Asher & Miller, 2011). When using it qualitatively, it involves the “interpretation of the meanings, metaphors, and symbols of the social world”. This helps the researcher “see how a member of a group makes sense of a situation”. It also helps the researcher to develop an understanding of the “range of group member’s behavior”. This type of research uses a small number of respondents (Asher & Miller, 2011). As such Ethnography is “a collection of qualitative methods that focuses on a close observation of social practices and interactions”. It is believed that ethnography will allow the researcher to see beyond established “understandings of how a certain process or situation is supposed to work or what it is supposed to mean, and learn about the meanings that its participants ascribe” (Asher & Miller, 2011).

According to Harris and Johnson (2008), ethnography is “a portrait of a people”. The authors also indicated that ethnography “is a description of a particular culture which is their custom, beliefs, and behavior” (Harris & Johnson, 2000). Fetterman (1998) sees ethnography as “the art and science of describing a group or culture. The description may be of a small tribal group in an exotic land or a classroom in middle-class suburbia” (Fetterman, 1998). According to Malinowski (1922), ethnography is “to grasp a native’s point of view, his relation to life, so that we can realize his vision of his world”.

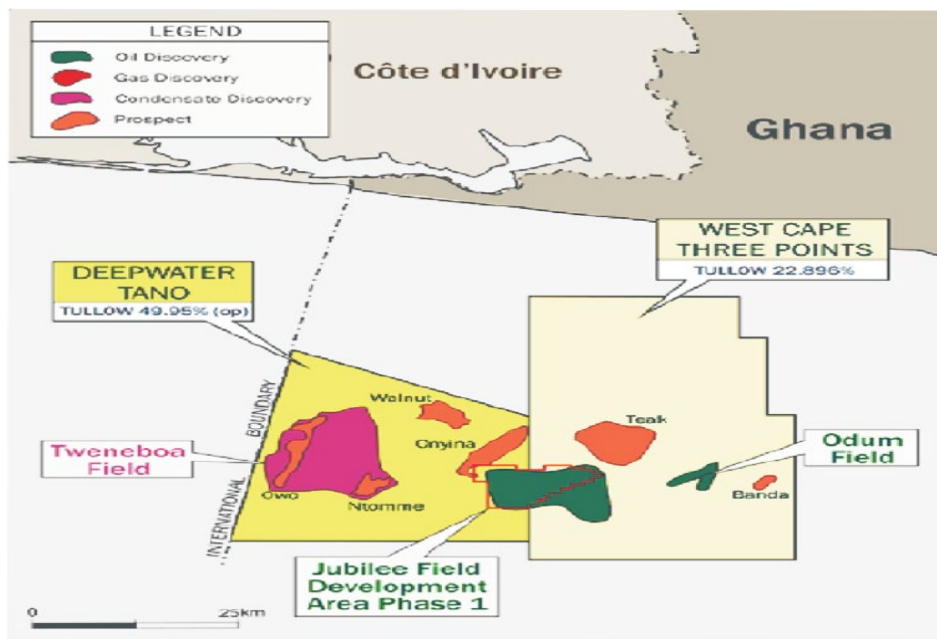
Finally, Lévi-Strauss (1963) made it much clear when he indicated that, ethnography involves “the observation and analysis of human groups which are considered as individual entities.” These groups according to him are often selected for practical and theoretical reasons unrelated to the nature of research involved, or from

those societies that differ most from our own. This means that the aim is to record the perspective modes of life of various groups accurately. Hammersley (1990) summarized it all by saying that, ethnography is a method in social science research which involves:

- 1) Studying human behavior in an everyday setting, instead of using an experimental condition which is often created by the researcher.
- 2) Using informal conversations or observational methods to collect data for the analysis.
- 3) The data to be collected is not structured because the conversation is informal and so there is no a planned format.
- 4) The focus of the research is usually a set of a group of people on a relatively small scale
- 5) And finally, in analyzing the data collected, the researcher interprets the data based on the “meaning and function of the human actions.”

The Western Region (WR) (Secondi- Takoradi) is one of the regions in Ghana. It has an area of about 2,391 square kilometers which is about 10% of Ghana’s total land area. From the East of WR is Central region; to the West is Ivory Coast, to the North Ashanti Region and Brong Ahafo, and to the South the Gulf of Guinea. The southernmost part of WR of Ghana is at the Cape Three Points where oil has been discovered, and extraction is currently taking place (Modern Ghana, nd).

**Figure i:** Map of WR in Ghana and Areas of Oil Extraction



(Adopted from Sakyi et al, 2012)

The WR has five major indigenous ethnic groups: -

- 1) The Ahantas
- 2) Nzemas
- 3) Wassas
- 4) Sefwis
- 5) Aowins

There is freedom of religion since this is a national regulation but Christianity dominates all other religions and illiteracy in WR is about 58% (Modern Ghana, nd). WR is endowed with natural resources which include cocoa, rubber, coconut and palm oil. It is also the highest producer of raw and sawn timber not forgetting processed wood products. Their means of livelihood are agricultural (fishing, animal husbandry and hunting), production and transport work, sales as well as professional and technical works. The major occupation is agriculture (60%). Although 60% of the indigenes are into agriculture, there is a growth of poverty levels which has resulted in

unemployment, environmental degradation, low standard of living, large family size and low income among others (Modern Ghana, nd). One of these villages is Atuabo in the Nzema land where the Ghana Gas plant is situated. This is the area the interview took place so that I can “grasp the natives’ point of view” (Malinowski, 1922), in relation to the oil discovery and extraction and also understand their vision for their village and WR as a whole.

### 3.3 Data Analysis and Results

This section of the ethnography research presents the results of a thematic analysis of the interview data obtained from the paramount Chief of Atuabo in the Western Regions as well as two distinct groups of fishermen and some standby individuals at the interview location. The data was obtained through a self-developed interview instrument as well as interview protocol. The section provides the results and findings established based on the perspectives of the interviewees in the study. The researcher employed thematic analysis technique as the main approach for analyzing the qualitative interview data transcribed from recordings recorded at the interview session with the interview participants. The results in the following sections are provided in the form of key themes identified. The researcher utilized manual coding techniques to conceptualize and organize the transcribed interview textual data into various themes in relation to poverty, vandalism, civil war and conflicts brought about by the discovery and extraction of natural resources in indigenes areas in the Western Region, Africa.

Thematic analysis enabled an easier interpretable, understandable and concise description of the themes and patterns that emerged within the interview transcripts. Several steps as described by Braun and Clarke (2006) were followed as guidelines in conducting the thematic analysis. The first step involved the researcher familiarizing

with the data in which the interview transcripts were read and re-read to have a comprehensive understanding of the content. Initial ideas conceptualized by the researcher were then noted down during the reading. The second step involved generating the initial manual codes which included features of the data that appeared interesting and meaningful in relation to the focus of the ethnographic research study. The initial codes were numerous than the themes described. Therefore, the third step involved searching for themes through interpretive analysis of the identified initial codes. The researcher then sorted relevant data extracts in relation to the themes. The forth step involved reviewing the themes where the initial themes formulated were reformed, combined and others discarded. The final step involved defining the themes and producing the report.

The first part of the results section presents the findings established from the analysis of research information provided by the paramount chief of Atuabo. The second part of the results section presents the findings established from the first group of fishermen followed by findings established from the second group of fishermen in the third part. The fourth part presents the findings established from the by standers while the final part of the results section provides the combined findings established in the form of common themes identified from the participants. A conclusion section is provided indicating the main findings established in the ethnographic research regarding the perspectives of natives' concerning oil discovery and extraction by Ghana Gas Plant in Atuabo in the Nzema land and Western Region as a whole.

### 3.3.1 Interview with Chief and Analysis

Based on the chief's description, the indigenes areas where natural resources such as oil and gold are discovered do not develop as initially expected by the indigenes of the regions. People in these areas face a resource curse instead. Such areas with the



natural resources are associated with little to no economic development or growth. The indigenes in these regions do not benefit as deserved from the trade of the extracted resources in the areas. The chief stated that, *“We realized that gold has been mined in our Region for years and the places where mining was carried out do not count any main development in this region. Same as others like cocoa.”*

When the people discover that they are not benefiting from the extraction of natural resources in their local areas they tend to live with the fear that the people with the rights of extracting the resources will leave such areas undeveloped as they found them. The fear has led to local leaders pushing their government to intervene so they benefit by being awarded a percentage of the earnings made from the trade of resources to oversee development in these regions. Despite having ministers and politicians from their areas who have the power to push for change in terms of development gained from the trade of oil and gas extracted in Atuabo the natives believe these people are not helping the indigenes and the community. This brings about tension between the indigenes and the government as well as locals from other regions that may result to crisis, war and conflict between the indigenes, the extractors and all other parties against development and benefits of the communities in such regions with abundance of natural resources. The chief mentioned that:

*“...fearing that if our demands are not met they will take away the oil and the gas and leave the places the way they meet it. So, this was the petition we made. It was forwarded to the Government, but it was met with boos and insults. Many people in this country didn’t take our petition kindly. They felt we were becoming selfish... We made the petition some politicians used the platform at the parliament to insult Nananom (The Chiefs.) ... It was only last Friday after our meeting that, we drew the communiqué*

signed it and sent it to the government. We have not yet heard from the government”.  
(Chief).

However, based on the views of the chief, the discovery of oil brought about some limited benefits to the indigenes. The community people are not totally ignored by these mining companies as well as the government. The people have better infrastructure such as roads, schools, electricity and water infrastructure. Also, the mining companies support education in the region. People also attribute the development in the region to the government and not the mining companies extracting the resources. The chief who acknowledged some benefits and development gained since the discovery of oil in the region stated that:

“...I tell you some of us were very happy that the pace of development is not that bad taking into consideration the roads leading to this place (WR, from Accra), say Beyim and Atuabo... Those of us who visited there (beyim) felt that there is something good in the making the road is being constructed to the way we want to see it. The pace of development is not bad. Some of us when we see it and it is good, we comment on it if it is bad too we will criticize the government. To the government, they are doing well so far as development along the coast is concern. As I said, the pace of development is not bad... Yes, there are already some secondary schools and technical schools before the coming of the oil but ehheh the companies are trying to help maintain the status of these educational institutions... Some communities are being served with 24-hour electricity and other communities are served with treated water (borehole water)”.  
(Chief, 2015)

### 3.3.2 Interview with Fishermen Group 1 Leader

Based on the view of the group 1 leader, indigenous people do not benefit as expected from the discovery and extraction of natural resources such as oil and gas in

Atuabo. In fact, such companies bring about more problems to the community such as environmental hazards that affect the livelihood and economic activities of the indigenous people. For instance, the extraction of oil and gas in Atuabo area is attributed to the decline in fish population in the coastal waters in the region due to oil spillage and disposal of waste. The group leader 1 when asked whether the expectations of the people in the community were met since the discovery of oil responded that:

“No No No No, it has rather made us worse especially we the fishermen, since the extraction of oil, we no more catch much fish as we use to. You see these rubbishes; it has prevented us from catching so much fish. My sister, we throw in our net expecting to catch so much fish. We feel happy pulling a heavy net thinking that, it is fish we caught only for out nets to catch these rubbish... before the extraction of oil we never saw these things here. See all these, lying around. They break our nets... We cannot even catch enough fish”. (Leader 1)

These problems become worse to the indigenes if their leaders who they elect to represent them do not complain to see positive changes implemented on their behalf, in terms of economic growth and community development as well as environmental conversation. The leaders do not care for the people but instead blame them for their problems, and as such the discovery of natural resources in the region appears to have brought more problems to the indigenes than before. The group 1 leader when referring to the ignorance of their elected leaders from the area indicated that, *“My sister, they know about this 2008. They were even here last week. One sister came here and we complained. What they told us was that, we need to change the nets we use and use some other net. These new nets are very expensive and we cannot afford them.”*

### 3.3.3 Interview with Fishermen Group 2 Leader

The group 2 leader also indicated that the oil and gas extraction in the area has brought about the decline in the amount of fish being caught in the area due to the waste disposal into the region's waters from the oil extraction activities. The discovery of oil and gas in coastal western region is associated with the decline in fishing activity in the region. The discovery and extraction of oil and gas brings about an environmental and economic crisis in the region which is significantly affecting the indigenes in the region. According to the group leader and evidence seen at the sea side, algae has taken over the seaside which affects their daily catch. The group 2 leader also mentioned that the leaders in the regions have not shown any concerns and all they give them is promises. The group 2 leader relating to this stated that, *"We no more catch much fish at all. We are always here by 5am only to cast out nets and catch this waste not fish. It is affecting us seriously... Look today the fish we had and sold, we are sharing 2gh each. What can this do to us? It's so bad how much can I give to my wife to prepare dinner at home for the family."*

### 3.3.4 Interview with By Standers

The extraction of resources such as Gas also affects the community negatively. The gas extraction has affected the economic activities of the people through this leakage to the environment. The indigenes who are mostly farmers lost their lands and livestock due to the negative mining practices. The by stander as part of the response also highlighted that the fishing activity has gone down since the discovery and subsequent extraction of oil in the region. Such practices where we have gas leakages indicate that the mining companies do not care for the health and economic prosperity of the indigenous people in the areas where gas and oil extractions take place. By stander responder 1 stated that:

“What is disturbing us is that, when you go to behind those houses, Ghana Gas has put the gas pipelines there. Some of us had our little farms there now we can’t farm there again. Also the pigs we are rearing to around there, they say we shouldn’t go there again and they opened the waste water around there and all the pigs’ dead... so all our finances that we used for rearing these pigs and the small farms have all gone waste”.  
(By Stander responder 1)

The mining companies’ do not assist the community in their most important needs, for e.g. health facilities. Health and well-being of the community is an important aspect that companies that extract oil and gas should consider developing for indigenes. Responder 1 stated that, *“Also a lot of sickness have come with their operations and we are asking them to build us a descent hospital.”*

The governments instead of assisting the community to benefit from the extraction of oil and gas in their regions have implemented policies that target the indigenous people. There has not been any focus on the important issue of environmental degradation caused by the mining companies that are bringing about an economic and health crisis for the indigenes of Atuabo. Another by stander responder stated that:

“Even the fish, we are not getting enough and now you are bringing Police men to arrest us again. Just because they want us to use some net, that net is 2 inches, but my sister that net is so expensive we cannot afford it. Even that net is not good for us because now with the 2-inch holes we cannot catch enough small fishes. Now these days we do not get the big ones. So, using that new net will be disastrous to our business. We are not even getting much fish with this waste and now this to”. (Stand by Responder 2).

Based on the views of the chief, group 1 leader and a standby respondent, it is clear that the indigenous people are usually excited and have a lot of prosperity

expectations in connection to the discovery of natural resources such as gas and oil in their regions. People in these regions of Africa perceive a lot of development and other socio-economic benefits associated with the discovery of oil as experienced by developed world countries in other regions of the world. They expect that the extraction of such resources will bring a lot of benefits to the community in terms of development of infrastructure, employment and growth of the economy in such regions. In line with this, the chief stated that:

“All of us were happy, happy in the sense that we know of countries in the world which have had a lot of development out of oil discoveries. So we were also happy that one day Ghana will be counted among these advanced countries. Most especially those of us who come from the Coastal area, the expectation was so high that we felt in no distance date we were going to enjoy the revenue and whatever oil has along with it “. (Chief 2015)

Most participants including the chief and the group 1 leader believed that the discovery of oil will bring about jobs which will help them financially alongside farming and fishing. The participants however, indicated that this has not been the case and the expectations of the community are only partially met by the mining companies and the government. For instance, employment is not offered to the indigenous people by the same companies operating in their areas. The chief mentioned that:

“They assure us they are employing people from the area where the gas and oil business is going on, but we don’t see that. We don’t see, let me give you an example, you have seen two of my boys who just packed this motorbike. They have completed university, one did Environmental science, yes, I have sent their applications down there myself and 3 of them are still with me, they have not been employed. They are still with me, not even assistant clerk, No. So we continue to tell them, let us know the number of

people you have employed along this area where the oil and gas business is being carried out. Let us know where they come from “. (Chief)

Furthermore, by standing responder 3 mentioned that, *“we were so happy because we knew poverty will be elevated. Look my sister, from Atuabo to Mankata it is only one person that is working at Atuaobo gas (Ghana Gas).”* Another by stander (responder 4) supporting this view stated that “My sister only 1 person, we have our brothers and sisters who have completed University, but they did not get jobs there even labor jobs.”

Moreover, most of the participants in the study including the chief as evident in the extracts above indicated that their elected leaders, including the government, are not concerned of the welfare of the people. They do not assist the indigenes to ensure that the economic crisis they are experiencing due to the decline in fish, death of livestock and closure of firm as a result of environmental pollution from poor practices by the mining and extractions companies are properly addressed. The leaders just give promises of forwarding the indigenes’ petitions, but the petitions are not met.

The major themes identified from the analysis concerning the discovery of natural resources such as oil and gas in the Western Region include: lack of development in the extraction areas; lack of improvement of livelihood and living standards for the indigenous people; economic crisis resulting from decline in fish and closure of farms; environmental pollution and degradation; health related issues due to pollution as well as local political leaders and government who are not concerned of the welfare of the indigenous people.

#### **4 A Typical Oil Supply Chain of Ghana**

Supply Chain can be defined as a flow of products and services which is transformed from natural resources, raw materials and components into a finished

product which is then delivered to the final consumer. Therefore, oil and gas supply chain is the activities that go into right from the identification of resources until the final product reaches the consumer. According to Chimer (2007) a typical supply chain in the oil and gas industry have five basic phases:

Exploration → Production → Refinery → Marketing → Consumer

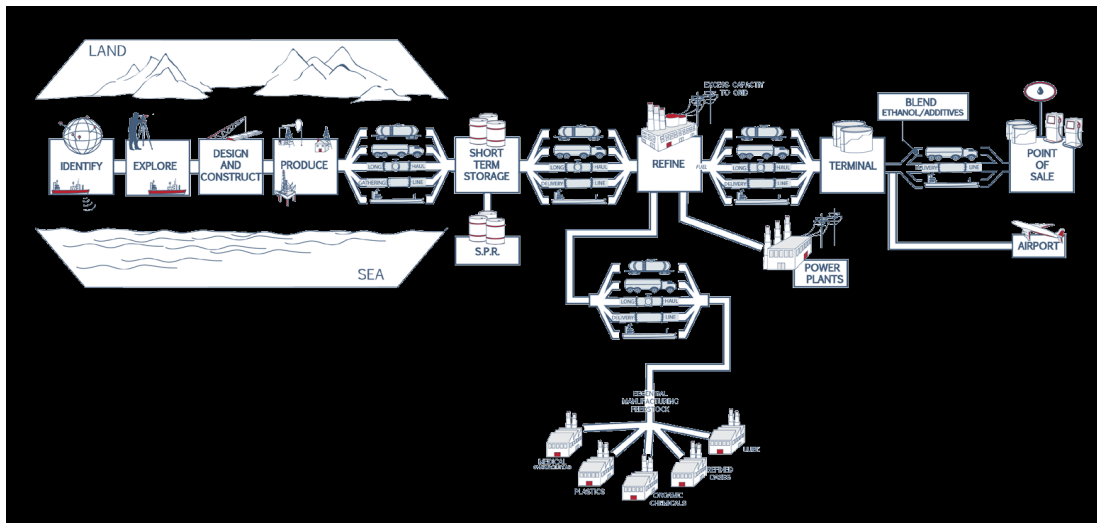
Chimer (2007) argued that so far as a number of suppliers are needed to supply and resupply continuously, it is imperative to make the chain successful and each phase in the chain stands as a supply chain on its own. The exploration stage involves seismic, geophysical and geometric operations. The production phase involves drilling, reservoir, production and facility engineering, while the Refinery phase comprises the output which is then an input sent to be marketed to Consumers. The marketing stage involves retail sales of gasoline, engine oil and other refined products. Each stage can be a company on its own (Chimer, 2007).

Hussain et al (2006) put the phases of oil supply chain into two stages, the upstream Supply Chain and the downstream supply chain. The upstream supply chain is the stage where crude oil is acquired. This involves the exploration, forecasting, production and logistics management so that crude oil can be carried from the remote extraction location to the refinery location. The downstream supply chain involves the refinery of the oil into consumable products. (Hussain et al, 2006).

A typical schematic supply chain from the American Petroleum Institute is shown below:



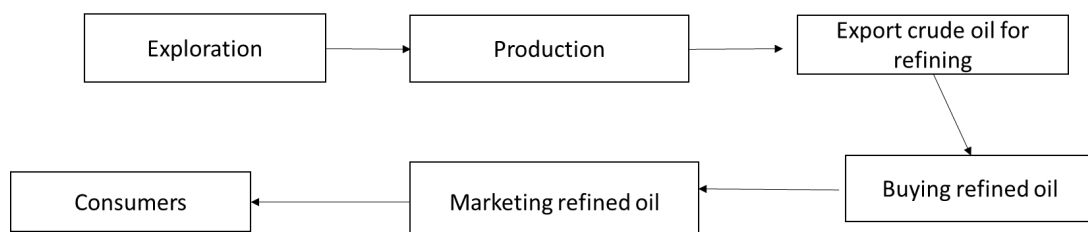
**Figure ii:** A Typical Petroleum Supply Chain



(Adopted from: America Petroleum Institute)

Production is the first point of the extraction of oil. This involves drilling and extraction of the crude oil. The crude oil passes through the pipelines to the short- term storage. From there the crude oil is then sent through delivery lines to the Refinery. At the refinery, the crude oil is converted into consumable products like fuel oil, diesel oil, jet oil and other manufacturing by products. The refined fuel is then transported to terminals where other materials are added before finally leaving those terminals to point of sale (Fuel stations and airports). The next subsection discusses oil supply chain in Africa using the case of Ghana.

**Figure iii:** Ghana Oil and Gas Supply Chain



It can be seen from the schematic above that African countries do have a slightly different Supply chain. The reason being that almost all African oil producing countries do not refine their crude oil and those who have refineries, do not have the capability and capacity to refine the quantity they need in country. In Nigeria, they are unable to refine their oil. Even as at 4<sup>th</sup> January 2018, the Minister of State for Petroleum Resources described as shameful that up till date they cannot refine their own oil (<http://punchng.com/breaking-%E2%80%8Eits-shameful-nigeria-cant-refine-its-oil-kachikwu/>). In Angola and South Sudan, the Story is not different. In Angola, the oil refinery is able to refine only 65, 000 bpd (barrel per day). Even those who have pipelines have had them vandalized due to grievances from indigenes of the area where the oil is discovered. Therefore, the oil-producing African Countries are to a large extent deprived of the by – products of oil refinery. The crude oil is sold to countries abroad for refining. The refined product is then resold to African oil producing countries which in the end increases the price of petroleum products in Africa. For example in Ghana as at 18<sup>th</sup> July 2016, a gallon of fuel (gasoline was \$3.41 ([www.globalpetrolprices.com](http://www.globalpetrolprices.com)) and in the USA it was about \$2.8 (gasprices.aaa.com).

It is therefore very important for African countries to explore ways to accrue more revenue from the extraction of the crude oil and how these revenues can be managed for successful development.

## **5 Management of Oil and Gas Revenue**

In managing oil revenue, most countries adopted the idea of the Sovereign Wealth Fund (Norway's Model). An Evaluation of the effectiveness of Sovereign Wealth Fund by Peterson Institute for international Economics (2013) since inception of the fund to 2012 (see Appendix 2) clearly indicated that, most African countries are

lacking behind. The Sovereign Wealth Fund October 2016 progress report again showed that 60 of the SWF in 2015 fell short of what citizens in the various countries expected. It can be seen from the scoreboard presented for 2015 (Appendix 3) that, Norway, New Zealand, United States and Azerbaijan are in the lead.

### 5.1 Norway's Model of Oil Revenue Management

The Norwegian Government Pension Fund was established in 1990. Though the name has a “pension” in it, the fund has nothing to do with pension schemes. The fund was renamed in 2005 as the Government Pension Fund Global. The fund is for Norwegians, but to ensure that the fund is properly managed the government of Norway placed it in the hands of the Ministry of Finance. The Norges Bank Investment Management is responsible for the management of the fund.

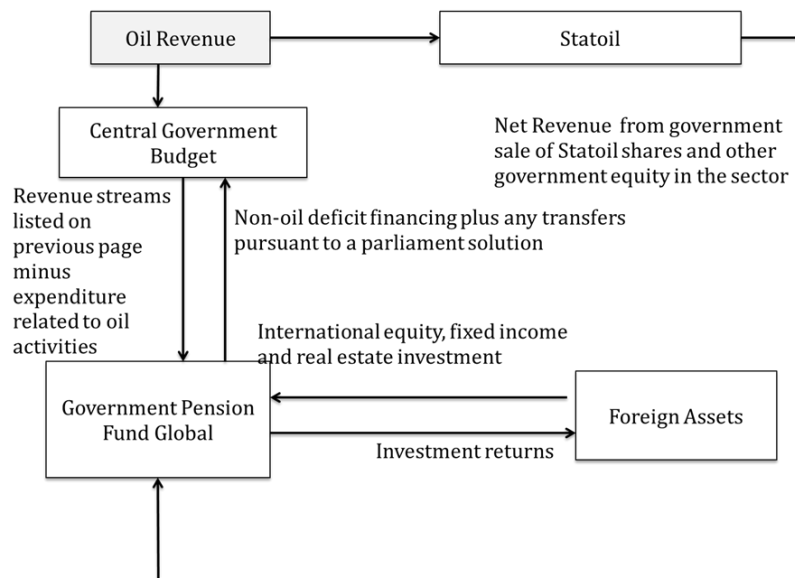
The main objectives of the fund (Natural Resource Governance Institute, August 2013) are:

- 1) To function as a stabilization and savings fund
- 2) To help the government to implement a fiscal policy to respond to:
  - a) Volatile petroleum
  - b) Federal budget deficits
  - c) Domestic economic uncertainty and
  - d) Financial challenges of an aging population

The overall goal is to extend the longevity of the fund beyond the duration of the oil extraction ((Natural Resource Governance Institute, Natural resource fund, August 2013)

The Fund has clear guidelines as to how deposits are made and how the fund should be invested.

**Figure iv:** Norway's Sovereign Wealth Fund (SWF) Flow Chart.



*Adopted from: Natural Resources Governance Institute and Columbia Centre on Sustainable investment, Natural Resources Funds, Norway Government Pension Fund Global, August 2013*

All gross petroleum revenues (tax revenues, royalties, operating income from states direct financial interest, dividends and funds transferred from Petroleum insurances minus expenses), net revenues from government sales of shares in Statoil (Norwegian government-owned oil company) and the national oil company including other government equity in this sector not forgetting returns on funds investment are all deposited into the Government Pension Fund Global.

The fund is integrated with the government's total budget. Thus any withdrawal from the fund is supposed to be the amount needed to cover just non-oil budget deficit. It has been agreed by parliament that the non-oil deficit withdrawal should not exceed

4% which is believed to be returns of the funds on investment in the long run. ([www.ifswf.org](http://www.ifswf.org), International Forum of Sovereign Wealth Fund, Government Pension Fund Global, Norway, assessed on 2/23/2016)

## 5.2 Norway's Governance of the Revenue Fund

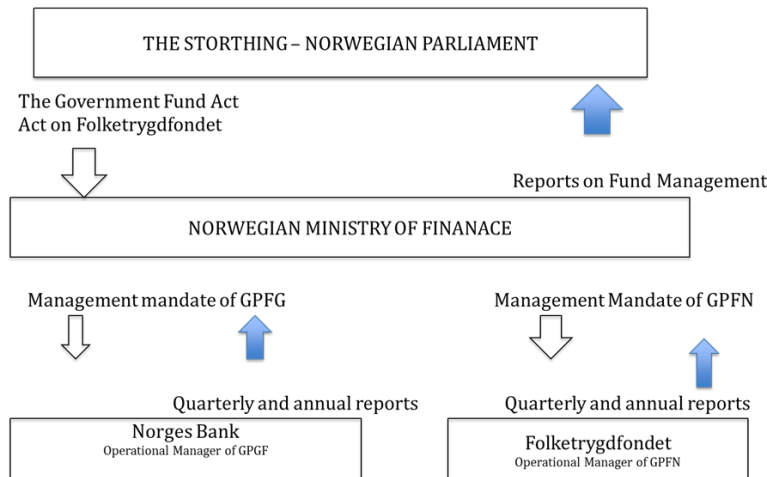
The Ministry of Finance is responsible for implementing the rules and regulations concerning the investment of the fund. The main aim of investing the funds is to generate strong returns and safeguard ([www.nbim.no/en/About-us/governance-model/management](http://www.nbim.no/en/About-us/governance-model/management)-mandate, assessed wealth for future generations. 2/23/2016, Management mandate of Government Pension Fund Global, Ch 2, Responsible investment section 2-1). As such the fund is invested globally. The investment is diversified based on assets of the companies they are investing in and also on the country the company is located

According to International Forum of Sovereign Wealth Fund (IFSWF), the allocation consist of 60% equities, 35% fixed income instrument and 5% real estate investment of the funds capital ([www.ifswf.org](http://www.ifswf.org), International Forum of Sovereign Wealth Fund, Government Pension Fund Global, Norway, assessed on 2/23/2016).

To ensure that there is good governance of the Fund, a detailed structure is in place where responsibilities have been laid down for those in the operational sector of the funds and for those in political authorities. As noted in section 5.1, the Ministry of Finance (MOF) nominated the Norges Bank to be the managers of the fund. The fund's investment strategy, which has been established by MOF, has clearly defined benchmarks with limits, monitoring and evaluation of the management of the fund for

the Norges Bank. As part of the strategy, external investment managers can be used but their names must be made public.

**Figure v: Norway's SWF Governance Model**



Adopted from: [www.government.no](http://www.government.no), Ministry of Finance

(<http://www.regjeringen.no/en/dep/fin/id216/>)

The Ministry of Finance reports regularly to Parliament on how the funds are managed. According to Siv Jensen (2015), if there is the need for any important changes in the investment strategy the MOF must inform Parliament for approval before these changes can be implemented. (Minister of Finance Siv Jensen, 04 2015, [www.regjeringin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945](http://www.regjeringin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945)).

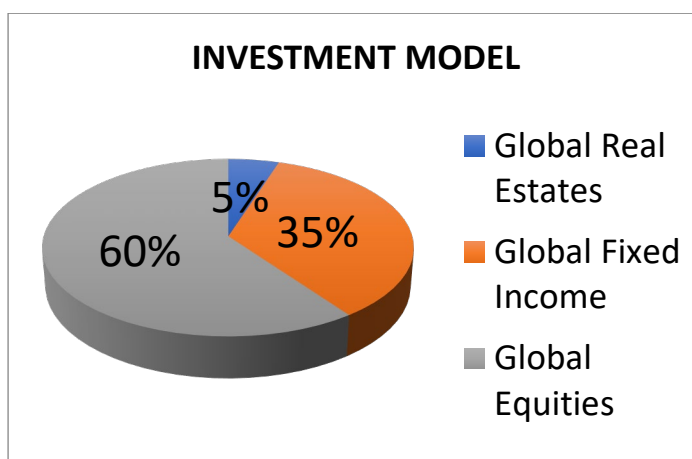
The Norges Bank bank then ensures that the investment strategy that has been established by MOF is implemented. The bank gives quarterly and annual reports on the performance of the fund to MOF. The Minister of Finance, Siv Jensen (2015), mentioned that the bank “makes investment decisions purely on financial basis and

these are independent of the MOF” ([www.regjeringen.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945](http://www.regjeringen.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945) pg 8).

Apart from the reports sent to Parliament by MOF, the MOF also publishes all activities concerning the fund and any external advice from consultants on their website. The bank also publishes annual reports that include fund holdings, equities, fixed income and real estates for the public. This ensures transparency in the management of the fund (Siv Jensen, 2015).

### 5.3 Norway’s Oil and Gas Investment Strategy

**Figure vi:** Norway’s SWF Investment Strategy



The fund is invested mainly in global equities Global Fixed income and in global real estates. Figure xx shows the proportion of investment in each of these areas. About 60% of the fund is invested in global equities, 35 % in Global Fixed income and 5% in global real estates. The main objective of the investment strategy drawn by MOF is to achieve maximum returns with minimum risk level. The main characteristics of the strategy according to Siv Jensen (2015) are:

- Diversification through investments in global portfolios of equities, bonds and real estates
- Harvesting of different types of risk including equity premium
- Long term investment horizon
- Moderate degree of active management –using global benchmark indices
- A responsible management taking into account environmental and social aspects
- A cost-efficient management
- A clear governance structure ([www.regjergin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945](http://www.regjergin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945) pg 9-10).

For the bank to invest, it adopts benchmark indices used by the MOF (FTSE for Equity and Barclays for fixed income). To know which geographical location to invest the bank uses global market weights for equities and corporate bonds. For government bonds, the banks consider the relative size of the country's economy (the country's GDP is used to measure the relative size).<sup>1</sup> According to Siv Jersen (2015), as at 2014, the bank investment in equities and fixed income was across 75 countries, more than 9000 companies and 1100 individual issuers.<sup>2</sup>

Ethical Investment guidelines were implemented in 2004 and in 2014 new measures were also introduced. The guidelines include:

- The exercising of ownership rights to promote long term financial returns which should be based on UN Global Compact and OECD Guidelines for Corporate governance

---

<sup>1</sup> [www.regjergin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945](http://www.regjergin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945), page 11

<sup>2</sup> [www.regjergin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945](http://www.regjergin.no/en/dep/fin/about-the-ministry/minister-of-finance-siv-jensen/id742945), page 11



- Negative screening of companies that produce weapons, which under normal use will cause violence to humans
- Exclude themselves from investment will cause to human rights violation, individual's rights, severe environmental damages and gross corruption (Natural Resource Governance Institute, Natural resource fund, August 2013)

#### 5.4 Norway's Petroleum Cash Flow

Norway petroleum revenue came from royalties, but this has been phased out and a tax system introduced. Cash flows from petroleum revenue now comes from the new tax system, dividends from Statoil, State's Direct Financial Interest (SDFI), environmental taxes and area fees.<sup>3</sup>

For the tax system oil companies are taxed specially at 50% on profits from offshore oil and gas production. In addition to this special tax, the usual normal corporate tax of 28%, which is charged on all businesses, is included making it 78% in total tax. The incomes of the oil companies are taxed based on a net profit. All of these oil and gas related tax revenues are paid into the Government Pension Fund Global Account.<sup>4</sup>

Government owns 67% of Statoil and so receives dividend in the same way as other shareholders. Statoil also pays these dividends directly into the GPF. The largest revenue deposited in the GPF is from the state-owned company Petoro that is referred to as State Direct Financial Interest (SDFI), which is owned by the ministry of finance. Petoro takes an equity stake in all leases that the government enters into. Under SDFI, the state owns assets on a number of the oil and gas fields, pipelines and onshore facilities. Thus, for any oil and gas production license awarded, a proportion that differs

---

<sup>3</sup> [www.norkspetroleum.no](http://www.norkspetroleum.no)

<sup>4</sup> [www.norkspetroleum.no](http://www.norkspetroleum.no)

among fields is determined. So, the government makes sure that they cover all cost on operations, development and maintenance and then receive a corresponding share of income from the production licenses ([www.norkspetroleum.no](http://www.norkspetroleum.no)). All the profit made is paid directly into GPFG. Petoro does not keep any of the profit. (Larry Persily, 2011, [www.arcticgas.gov](http://www.arcticgas.gov)).

For the Environmental taxes, an amount of money is levied on all combustion of gas, oil and diesel during petroleum operations on continental shelves and also on release of CO<sub>2</sub>. The tax rate is per a cubic meter of gas or per a liter of oil or condensate. The area fee is to assure the government that the company will explore the land or field efficiently. ([www.norkspetroleum.no/en/governments-revenues](http://www.norkspetroleum.no/en/governments-revenues)). All these revenues are paid directly into the GPFG and the fund invested abroad. According to Larry Persily (2011), Norway does not invest its GPFG in local businesses. All the money is invested abroad. (Larry Persily, Sept 2011). For local investment, the Government relies on heavy residential and business taxes and only falls on the GPFG to supplement fiscal budgets, which is 4% annual withdrawal from the fund. (Larry Persily, Sept. 2011)

Ethical investment guidelines were implemented in 2004 and in 2014 new measures were also introduced. The guidelines include:

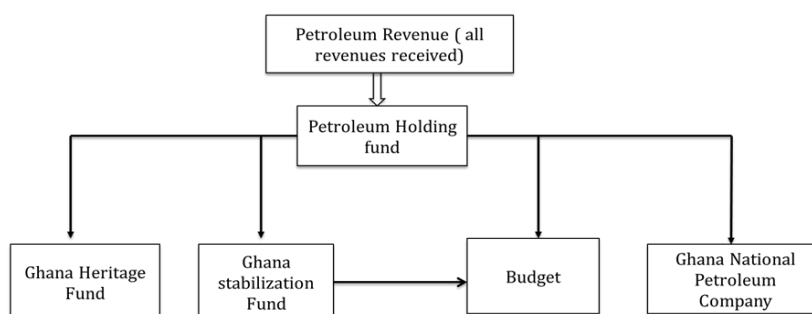
- The exercising of ownership rights to promote long term financial returns which should be based on UN Global Compact and OECD Guidelines for Corporate governance
- Negative screening of companies that produce weapons, which under normal use will cause violence to humans

- Exclude themselves from investment will cause to human rights violation, individual's rights, severe environmental damages and gross corru
- Option (Natural Resource Governance Institute, Natural resource fund, August 2013)

## 6 Ghana's Model

Ghana discovered oil in commercial quantities since 2007 with reserves of about 1.8 billion barrels of crude oil. Extraction commenced in 2010 and has continued to date. Ghana started benefiting from its oil revenues in 2011 and this has been included in the annual budget. To be able to manage these revenues successfully, the parliament of Ghana passed the Petroleum Revenue Management Act 2011 (Act (815). This provides an outline of how revenue should be collected, allocated and managed. It also provides the framework for investments and saving. The Petroleum Revenue Management Act was established with the help of experts from Norway. The Government of Ghana studied other oil production countries petroleum revenue management and finally opted for the Norwegian Model. Therefore, the Petroleum Holding, the Ghana Heritage Fund and the Ghana Stabilization fund were established based on the Petroleum Revenue Management Act 2011.

**Figure vii: Ghana's Petroleum Fund Cash Flow**



Funds from the GSF to the budget are used to cover shortfalls in quarterly petroleum revenue

Adopted from: Natural Resources Governance Institute & Columbia Center on Sustainable Investment: Natural Resource Fund; Ghana Holding, Heritage and Stabilization Funds (Jan 2013 pp 6).

In this Fund, all revenues, i.e. royalties, profit of oil, corporate income tax, participating interest, transfers from Ghana National Petroleum Corporation, investment income and surface rentals are all paid into the Petroleum Holding Fund (PHF) account held at Bank of Ghana. A percentage of the revenue, which is to be determined by parliament, is deposited in the Ghana Stabilization Fund (GSF). The GFS is to help “cushion the impact on or sustain public expenditure capacity during periods of unanticipated petroleum revenue shortfalls” (Petroleum Revenue Management Act, 2011 (Act 815) section 9 (2)).

Again, another transfer from the Petroleum Holding Fund is to be made to the Ghana Heritage Fund. A percentage of how much should be transferred from the PHF is determined by Parliament and paid into this Fund as well as any excess petroleum revenue. This fund is specifically earmarked to serve as savings for the development of future generations when the petroleum reserves are depleted (Petroleum Revenue Management Act, 2011 (Act 815) section 10 (2 a)).

These two funds (The Ghana Heritage Fund and the Ghana Stabilization Fund) are known as the Ghana Petroleum fund. There are no withdrawals from the Stabilization fund unless the revenues collected in any quarter is less than one quarter of the Annual Budget Funding Amount for the year (Petroleum Revenue Management Act, 2011 (Act 815) section 12 (1), pp 7). About 75% or less of the estimated amount of the shortfalls or 25% of the balance of the GSF at the beginning of the year can be withdrawn. With the GHF, withdrawals can only be done once and even this should

happen when oil reserves have been depleted and then the GSF and GHF are merged as Ghana Petroleum fund. It can be seen from figure vii that the GNPC receives part of the revenue of the Petroleum Holding Fund that is up to 55 % of “carried interest” share profit. Not more than 70% of the benchmark revenue for the year is allocated to the annual budget; this is the average of 7- year revenue, which is to be calculated by the Ministry of Finance and approved by parliament. The money is to be used for national developmental projects. Thus, after the withdrawals from the Petroleum Holding Fund for GNPC and the budget, the remaining funds are deposited into the GSF and the GHF. According to a study by the National Resource Governance Institute in collaboration with Columbia Center on Sustainable Investment (Jan. 2013), a minimum of 30% of the remaining balance is deposited into the GSF and the rest into the GHF account.

#### 6.1 Ghana’s Investment Strategy

An Investment Advisory Committee has been set up to help formulate investment policies and management of GSF and GHF. These policies are forwarded to the Minister who in turn will present to parliament for approval. The Fund is to be invested in qualifying instruments agreed by an Executive instrument. ((Petroleum Revenue Management Act, 2011 (Act 815) section 27 (1), pp 15).

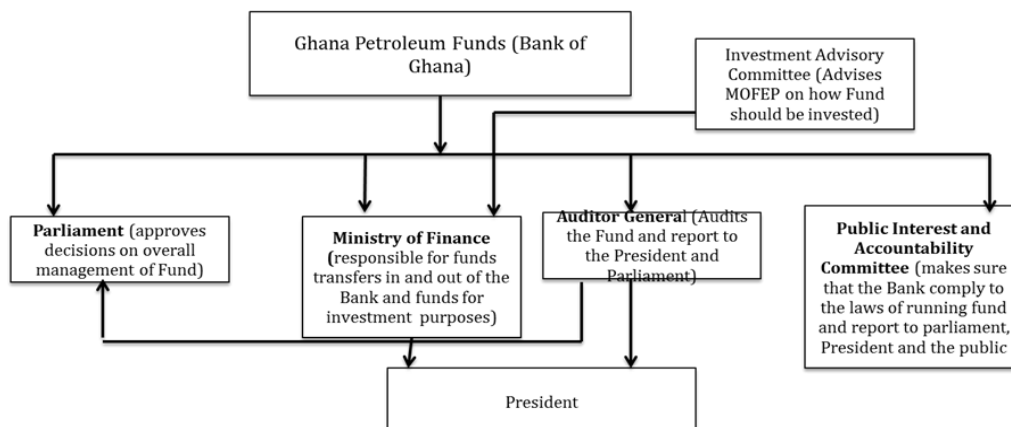
The National Resource Governance Institute in collaboration with Columbia Center on Sustainable Investment (Jan. 2013) disclosed that funds have been invested in “Euroclear Bank in AAA rated, low risk bonds” (100% of the funds used have been for Euroclear bonds). However, it was found out that the countries in which these funds have been invested have not been made public (National Resource Governance Institute in collaboration with Columbia Center on Sustainable Investment (Jan. 2013). This necessitates the implementation of outsourcing.

## 6.2 Ghana's Governance Strategy

The management of the fund is the responsibility of both the Ministry of Finance and Economic Planning (MOFEP) and The Bank of Ghana. The Ministry is responsible for formulating the investment policies in consultation with the Investment Advisory Committee and the Governor of the Bank of Ghana. It is then the responsibility of the Bank to see to the day to day running of the Fund. The Public Interest and Accountability Committee ensures that the Bank complies to the laws for the day to day running of the fund and a report on this is sent to the President, Parliament and also published to the public online.

The Auditors general department also is responsible to audit the Bank on the Funds and reports to the President and Parliament. This management and accountability structure of the fund is shown in figure viii.

**Figure viii:** Management and Accountability Structure



For transparency, the funds reports are published online so that Ghanaians know the size, withdrawal investments and the returns of the fund.

## 7 Discussion

The score board (SWF Score Board Appendix 1) is about countries making publicly available information which includes summaries and annual report on funds on their website from the Ministry of Finance. 33 elements are used under four sections: structure, governance, specific aspects of transparency and accountability, and behavior. Under this scoreboard the highest ranking is 100%. Nigeria scores 76%, Angola 67%, Ghana 42% and Algeria 23%. A minimum of 80% is needed to be deemed transparent. Unfortunately, none of these oil producing African countries met the minimum. Countries that Ghana has invested in was were not publicly declared trigger a confrontation leading to conflicts. Also from the Linburg-Maduell transparency index, which is used for SWF transparency report, Nigeria had an index of 9 and Angola 8. The minimum rating for adequate transparency is an index of 8. Unfortunately, countries like, Ghana, Gabon, Equatorial Guinea and Papua New Guinea did not have any rating. This is because these countries had no available information on their website for them to be evaluated and ranked. ([www.swfinstitute.org/sovereign-wealth-fund-rankings/](http://www.swfinstitute.org/sovereign-wealth-fund-rankings/))

From the ethnographic research, the Chiefs and indigenes of the oil producing area in Western Region suggest that the indigenes are satisfied with the pace of development in the area especially in terms of employment. A typical indigene will like to see their children go to good schools to heighten their chance of gainful employment such as in oil and gas companies, in the future. According to the Paramount Chief, the indigenes are happy with the road networks of the region and villages but when it comes to education, employment and health facilities. these aspects are still lacking. They expect the Government to provide them with good health facilities and to encourage the Oil Companies to employ indigenes. The Chief also

lamented that for a long time, the People of Western Region have been marginalized and that it is time the government wakes up and develop the area. According to the chief, this is expected of the government because it is not only Oil that has been found in that area but also gold and cocoa. The Region has therefore sent petitions to the Government and expecting the government to respond positively.

The story for the fishermen was different. To them, the discovery of the oil was presumably a blessing to them and they believed that will help alleviate poverty and improve their livelihood. Unfortunately, they seem not to see any improvement. The extraction has rather depressed fishing and their daily catch has dwindled. This is because they have been restricted from fishing close to certain areas due to the extraction. The fishermen also complained of “rubbish” (algae) which have been their major problem. They complained that, following the extraction, algae have been a source of worry as they affect their daily catch (there was algae all over). Additionally, they complained about employment and health facilities. One of the fishermen even mentioned that his brother, a recent college graduate, of his cannot get a job. He added that “it is about whom you know at the oil companies”.

The fishermen also complained that they mentioned to the Government representative (Assembly man) of the area and also some officials who visited them since 2008 but nothing has been done about it. They therefore threatened to take the law into their own hands if nothing is done. These are the teething problems that, if not resolved could lead to civil war and conflict as has been the case in Nigeria, Angola and Sudan. It is therefore very important that Ghana learns a lesson from these countries so as to avoid such conflicts or minimize the consequences if they happen.



It is a step in the right direction that Ghana has adopted the SWF. But adopting the SWF is only a means to the end. Ghana and other Sub-Saharan African oil producing countries need to be able to manage the revenue. It is from this view point I propose here that Ghana and other African oil procuring countries adopt outsourcing in the management of the revenue from the SWF and then use the Charter City Model proposed by Professor Paul Romer to enhance economic development and thereby help in avoiding civil war and conflicts.

This research is limited to the management of the revenue this is because the extraction of the oil and gas is already being outsourced to foreign companies who have the capacity and capability for the extraction which most of African oil producing countries do not have. Thus, the management of the revenue is more crucial for economic development.

## **8 Outsourcing**

Outsourcing in recent times is no longer limited to low-value activities especially with so much competition and cross boundary trading. Many markets are relocating and such most of their core activities changing. Activities that were performed in-house are now performed at where they have relocated to. Quinn and Helmer (1994) defined core activities as the fundamental skills and activities that are required to create unique values for customers. It is therefore prudent for African oil producing countries to start thinking about outsourcing such core activities to help in development and reduce poverty.

Outsourcing has undergone a lot of development. According to Devita and Wang (2006), outsourcing has for the past years developed into three generations. The first generation focused on how to outsource contractual non-core activities like

security and payroll activities. The second generation moved on to outsource the near-to-core activities which are of a strategic nature for example, software design and processing. Services are also being outsourced due to the progression of information technology. The third generation progressed to the outsourcing of more core activities. Most of the activities in the supply chain such as research and development have also been outsourced due to innovation, adoption and efficiency. Consequently, it is advocated here that Sub-Saharan African Oil producing countries seriously consider outsourcing the management of oil revenue to rich/developed oil producing countries who have been able to manage their resources by investing in profitable ventures.

The theory of outsourcing is based on transaction cost theory and resource-based view. Transaction cost theory was propounded by Coase (1937) who looked at outsourcing to firms closer to an organization and outsourcing activities to organizations that are far. He went on to explain why some activities are retained in house while others are outsourced. Williamson (1979) also explained that when there is uncertainty, assets specify and continuous contracting, it is best to perform such activities in-house. Transaction cost theory involves two costs, namely production cost and transaction cost. When activities are outsourced, production cost is reduced. Transaction cost is the cost involved in searching for the partners to outsource to, including the negotiation, monitoring, and the contract execution costs (Agarwal and Ramaswan, 1992, Erramilli and Rao, 1993, Makino and Neuport 2000). As such in outsourcing, when the transaction cost of exchange is greater than the benefit of outsourcing then it is better to retain the activity in-house (Brouthers 2002, Hennart 1991).

The resource-based theory looks at the internal characteristics of the firm and sees the firm as a collection of resources (Barney, 1991). This theory suggest that

internal resources and capabilities are the strengths of the organization and so should be used to guide the firm in making strategic decisions (Grant 1991). The theory is therefore used to analyze the relationship between the sourcing strategy and the external environment which will define the boundaries of the organization (Rodríguez and Robaina, 2006). Organizations can then decide to exploit external resources by outsourcing without extending its corporate boundaries. Organizations do not have to depend on internal resources but can also look out for resources to complement what they have (Argyres, 1996).

It is based on i) the grievances of the fishermen and the Chief of not being treated well by Government in their own land where extraction is taking place ii) Nigeria, Angola, Sudan and Ghana not performing well in the management of the SWF as was seen on the scoreboard and iii) Ghanaians not knowing in which country the revenue is being invested in which can trigger conflicts and vandalism, that it will be a good benefit for Ghana and other Africa Oil producing countries to outsource the management of the revenue accrued from the extraction of oil to countries who have so far managed their revenue for the maximum benefit of their peoples. In doing so the revenue accrued can be invested by adopting the Chatter city model.

Presently, Ghana and all Sub Saharan African oil producing countries are performing in-house revenue management taking into consideration sovereign wealth fund. This Sovereign wealth fund has been adopted by almost all Sub –Saharan African oil and gas producing countries. According to the institute of Sovereign Wealth Fund, it is “a state-owned investment fund or entity that is commonly established from balance of payment surpluses, official foreign operations, the proceeds of privatizations, governmental transfer payment, fiscal surplus, and /or receipts resulting from resource exports” (swfinstitute.org, what is SWF?). But the ranking of the SWF using Linaburg

– Maduell transparency index reveals that most African oil producing countries are below the accepted ranking of 8. Nigeria and Angola seem to have better ranking than all the rest of Africa scoring 9 and 8, respectively. Even with these high scores, the two countries still are experiencing vandalism, civil war and conflicts. It therefore seems prudent that management of the SWF in Africa be outsourced to ensure that the full benefit of the resource is reaped.

There has been a lot of research on how oil and gas revenue should be managed in Sub-Saharan African Oil producing countries. Almost all researchers in these areas advocated for the revenue to be shared among citizens so they can have money in their pockets (direct distribution) (e.g., Birdsall and Subramanain (2004), Sala-I-Matin and Subramanian (2013), Palley (2003). Todd Moss and Lauren Young (2009) strongly proposed this direct cash distribution using the Alaska Model but modified it. They proposed this direct cash distribution to Ghana because they believe this will “protect and accelerate political and economic gains and also strengthen the countries social contract”.

Weinthal and Luong (2006) argue that these types of solutions are meant for strong state institutions which in fact is absent in developing Countries. The recommended solutions essentially ask states to employ capabilities that are not yet developed. It is based on this argument that the Charter City Model by Professor Paul Romer is proposed here.

## 9 Charter City Model for Oil and Gas Producing Sub-Saharan African Countries

This model is the concept of a renowned economist Paul Romer. The concept of a Charter city is very simple and centered on rules. According to the concept, rules matter. The concept states that when there are proper rules in place, it motivates people to come and create wealth, save and invest. On the other hand, bad rules make people leave, strip assets, become corrupt and work only for the short term.

For a charter city there need to be four elements in place:

- 1) A vacant piece of land, big enough for an entire city
- 2) Broad rules that will apply to this city must be put in place in advance
- 3) A commitment to choose which is backed by a voluntary entry for all residents
- 4) A commitment to equal application of all rules to all residents.

Generally, there are basically 3 key players for this model. The host, the source and the guarantor. The host Country will provide the land, the source country brings the people who will move in to the new city and the guarantor country makes sure that the charter be respected and enforced for a long period of time (Work 2012). According to Romer (2010) specifically to developing countries, governments of poor countries can give an uninhibited land to a developed country to set rules and regulations concerning living in this charter city. The government enters into a partnership agreement with this developed country so that citizens from this country and other nations will live and work in this charter city, taking into consideration the rules and regulations pertaining to this city. This will create economic opportunities and encourage foreign investment. Romer (2010) further stated that some countries are very good in establishing rules that will spread good ideas and “so to unleash the potential of becoming a potential marketplace, poor countries need to find a way to create good rules”. Romer (2010)

also made it clear that developed/rich nations have well-functioned systems of courts, police, and jail which have been developed for many years. So if one partner does not fulfil their obligation in the partnership deal, the court of that developed country will judiciously deal with that recalcitrant partner. According to Romer, governments could provide safe, low-income housing and jobs that the world will need to accommodate this shift instead of seeking to expand slums in existing urban areas. He emphasized that, these charter cities could even give the poor people the chance to choose their own rules to live and work under such rules. Hong Kong and Shenzhen are examples of Charter cities which was used to open up the Chinese economy. Honduras has also started to experiment the charter city model (Amapala, August 12, 2017).

Hong Kong was acquired by the British from the Qing Dynasty in part from 1841 to 1898. The land was vacant. According to Works (2010), the British ruled the land with different rules from the rest of China and UK. Hong Kong as stated by Work (2010), maintained low taxes, has an open port and open immigration policy. They reduced their poverty rate from fifty percent to under sixteen percent in the 1960's and was ranked the number 6 on the IMF's GDP per capita (Work, 2010). Hong Kong uses the rule of Basic Law. They have a mini –constitution which is only appealed on matters relating to Hong Kong and China Relations (Work, 2010). Work (2010) states that when the British handed over Hong Kong, all processes still remained the same. They preserved the system which evolved under the British. Now Hong Kong is the world leader in Initial Public Offering (IPOs) since 2009 and it has become Asia's financial center (Work, 2010).

Not only is Hong Kong benefiting from this model, Shenzhen as mentioned earlier is also an example of a Charter City. According to Works (2010), the outcome of this city has been tremendous, although not everyone can come into this from

anywhere in the world it has attracted millions of people from China. They have the right to pass their own laws and answers directly to the central government. The Chinese who visited Shenzhen poor, were able to secure jobs in Shenzhen and become rich. Their GDP per head was the highest in China (Work, 2010).

Another charter city is Singapore. Singapore came out of Malaya. Although Singapore did not start with a vacant land but in a pre-existing land they still used the Charter city model. Dubai also can be said to be a charter city (Work, 2010).

With this model, one does not necessarily need to have all the four elements in place. The latest country to start this model is Honduras (The economist august 2017). The Honduras government has agreed for a charter City (LA Region Especial De Desarrollo) to be founded. They put in place a Transparency Commission which is headed by Professor Paul Romer. Their responsibility will be to select administrators for the initial phases until the democratic system is in place (Work, 2010).

Sub Saharan African oil producing countries can implement this theory in our oil fields. A rich oil producing country that has been able to break the ‘oil curse syndrome’ (e.g. Norway, USA, Canada) can be invited to where the extraction of oil is done and adopt that area as a charter city. These rich developed oil producing countries will set specific rules and regulations so that anyone who wishes to live and work in this area (extraction of oil area) will live by the rules and regulations.

For the case of Ghana, Norway could be invited (since it has adopted that country’s way of managing oil revenue) as a partner in adopting ATUABO or nearby villages in Western region where the extraction of oil and Gas is underway in Ghana as a charter city. Norway will then set specific rules and regulations, taking into consideration Norway’s systems such as court, police, jails, etc. In the case a party

does not follow through on the rules, the courts will punish that party. The revenue that will be accrued from the management of the SWF from outsourcing can then be used to adopt a village in WR or even ask the Chiefs in WR for a virgin large where the Charter City Model can be applied. When that city is in full function, another region can be earmarked for development, especially areas with natural resources such as gold in Ashanti Region and diamond in the Eastern Region. In order to support local capacity-building, in the contract, Ghana can, and should, specify that 50%, or some other desired percentage, of the employees should be from Ghana. This approach, though tailored to Ghana in the foregoing discussion, can be applied to other oil producing African countries and countries that are yet to discover oil and other natural resources.

Although the analysis presented here is advocating for outsourcing the management of the oil revenue and Charter city model, it may be difficult for some readers to accept this view in that it will seem to suggest that Africa oil producing countries cannot take care of their resources or finances and might lose control over the managerial issues. This is not the case as some countries in Sub-Saharan African have been successful in managing their natural resources. An example is Botswana. Botswana has a record of being one of the world's most successful economies. According to Lewin (2011), Botswana's prevention of the resource curse in managing diamond was based on good governance, good policies and good luck. To overcome the resource curse, he mentioned that Botswana implemented three key components: fiscal savings, a surplus of the current account, and heavy government investment in infrastructure and human capital. Important as the positive Botswanan example is, one needs to understand that oil and gas with their particular technologies and role in the



world economy are distinct and the skills for managing the oil sovereign wealth fund has its own distinct problems.

Botswana is hardly the sole example of an African country that has been able to manage a business successfully. We can think of Ethiopia that has managed their airline (Ethiopian Airlines) to be one of the successful airlines in the world. We can also cite Safaricom (a public limited company, with a 60% government stake), the leading mobile network operator in Kenya. But there are, however, distinctive challenges in the extraction of natural resources. Botswana's case although does not involve oil involves a luxury resource that is similar to oil and gas in its vulnerability to problems of corruption and grievance. One can thus consider Botswana as well as Norway and other wealthy nations as a possible candidate for managing the SWF of Ghana. Despite the low Transparency International ranking of Botswana, they have achieved good governance in the diamond sector. However, with its small size and comparatively small number of highly skilled personnel, Botswana is not in a good position to translate its success in that sector to be in a good position to be the country to manage the Ghanaian Sovereign Wealth fund.

Norway is probably the single best country to outsource the management of oil and gas revenue to. Norway was never a colonial power, so it does not have sensitive problems as compared to Britain. Also, it is not the world's major military power as is the United States of America. Further, Norway has experience, having been a consultant in Ghana to draw up the Petroleum Act of 2011.

Another issue with the recommendation here on Romer's charter city is whether the concept amounts to neocolonialism. Some have criticized the charter city model as a form of neocolonialism. Sagar (2016) reviewed criticisms of the model, noting that

critics see it as contrary to liberal, democratic norms. He noted the concern that involving foreigners as guarantors in the charter city models makes it appear that poor countries are giving up their sovereignty in return for the promise of greater prosperity. In this view, the model “smack[s] of colonialism” because it “presumes that certain places in the world are too backward to be allowed the luxury of .....self-determination”. The model presents a further risk because foreign powers will support it based on their own foreign policy and economic interests, which may well differ from the political and economic interests of the residents (Sagar, 2016).

On the positive side of the ledger, according to Amavilah (2011) charter cities are not neocolonialism. He stated that, in most developing countries, a third of the people live in the city, or are making efforts to move to the city. He contended, “Charter cities reframe the role of traditional cities as destinations of unstoppable urbanization to cities as sources of ideas, creativity and social progress.” The model for charter requires voluntary entry and exit. It also requires voluntary agreements as a matter of internalizing an externality. In all these ways, it is unlike colonialism and imperialism, which were forced and inefficient (Amavilah, 2011). In Amavilah’s view, the charter city concept is a classic application of the Coase Theorem, with negotiation leading to efficiency. In this perspective, adopted here, the Charter city model is not neocolonialism but a worthwhile model for economic growth and development.

But the proposal is not for this type of partnership or outsourcing to be permanent as there will be clauses that will stipulate capacity building so that African countries at a point in time will be able to take over the management of the oil revenue.

A concern is, can the Charter City Model work in Ghana or West Africa oil Producing Countries? When we read about the success story of Hong Kong that has

made what China is today, we can see that Hong Kong cannot even boast of natural resources, especially, oil. Oil and Gas today are very important economic natural resources and countries like the USA, the UK, Canada, Norway and even China would like to invest in African countries that have such resources.

Like Hong Kong, Ghana has enough uninhabited coastal land available, especially, in areas where the extraction of oil is taking place. As I mentioned in the implementation, Chiefs and the Indigenes are the custodians of lands in Ghana. It will be easy to involve the chiefs and indigenes in these uninhabited coastal areas in the acquisition of a vast land to implement the Charter City model. Further, like Hong Kong, Ghana has the British common law and market- based economy where prices are fixed by law of supply and demand rather than by the government. Not forgetting that, just like Hong Kong, Ghana is committed to the rule of law.

Hong Kong, a Charter City Model, was created as a special development region based on novel rules and social norms. Ghana is already on that path through the creation of Ghana Free Zones Authority which is a vehicle for direct foreign investment in a specially created enclave in regions along the coastal belt similar to that of Shenzhen Special Economic Zone.

As mentioned by Work (2010), Hong Kong maintained a low tax rate, an open port, and an open immigration policy (same applies to Shenzhen but only to the citizens of China). Ghana has also adopted a semi-free entry (where for example, visa is issued to foreigners on arrival at point of entry into the country).

Ghana has shown readiness and willingness to allow foreigners to manage vital state institutions like Electricity Company of Ghana (ECG) and Volta River Authority

(VRA). Thus, the desire for Charter Cities is inherent in the blood of the citizenry and so will be a laudable idea since it will create Jobs and help reduce poverty.

## **10 Conclusion**

The paper proposes that in managing the SWF, Ghana and other sub Saharan oil producing countries should adopt outsourcing and use the Charter City Model to help in the development of these countries which in the long run will reduce or eradicate vandalism, conflicts and civil wars.

A review of literature on oil curse shows that vandalism, conflicts and civil wars are prevalent in sub-Saharan African oil producing countries but non-existent in developed oil producing countries. African oil producing countries do not have the capacity to refine crude oil, depriving them from benefiting from the byproducts and also making fuel and gas prices more expensive.

The paper argued that, vandalism, conflict and civil war is prevalent in these countries because of the dissatisfaction of indigenes who reside in the extraction area. Analysis of how oil and gas revenue is distributed under the Sovereign Wealth fund suggests that these revenues are not managed properly based on the transparency and accountability ranking. This paper therefore advocates for the management of the SWF to be outsourced so that the returns can be used to develop the country by proposing the Charter City Model. This model has been used by Hong Kong, Shenzhen, Dubai and Malaysia and is now being implemented in Honduras. This is a new dimension being proposed for the management of the revenue accrued from natural resources especially in the Oil and Gas sector in Sub Saharan Africa.

Although there will be issues with the implementation of such policies as other citizens might see it to be a way of showing our incompetence in managing our

resources I believe it does not show incompetence but rather give the countries the chance to concentrate on their core competence and if possible can even put to vote if we will like to outsource the management of the fund since at the end of these years of managing our own we still have not been able to develop.

In Outsourcing the SWF and using the Charter City Model, it is believed that in the future we will be able to have charter cities where there will be investment from developed countries, companies will spring from these cities and there will be more employment for the youth and development in the country. This is a new dimension to the management of revenue accrued from oil and gas exploration and will go a long way to reduce civil war, conflict and vandalism in Sub-Saharan African oil producing countries and add to the literature of oil and gas revenue management.

## **Appendix 1**

### **1 Interview Script with Chief**

On my visit to Atoabo one of the areas where oil and gas is discovered in Ghana and extraction is underway, I met one of the oldest Paramount chiefs who have been on the stool as a chief for 49 years. He has been there since the days of our first President Osagyefo Dr. Kwame Nkrumah. This Chief is a farmer and has a big farm house in the village. He is a rubber farmer which is one of the main economic activities of the people of Western region (WR).

Atoabo is a suburb of WR where the oil was found in commercial quantities and the indigenes in this area are mainly farmers and fishermen. With the discovery of the oil in this area, indigenes were excited that at long last, the area will see developmental facilities and improvement in their lives.

But an interview with the chief from this area seems to suggest that, the indigenes are not so happy with the pace of development in the area especially when it comes to employment. A typical indigene will like to be able to see to it that their children are able to go to good schools so that at the end of the day they will be able to gain employment in this oil and gas companies and live a good life but that seems not to happen.

Below is an interview with the chief of one of the villages of Atoabo which typically gives a vivid idea on what the people think about the extraction of oil and development in this area. The tradition here is that the chief is the mouth piece of the people. No wonder that, the paramount chiefs of WR made up of 22 paramount chiefs presented a petition on behalf of the indigenes of WR concerning the discovery of the oil and Gas. This petition is a collective decision from the indigenes and it's to benefit the people of WR presented by the paramount chiefs.

After I introduced myself to the Chief, I made him aware of my mission. A student interested in doing a research on the discovery of oil in the area and how this has benefitted them. I made the chief aware that, I have done a lot of research and know how the Chiefs in WR are the mouth piece of their people and how a petition was presented to the President and among these were the people asking that, the minister

for petroleum should come from that region and also 10% of the total revenue accrued from the oil should be given to the people of WR.

This was the basis for the interview and the following came up. The chief had this to say:

**CHIEF:** Introduction: Chief words.

It is true when the news went high that Ghana had discovered oil in commercial quantities, all of us, all of us in the Country received the news gladly. All of us were happy, happy in the sense that we know of countries in the world who have had a lot of development out of oil discoveries. So we were also happy that one day Ghana will be counted among these advanced countries. Most especially those of us who come from the Coastal area, the expectation was so high that we felt in no distance date we were going to enjoy the revenue and whatever oil has along with it.

In the initial stages as you rightly said, the WR house of chief which is made up of 22 paramount chiefs in the WR of which I am a member met at Sekondi because of past and bitter experience in the Country. We realized that gold has been mined in our Region for years and the places where mining was carried out does not count any main development in this region. Same as others like cocoa. So the Chiefs of WR met and resolved and sent some petition to the then Government it was Prof. Atta Mills who was then the President of Ghana so we forwarded the petition to him asking that 10% of the total profit be given to us in the WR that is the coastal areas, the 9 traditional councils along the Coast, for special development, fearing that if our demands are not met they will take away the oil and the gas and leave the place as they came to meet it. So, this was the petition we made. It was forwarded to the Government, but it was met with boos and insults. Many people in this country didn't take our petition kindly. They felt we were becoming selfish and we felt yes Gold is found, yes, it is for our country but then no good mother, no concern woman will cook all day at the kitchen and decide to give the food to the people in the street sitting aloof to see that her own children go hungry. So, the chiefs felt that, yes, the oil is going to feed our County but then we must be sure that, people along the coast also benefit.

We made the petition and some politicians used the platform at parliament to insult Nananom (The Chiefs.). You will be happy to hear that all these 22 paramount chiefs

met last week at Beyim (a suburb in WR) with our regional minister to discuss important matters affecting the welfare of our Region and we did mention this matter again that we have not abandoned the idea of asking for 10%. We still need it and we want government's stand; what government will say about it. It was only last Friday after our meeting that, we drew the communique signed it and sent it to the government. We have not yet heard from the government. So that is one side of it.

**Interviewer: Coming back to the benefits from the time of the discovery of the oil till date. What benefits have you received so far?**

CHIEF:

Some of us will say so so well, the results are not all that bad and is not as good as we were expecting. I will say that, it is good we were all drawn to Beyim, all paramount chiefs were taken to Beyim to acquaint ourselves to the recent development going on along the coast and I tell you some of us were very happy that the pace of development is not that bad taking into consideration the roads leading to this place (WR, from Accra), say Beyim and Atoabo. Some time, even last year I was there, I visited the place Beyim when my brother was celebrating his festival, he invited me and the road was not as good as I see it today though they are some works to be done. Those of us who visited there (Beyim) felt that there is something good in the making the road is being constructed to the way we want to see it. The pace of development is not bad. Some of us when we see it and it is good, we comment on it if it is bad too we will criticize the government. To the government, they are doing well so far as development along the coast is concern. As I said, the pace of development is not bad.

**Interviewer: In the sense of education what has been the development**

CHIEF:

Yes, there are already some secondary schools and technical schools before the coming of the oil but ehheh the companies are trying to help maintain the status of these educational institutions.



**Interviewer: When you say companies, which companies?**

CHIEF:

The oil extraction Companies especially Atoabo Gas, (the Ghana Gas company). They have also started taking care of some development in our area. Some communities are being served with 24-hour electricity and other communities are served with treated water (borehole water). To the best of my knowledge I will say that, we are not at the moment being ignored in terms of development. I wouldn't say we are totally ignored.

But there is a saying that, if you forget to draw the attention of the big ups as days go by they also turn to forget what they have to do, so we continue to draw their attention that we expect you to do this, we expect you to do that. Especially as I said, in the phase of education, yes there is a package where some graduates given scholarships by Tullow (one of the extraction companies) to study outside the country. Yes, that system is going on. But our worry is that, what happens to these graduates when they come back. So when we met last week, this question was put to the government to find out how many of these graduates from this region benefitted from these scholarships scheme, how many have come back and what has happened to them since they came back. These are some of the questions we are waiting to hear the results from the government when next we meet.

**Interviewer: What about the health sector?**

CHIEF:

Health Yes, I think so far as we have not seen any new development apart from what was existing. So, we were even asking that Government will do well to put up health facilities in these areas because if you go to Nzema East, before their coming, we had our government hospital in Axim and Elembele have the health center at Nkrofu. We expect government to sort of expand that facility, yes to suit the standard of a district headquarters. Jumoro, yes, they have their government hospital before the coming of the oil. Nzema to, we have decided to visit all these old places / facilities that they enjoyed before the oil and gas was established to find out what they have also done to supplement the development of these areas. That is health wise.

**Interviewer: So, tell me, is the present minister for petroleum from this area (region)?**

CHIEF:

Oooooo yes, we asked that Government should give us the favor by appointing a minister from the area where the oil and gas business is being carried out. we know for sure that, people will criticize us saying it will be tribalistic, to them it will be tribalistic but some of us we thank God and Ancestors that oil has come to our own area and therefore a son or a daughter of our area should be made a minister. Let me give you an example. Some of us usually go to Accra (the capital city of Ghana), when I am going and when my car is broken down, I just give a telephone ring to my minister of petroleum, overnight and he will send a car or even if I want to go by air, he will arrange for that. But, my lady do you think a minister who doesn't know me, who has no idea about my background, may say who is that chief? But Kofi Boah has proved us right, he has proved NANANOM right and truly so long as we are concerned, any change of that Minister hmmmm. Well we cannot dictate to the president not to reshuffle his government but if he is reshuffling his government, he must ensure that the minister for petroleum is from the area where the oil and gas is being extracted this is our concern. Kofi Boah (Minister) has proved us right, and so is Dr, George Sefa Yankey the Chief CEO, he is also from the area and the other day when we met at Beyim He was there with us for the 3 days and he is always with us. So, we have not regretted having asked for somebody from the region and we will continue to ask for somebody from the region.

**Interviewer: You know very well that it is not only oil and gas that we have, we also have gold, diamond and cocoa. The largest gold mine is in Obuasi, Ashanti region. Was there any petition put across from them just as you did for WR to the best of your knowledge?**

CHIEF:

You are right, you are right, we have seen so many Ministers of Mines, that ministry, and most of the ministers came from Ashanti Region and Eastern Region. It is on record; it is on record most of them come from there. Don't forget that gold is not mined from Ashanti Region alone; WR has also contributed via the mines in Tarkwa, Obuasi

Prestea etc. So, we've all contributed. None, none, no minister, no minister of mining has ever been appointed from WR irrespective of the fact that we also produce gold, manganese and others. Go to Awaso in the WR, Prestea and others and this account for the reason Nananom in the WR because of this past and bitter experience we are saying this time no, choose somebody from us so that we will be able to call our son/daughter down here anytime, day, morning, night and speak to him or her.

**Interviewer: Now you have clarified that WR also contributes to gold and cocoa production in Ghana**

CHIEF:

Yes, at the moment WR is the leading cocoa producer in the Country.

**Interviewer: So, now I understand why the people of WR are asking for so much.**

CHIEF:

Yes, oohhh Yes, we produce Gold, Cocoa, Rubber, Manganese and all resources from the WR but as am saying, the ministers we don't care where you choose them from we don't care. But for this one (oil and gas) we will not sit down unconcern. I hope you know this motto "We will not sit down make them cheat us every day". Nananom (the paramount chiefs) feel that, the cheating is becoming too much on our nerves.

**Interviewer: When you say cheating, what do you mean by that?**

CHIEF:

Cheating, we are saying government of the past have been cheating the people of the WR for quite a long time because I cited the issue of cocoa, we've been producing cocoa, go to their scholarship office and find out how many students from the WR have benefitted from this cocoa scholarship. Apart from that, go to cocoa roads, it is quite recently that we visited them and saw that our names and some places like Jura and others have been added.

Apart from these, think of mining as I mentioned. They know, government has repeatedly been saying that, WR produces about 60% of the total revenue of this Country this is no secret, whoever mounts the platform, any minister, the president, will

tell you off heart that the Country enjoys a lot of resources from the WR. But if you come to the WR, lady if you have time, I will ask you to travel inland, go to Sewfi, this time the main road is being constructed but go to the other roads. If you go to Central Region, go to Ashanti Region, go to Brong Ahafo, you have inroads. Ashanti, if you want to go to Kumasi they are so many inroads, through this road you can reach Bekwai through another road you can go to Kumasi, but WR, as you were coming, there is only one route, from Tarkoradi, Agona Nkwanta then to Axim that main road to Elubo to Nzema if you make a mistake and take another road you cannot reach Nzima from Axim. Unlike what happens in Central region there are so many inroads, bypass and they are all tired.

**Interviewer: So, you believe that having somebody from this region (your son as you refer to him) as a minister for petroleum, when decisions on oil and gas are going to be made he will seek the interest of the people of WR first?**

CHIEF:

Yes, our son will make sure that our concerns on the oil and gas will be sent to the appropriate channel and make sure that, our interest is given priority.

Let me add this one to, let's think of the role that the 1<sup>st</sup> President of Ghana, DR. Kwame Nkrumah played in attaining independence, if You go to Nkrofu, I don't know whether you have visited Nkrofu? Please I will ask you to visit there before going back to Accra and take into consideration the roads and other developmental facilities. Osagyefo came, was the first President, He was outside, and you ask yourself, what did the people of this Region benefit. What did we gain from our First President? Nothing. That is why when this oil was found, we the Chiefs, let me tell you something, I am the oldest paramount Chief in this Region, for that matter I was a grown up person when Nkrumah was there, I was a grown up person when he was out state, we have witness what happened in this country, these series of government the military and the civilian government, we know what happened in this country. You know what, when Afrifa was the head of the military government, he chose to fund a community a big place in his area but if you go to Nkrofu nobody can point at Nkrumah's house to you and say that, this was the house of the first President nobody can point it out.

**Interviewer: Let's look at Obuasi where the biggest gold mine is. You mentioned that you will not sit down for the Government to treat you like the way they are treating those from Obuasi. Does that mean that those from Obuasi have not been treated fairly by the Government?**

CHIEF:

Oh No, I don't think they have been treated badly, some of us think Ashanti Region have not been treated badly. They have had a fair share of the national cake. This is the way I will put it. Yes

**Interviewer: So, you believe that when the government make a law on these things, like on the oil and gas industry, they should make it a priority that it serves what it says it will do?**

CHIEF:

Yes, that is so.

Yes eeerrrm, Hehehe, Chinua Achebe, I read it when I was a school boy; he said that "when the sun shines, it shines on those who are standing before it shines on those who are kneeling". We are standing, the Westernize are standing, take it that, if there is any spillage, what will be the faith of these people along the coast? So disastrous, and it can happen because It has happened in other places.

**Interviewer: So, have they not put in any measures for such spillage?**

CHIEF:

As at now No, No, to the best of my knowledge

**Interviewer: Since they started the extraction, I know it started in Dec 2007?**

CHIEF:

No, they started since Dec. 2008, as at now we are not assured. That is why we always talk about it. They keep on assuring us that they are taking care of it, this and that, but there has not been any concrete action.

**Interviewer: Well during my interview and visit to the ministry of petroleum, I was shown the policies on paper, very good policies. That is why I came down to interview you to find out whether what is written in the white paper is what is on ground. I am grateful that you have come out to let me know the truth. I am happy you have made me aware that although there are such policies, nothing is done in your region.**

CHIEF:

I am telling you that every symposium, every seminar, every workshop concerning gas and oil, I am not left uninvited, I am always there, I always attend such meetings and even if for any reason I don't attend the meeting we have a handout to educate us. As for spillage, they continue to assure us, but the issue is this, what have they put in place at the moment there which will check or support the people should this thing happen.

**Interviewer: What about contracts with the oil and gas companies, employment issues especially for the youth?**

CHIEF:

We continue to talk about that, each time we met them (oil and gas companies and government) at the regional house of chiefs' level. They assure us they are employing people from the area where the gas and oil business is going on, but we don't see that. We don't see. Let me give you an example, you have seen two of my boys who just packed this motorbike. They have completed university, one did Environmental science, yes, I have sent their applications down there myself and 3 of them are still with me, they have not been employed. They are still with me, not even assistant clerk, No. So, we continue to tell them, let us know the number of people you have employed along this area where the oil and gas business is being carried out. Let us know where they come from. You know, we are not preaching tribalism, but then as I earlier started to tell you, we felt that so far as oil and gas is going to be carried out in our area, our boys, me an old man like me I don't expect to be employed, but we were happy because as this business is going to be done along the coast, our children will be employed. And madam, if they were not to be well educated, that will be a different story but madam they have completed their university degrees.

**Interviewer: The local content of the policy is that some of the contracts like supplies should be given to the local people in the area.**

CHIEF:

Madam, for that one, I have not deeply gone into it. I have scanty knowledge about that.

My problem, my concern and not me alone, some of my colleagues the chiefs, you know, I will not ask my child who has not completed elementary school to ask him or go look for employment there. But we ask them, we are looking for employment for the graduates and I tell you my own children included. When we were crying that, the oil business must start. I have three of them, the boys who packed the motorbike. They are twins. They all did environmental science at University of Development Studies. They have completed their national service. You take the applications and they tell you they are looking into it, they are looking into it and still. As for this particular area, some of us are not happy about it, at all happy and they keep on employing workers almost every week you go there, you meet new faces but when we send ours, lady, some of us are really mad over this issue, because we weren't quiet when oil and gas was discovered in commercial quantities in our area. You know, as I am telling you, me I cannot work, and I don't expect government to bring me monthly contributions. All they do is at times when we are celebrating our festival annually they come and say happy New Year which we are happy they do but when my own children not me alone, some of my brothers, when we meet they talk of that. That is why we want to know the numbers of students who were given the scholarships and those who have come back and where are they now. These are the questions and areas we want to know. Where are they (students)? After all we know there are scholarships yes, like I told You Tullow, but where are they, have we trained them to come and roam about in the street?

**Interviewer: To conclude, what do you think the government should be doing for these indigenes where the oil and gas have been discovered and the extraction is going on?**

CHIEF:

As for me personally, I think so far so good in terms of development the government is doing well like the roads, electricity, schools, I think they are not doing bad but employment is NO. Where ever I go, from what I have experienced because they say

charity begins at home I have about 4 to 5 of them, graduates' sitting idly at my palace after their education.

As I said, in terms of development their performance is not bad. The pace of development is encouraging.

**Interviewer: So, you are still working on the 10%?**

CHIEF:

Yes, we have not abandoned that idea. We talked about that last week, but I don't know, it will be in the air perhaps next week.

**Interviewer: Sorry for this last question. What about those from other regions in Ghana that have no natural resources like the northern part of Ghana and even the Greater Accra region, the capital of Ghana, what then will the government be doing for those areas?**

CHIEF:

Oh, oh, oh, oh, yes, we sympathize with them, because you are unfortunate these resources are not in the savanna area but then we are not saying that these areas shouldn't be taken care of. You must also be taken care of but the greater aspect of it should be in our region. You know, when you are in the house, it is as easy and logical that when there is food in the house, we in the house will enjoy and then keep some for our brother who went to Tarkoradi, he hasn't come let us keep some there for him so that when he comes he also enjoys. We are not saying that, all the 100% should be given to us. We are just asking for 10% of the total revenue and that is why we started asking for the minister to be from this area. He understands our language. So anytime we invite him, we will be free to tell him our concerns that one government actually listened to our concern and we are very grateful but as for our 10% we raised it and there was....

**Interviewer: So, if the government refuses to give you the 10% what happens?**

CHIEF:

Oh well, that will be another area. We said it when the whole business started, and it was met with boos and insults. Some prominent politicians in the country decided to insult the paramount chiefs in this region. Well they thought we have forgotten about



that, but we are going to raise it again, we are going to raise this issue again and this time if they meet us with insults then we again meet and take our decision.

**Interviewer:**

Thank you so much Nana, I am most grateful. It's been a very interesting interview. You really know much about the oil and gas industry and the indigenes interest.

**Chief:**

Yes, as I told you this oil and gas business started not when I was outside. I was on the stool. We were traveling to Accra in and out during Kufuor's time. Then came the late President Prof. Atta Mills we then met him over so many issues. So in fact I know about this business. That was why when they tried to cheat us we think of this CDR saying "WE NO GO SIT DOWN MAKE THEM CHEAT US EVERYDAY, NO". We produced a whole president who fought and attained independence for this country, the issue is, what have we gained? What sign is there, when you are going to his hometown at Nkrofu, you will see only a big sign board at the junction that shows that this is Osagyefo that is all there is nothing else, we want more concrete things.

**Interviewer: Thank you so much Nana**

## **Appendix 2**

### **Interview with Group Leaders 1, 2 and Fishermen Bystanders**

#### **Group 1 leader:**

Upon getting to the seaside where fishing is being done, I met a group of fishermen numbering about 30 with their net pulling out what has been caught for the day. None was prepared to talk to me and asked me to speak to their leader since what he says was a representation of what they stand for.

I therefore asked for the leader and we had a chat where I introduced myself and wanted to know their opinion towards the discovering of oil in that area and what has been the advantages and disadvantages about the extraction of the oil. The most important thing here was that it was offshore and as such they were asked to move further away from where the extraction was done and not come close to fish.

According to the leader of the fishermen of group 1, when they heard that, oil has been discovered they were so happy because apart from fishing and farming, they had no any other economic activity. They believed and had hope that, with the discovery there will be jobs which will help them financially alongside the farming and fishing.

**Interviewer: So, does that mean that now that the extraction is ongoing since 2008 you are better off?**

**Responds:** No No No No, it has rather made us worse especially we the fishermen, since the extraction of oil, we no more catch much fish as we use to. You see these rubbishes; it has prevented us from catching so much fish. My sister, we throw in our net expecting to catch so much fish. We feel happy pulling a heavy net thinking that, it is fish we caught only for our nets to catch these rubbish (algae)

**Interviewer: Are you telling me that you started seeing this waste when the extraction started?**

**Responds:** Yes, before the extraction of oil we never saw these things here. See all these, lying around. They break our nets. Immediately they started the extraction then we started seeing these things in the sea. We cannot even catch enough fish.

**Interviewer: So, have you as the leader complained to the companies or your assemblyman or member of parliament about this issue?**

**Respond:** My sister, they know about this since 2008. They were even here last week. One sister came here, and we complained. What they told us was that, we need to change the nets we use and use some other net. These new nets are very expensive, and we cannot afford them.

**Interviewer: Have the oil companies or the government made any efforts to help you acquire the new nets that they mentioned?**

**Responds:** No, they say we should buy ourselves and we do not have that type of money. In fact, these wastes are disturbing our fishing a lot paaaaaaaaa ooooooooo. They even came here to meet the community and we mentioned all these problems to them especially the waste that is preventing us from catching much fish. We even mentioned that, if they could help us with some jobs to supplement the fishing since we no more get the quantity we use to which is affecting our lifestyle or help us with the new net. We have kids and now we are finding it difficult to even pay their school fees coupled with the cedi falling behind the foreign currencies.

**Interviewer:** As you mentioned earlier, does that mean that the quantity of fish that you use to catch before the extraction of oil has reduced?

**Responds:** Yes, totally reduced.

**Interviewer:** Can you tell me approximately the quantity you use to catch before the extraction?

**Responds:** My sister we use to catch much fish, now it has reduced totally.

**Interviewer:** So, apart from the fishing can't you do any other economic activity like farming, rearing etc.

**Responds:** For this area the land is not that fertile for farming. We can farm a little cassava and plantain for home consumption but not for commercial basis. So, our biggest economic activity here is the sea work (fishing).

**Interviewer:** Ok, so now tell me, how much did you (group) make a day from the fishing before the extraction?

**Responds:** Well it depends on the quantity of fish you get. Sometimes we make about GH 2000 to GH 5000 ghana cedis.

**Interviewer:** Now what about after the extraction started?

**Responds:** As I told you, the quantity we catch has reduced, and so we also increase the prize. Although we can sell more than we use to make, due to the falling nature of the cedi, it seems it use to be far better than now.

**Interviewer:** So, what is the biggest problem that you have now concerning the fishing?

**Responds:** Our biggest problem is the waste. Even you see those other group over there; they are moving close to our territory. The reason is that; they are not allowed to go closer to where the extraction is going on. Even if they go there, the machines tier off the nets and so they can't get anything.

**Interviewer:** Thank you so much for your responds I really appreciate it. I will talk to the other group over there.

**GROUP 2 Leader:**

**Interviewer: Sir, I am just from your other colleague from the other side. He mentioned that you guys no longer catch so much fish as you use to and that it is because of these wastes lying everywhere. Is that true?**

**Responds:** Yes, my sister that is 100% true. We no more catch much fish at all. We are always here by 5am only to cast our nets and catch this waste not fish. It is affecting us seriously.

**Interviewer: So, hasn't anyone come from the government or the oil companies to help you out with this issue?**

**Responds:** They were here long time ago and we mentioned it to them. They told us that they will go and talk about it in the office but up till now we are still waiting for them.

**Interviewer: Are you telling me since 2008 when they started the extraction?**

**Responds:** Yes, since that time.

**Interviewer: So, as an association or group, have you sent any petition to the government and the oil companies concerning these issues?**

**Responds:** No, they came here on their rounds and we mentioned it to them. We didn't go there or write any petition as a group or association.

**Interviewer: So, now what is your stand on this oil and gas extraction situation?**

**Responds:** We are looking up to our leaders the OMANHENEs of this Region (Paramount Chiefs). They are our mouth piece and they have sent petition on our behalf. If they give us what we are asking for, it will help us.

Look today the fish we had and sold, we are sharing 2gh each. What can this do to us? It's so bad how much can I give to my wife to prepare dinner at home for the family.

**A FISHERMAN STANDING BY:**

What is disturbing us is that, when you go behind those houses (Pointing to nearby houses), Ghana Gas Company has put the gas pipelines there. Some of us had our little farms there now we can't farm there again. Also we were rearing pigs around there, they say we shouldn't go there again and they opened the waste water around there and all the pigs' died. Even the Member of Parliament (MP) and District Chief Executive came here; they said they will bring us some pigs to start over again. My sister even a

pesewa hasn't come. So, all our finances that we used for rearing these pigs and the small farms have all gone waste.

And since they started this oil business, when we come to the sea, we don't get fish, nothing! What we are now saying is that, what the government and the oil companies can do is to compensate us with money. From Atuobo to Mankata since the oil extraction, we catch nothing. We hear that in some countries, they give them cards so that when they go to the stores for groceries they can subsidize food for them. Also, a lot of sickness have come we are asking them to give us hospital.

**Interviewer: Are you telling me that you have no district hospital in this area? When someone is sick where do you take the person?**

Responds: When we are sick we go to Efiekwe (more than 20 minutes' from here by foot). Sometimes no commercial trucks at that time to send us there.

Even this net, they are saying that we shouldn't use this one, that we should use the other one which is expensive. Now even they are arresting us for using our old type of nets. This morning we heard that in Axim the police came to arrest some of the fisher men using the old type of net.

#### **ANOTHER FISHERMAN STANDING BY:**

Even the fish, we are not getting enough and now you are bringing Police men to arrest us again.

Just because they want us to use some net, that net is 2 inches, but my sister that net is so expensive we cannot afford it.

Even that net is not good for us because now with the 2-inch holes we cannot catch enough small fishes. Now these days we do not get the big ones. So, using that new net will be disastrous to our business.

We are not even getting much fish with this waste and now this to.

#### **OTHERS STANDING BY:**

Now we are suffering a lot. Now when we fishing we are always looking over our shoulders just in case the police are coming then we run away.

**Interviewer: So, what were your expectations when you heard that there was discovery and now extraction of oil?**

**Respond:** We were so happy because we knew poverty will be elevated. Look my sister, from Atuabo to Mankata its only one person that is working at Atuaobo gas (Ghana Gas Company.)

**Interviewer: Are you telling me that it is only 1 person that has been employed from these areas?**

**Respond:** My sister only 1 person, we have our brothers and sisters who have completed University, but they did not get jobs there even labor jobs.

**Interviewer: But you should know that with the job issues it depends on the type of program that one offered in the university?**

**Responds:** Yes, we know that, but we know of some of our brothers who have done programs that they can be employed there. Look my sister we know some of the people employed there. They have no better certificates than some of our brothers. The problem is tribalism. So, if the head is from Ashanti Region of Volta Region, he/she will bring in someone from that area.

We are only being cool now because our leaders NANANOM (Paramount Chiefs). They have told us that, they will do all they can to help us get some money from the revenue accrued to help develop here. They say they will talk to them to bring schools, hospitals and employment.

We are just watching. If they do not want trouble, then they should listen to them or else yoooooooo!

They need to pay us monthly. Our land had been taken from us. Now the sea that we fish to, we cannot get much fish. So at least they need to give us something monthly for our upkeep or pay us compensation.

**Interviewer: But your brother or Kingsman is now the minister for petroleum so he will send your petition**

**Responds:** Yes, we asked for it and we had it but the companies will need to also do their part. My sister, the companies say they give scholarships to some students to go abroad and study. No one from this village has had this scholarship. Who do they give the scholarship to?

My sister this waste when it touches your body it inches seriously. So they need to act fast or else we will march there and lock them up and use it to smear on them. We are only being restrained by our Chiefs.

**Interviewer: Now that you mentioned Ashanti region, you know these people have so much gold and cocoa and other parts of the country also have some resources. Do you think those people have been treated fairly or better than you?**

**Responds:** Yes, of course. Can't you see that; Kumasi has better roads than us? Go there and see, almost all the people working in the goldmine are Ashanti's. That is why we are not happy. No employment and again this waste, which is preventing us from catching much fish.

**Interviewer: What about those in other part of the country that do not have natural resources, what should be done for them?**

**Responds:** That one, it is their luck. It natural, all fingers cannot be the same but if the government manage the oil well, everyone should be happy but we from WR must be treated well first. Sister we need to go catch our fish oooo. Or you will pay us for our time.

**Interviewer: Ok, Thank you. I will come back again next year to find out if situations are better. Thank you for your time.**

### Appendix 3

<b>COUNTRY</b>	<b>FUND NAME</b>	<b>SCORE</b>
Norway	Government Pension Fund- Global	98
New Zealand	New Zealand Superannuation Fund	94
United States	Permanent Wyoming Mineral Trust Fund	93
Azerbaijan	State Oil Fund of the Republic of Azerbaijan	92
Canada	Alberta Heritage Savings Trust Fund	91
Chile	Economic and Social Stabilization Fund	91
Chile	Pension Reserves Fund	88
Timor-Leste	Petroleum Fund of Timor-Leste	88
United States	Alaska Permanent Fund Corporation	88
Australia	Future Fund	87
United States	New Mexico State Investment Council	84
Ireland	Ireland Strategic Investment Fund	82
United States	Alabama Trust Fund	82
Trinidad and Tobago	Heritage and Stabilization Fund	81
Korea	Korea Investment Corporation	78
Palestine	Palestine Investment Fund	77
Nigeria	Nigeria Sovereign Investment Authority	76
Singapore	Temasek Holdings	76
United States	Texas Permanent Scholl Fund	73
China	China Investment Corporation	70
United States	(Texas) Permanent University Fund	70
France	Caisse Des Depots et Consignations	68
Hong Kong	Exchange Fund	68
Kuwait	Kuwait Investment Authority	68
Mexico	Budgetary Income stabilization Fund	68
United Arab Emirates	Mubadala Development Company	68
Angola	Fundo Soberano de Angola	67
Italy	Fondo Strategico Italiano	67
France	BPI France Investissement	65
United States	North Dakota Legacy Fund	64
Malaysia	Khazanah Nasional Berhad	61
Singapore	GIC Private Ltd	61
Brazil	Sovereign Fund of Brazil	60
Botswana	Pula Fund	59
United Arab Emirates	Dubai Holdings	59
United Arab Emirates	Abu Dhabi Investment Authority	58
Rwanda	Agaciro Development fund	57
United Arab Emirates	Investment Corporation of Dubai	55
United Arab Emirates	International Petroleum Investment Company	55



Bahrain	Bahrain Mumtalakat Holding company	52
Oman	State General Reserve Fund	52
Russia	National Welfare and Reserve Fund	49
Iran	National Development Fund of Iran	48
Kazakhstan	National Investment Corporation	48
Mexico	Fondo Mexicano del Petroleo para la Estabilizacion	48
Peru	Y el Desarrollo Fiscal Stabilization Fund	48
Kazakhstan	Samruk-Kazyna JSC	47
Morocco	Moroccan Fund for Tourism Development	47
Ghana	Ghana Petroleum Funds	45
Venezuela	Macroeconomic Stabilization Fund	42
Qatar	Qatar Investment Authority	40
Vietnam	State Capital Investment Corporation	39
Russia	Russian Direct Investment Fund	36
Kiribati	Revenue Equalization Reserve Fund	35
United Arab Emirates	Abu Dhabi Investment Council	33
Brunei	Brunei Investment Agency	30
Algeria	Revenue Regulation Fund	26
Libya	Libyan Investment Authority	23
United Arab Emirates	Isthmar World	23
Equatorial Guinea	Fund for Future Generation	11

2015 Sovereign Wealth Fund Scoreboard (Adopted from Peterson Institute for International Economics, PB 16-18, October 2016)

## Appendix 4

**Sovereign Wealth Fund Ranking 2017 (Adopted from  
[www.swfinstitute.org/sovereign-wealth-fund-rankings/](http://www.swfinstitute.org/sovereign-wealth-fund-rankings/))**

<b>Country</b>	<b>SWF Name</b>	<b>Origin</b>	<b>Linaburg-Madeul Transparency Ranking</b>
Norway	Gouvernement Pension Fund - Global	oil	10
China	China Investment Corporation	Non-Commodity	8
UAE- Abu Dhabi	Abu Dhabi Investment Authority	oil	6
Kuwait	Kuwait Investment Authority	oil	6
Saudi Arabia	SAMA Foreign Holdings	oil	4
China - Hong Kong	Hong Kong Monetary Authority Investment Portfolio	Non-Commodity	8
China	SAFE Investment Company	Non-Commodity	4
Singapore	Gouvernement of Singapore Investment Corporation	Non-Commodity	6
Singapore	Temasek Holdings	Non-Commodity	10
Qatar	Qatar Investment Authority	Oil and Gas	5
China	National social Security Fund	Non-Commodity	5
Saudi Arabia	Public Investment Fund	Oil	5
UAE- Dubai	Investment Corporation of Dubai	Non-Commodity	5
South Korea	Korea Investment Corporation	Non-Commodity	9
UAE- Abu Dhabi	Mubadala Investment Company	Oil	10
UAE - Abu Dhabi	Abu Dhabi Investment Council- Process of being merged with Mubadala	Oil	n/a
Australia	Australian Future Fund	Non-Commodity	10
Iran	National Development Fund of Iran	Oil and Gas	5
Russia	Nationa Welfare fund	Oil	5
Libya	Libyan Investment Authority	Oil	4
US -Alaska	Alaska Permanent Fund	Oil	10
Kazakhstan	Samruk-Kazyba JSC	Non-Commodity	10
Kazakhstan	Kazakhstan Nasional Fund	Oil	2
Brunei	Brunei Investment Agency	Oil	1

Turkey	Turkey Wealth Fund	Non-Commodity	n/a
Malaysia	Khazanah Nasional	Non-Commodity	9
US- Texas	Texas Permanent School Fund	Oil and Other	9
UAE - Federal	Emirates Investment Authority	Oil	3
Azerbaijan	State Oil Fund	Oil	10
New Zealand	New Zealand Superannuation Fund	Non-Commodity	10
US- New Mexico	New Mexico State Investment Council	Oil and Gas	9
Oman	State General Reserve Fund	Oil and Gas	4
US -Texas	Permanent University Fund	Oil and Gas	9
East Timor	Tiloe-Leste Petroleum Fund	Oil and Gas	8
Chile	Social and Economic Stabilization Fund	Copper	10
Canada	Alberta's Heritage Fund	Oil	9
Russia	Russian Direct Investment Fund	Non-Commodity	7
Bahrain	Mumtalakat Holding Company	Non-Commodity	10
Chile	Pension Reserve Fund	Copper	10
Ireland	Ireland Strategic Investment Fund	Non-Commodity	10
Peru	Fiscal Stabilization Fund	Non-Commodity	n/a
Algeria	Revenue Regulation Fund	Oil and Gas	1
US - Wyoming	Permanent Wyoming Mineral Trust Fund	Minerals	9
Brazil	Sovereign Fund of Brazil	Non-Commodity	Removed from Ranking
Mexico	Oil Revenues Stabilization Fund of Mexico	Oil	4
Oman	Oman Investment Fund	Oil	4
Botswana	Pula Fund	Diamonds and Minerals	6
Trinidad and Tobago	Heritage and Stabilization Fund	Oil	8
China	China-Africa Development Fund	Non-Commodity	5
Angola	Fundo Soberano de Angola	Oil	8
US- North Dakota	Noth Dakota Legacy Fund	Oil and Gas	10
Colombia	Colombia Savings and Stabilization Fund	Oil and Mining	n/a
US- Alabama	Alabama Trust Fund	Oil and Gas	9
Kazakhstan	National Investment Corporation	Oil	n/a

US- Utah	Utah-SITFO	Land and Mineral Royalties	n/a
US- Idaho	Idaho Endowment Fund Investment Board	Land and Mineral Royalties	n/a
Nigeria - Bayelsa	Bayelsa Development and Investment Corporation	Non-Commodity	n/a
Nigeria	Nigerian Sovereign Investment Authority	Oil	9
US - Louisiana	Louisiana Education Quality Trust Fund	Oil and Gas	n/a
Panama	Fondo de Ahorro de Panama	Non-Commodity	10
Bolivia	FINPRO	Non-Commodity	n/a
Senegal	Senegal FONSIS	Non-Commodity	n/a
Iraq	Development Fund for Iraq	Oil	n/a
Palestine	Palestine Investment Fund	Non-Commodity	n/a
Venezuela	FEM	Oil	1
Kiribati	Revenue Equalization Reserve Fund	Phosphates	1
Vietnam	State Capital Investment Corporation	Non-Commodity	4
Gabon	Gabon Sovereign Wealth Fund	Oil	n/a
Ghana	Ghana Petroleum Fund	Oil	n/a
Mauritania	National Fund for Hydrocarbon Reserves	Oil and Gas	1
Australia	Western Australian Future Fund	Minerals	n/a
Mongolia	Fiscal Stabilization Fund	Minerals	n/a
Equatorial Guinea	Fund for Future Generations	Oil	n/a
Papua New Guinea	Papua New Guinea Sovereign Wealth Fund	Gas	n/a
Turkmenistan	Turkmenistan Stabilization Fund	Oil and Gas	n/a
US- West Virginia	West Virginia Future Fund	Oil and Gas	n/a
Mexico	Fondo Mexicano de Petroleo	Oil and Gas	n/a
UAE - Sharjah	Sharjah Asset Management	Non-Commodity	n/a
Luxembourg	Luxembourg Intergenerational Sovereign Fund	Non-Commodity	
Russia	Reserve Fund	Oil	5

## **Essay 2: The Effect of Political Divide on Profitability and Valuation: Evidence from the oil and gas sector.**

### **1 Introduction**

In this paper, I assess the impact of government control type (i.e. divided government, and unified government under both Democratic and Republican controls) on profitability and valuation of oil and gas companies headquartered in the United States of America (USA). Divided government has become a subject of much scholarly interest in recent years as partisan conflict and gridlock between the presidency and congress have characterized American politics. While much research has explored the effects of divided government on policymaking and governance, relatively few studies have extended the discussion to financial market contexts.

The literature has shown that under a unified government, unlike under a divided government, the government can respond much more quickly to income shock by acting briskly to manage the situation so that market performance is restored (Roubini & Sachs, 1989). Lohmann & O'Halloran (1994) state that exemplary market performance is tied to good governance and unified government. Furthermore, Fabozzi, Ma, and Oliphant (2008) explain that when there is a divided government, policies made by the president is met with resistance, making it difficult to adopt such policies and so failure to take such policies in totality or timely hinders market performance (Roubini and Sachs, 1989). Using a balancing model, Fiorina (1992) shows that unlike a divided government, a unified government is able to agree on policies faster and with much ease.

Recent studies explain the various roles played by institutions in forming the US trade policies and the bond between party affiliation of the president and market performance. These studies have compared market performance with the party in power (Democrats or Republicans). President's leadership has significant impact on market performance, and it has been shown that the market performs better under Democratic presidency than under Republican presidency (Hensel and Ziemba, 1995). According to Hobbs and Riley (1984), the Republican presidency is associated with big businesses and investment plans and if executed well will have a huge boost to market performance, while Democratic presidency is associated with policies geared towards improving the life of ordinary citizens. This makes the Republican policies favorable for large companies and investors. However, these findings have been questioned by scholars who argue that the Republican Party's policies are only ideal for the short term, while those of the Democratic Party are better for the short-term and best for long-term (Hensel and Ziemba, 1995). Using the NYSE composite index data covering the period 1969 to 2000, Swensen and Patel (2004) show a positive return during Democratic presidency, although it is not statistically significant. However, in another study by Sy and Zaman (2011), they find a higher return during Democratic presidency. Other studies have examined the nature of market performance during the first and final years of Democratic and Republican presidencies. For instance, Johnson, Chittenden and Jensen (1999) document that there is an excellent market performance during the last two final years as compared to the first two years in office.

The literature indicates that the market performs better under Democratic control. Sabherwal et al (2017) argue that this might be so because these studies focus on the overall market performance. They posit that Democratic control effect on market performance will differ across industries. This is because each industry sector

performance will depend on the party occupying the White House and/or controlling congress (Fama and French 1993). Industries contribute money to political campaign of a party whose policies favor them. Thus, when their party is in power, I expect that policies that will be enacted will favor these industries which will result in better performance for firms that operate in them. Using the tenure of Republican and Democratic presidencies covering the periods 1981 to 1991, Hensel and Zembe (1995) find that "sin" stocks performed relatively better under a Republican regime than under a Democratic regime. In addition, Sabherwal et al (2017) show that returns in excess of market are higher during Republican presidency than during Democratic presidency for sample consisting of sin stocks as well as for each of the three subsamples of tobacco, alcohol, and gaming stocks.

In this study, I focus on oil and gas sector and examine whether government control type (i.e. Democratic, Republican, and Unified controls) can explain some of the cross-sectional variation in profitability and valuation of firms that operate in the sector. Unlike the policies of the Democratic Party, most policies of the Republican Party favor companies in the oil and gas sector (Davenport, 2015). This makes Republican Party the favorite of oil and gas companies and thus, receives overwhelming campaign contribution support from them. I therefore expect that during the years of Republican (Democratic) control firms in the oil and gas sector will be more (less) profitable and have higher (lower) valuation.<sup>5</sup> However, the divided government impacts on oil and gas sector is not clear. I explore this by examining whether during the periods of gridlock in Washington, firms in the sector are less profitable, and have lower valuation.

---

<sup>5</sup> Republican (Democratic) control is a dummy that takes a value of one if the Republican (Democratic) party occupies the White House and control both the house and the senate.

I first examine the effects of divided government on firms that operate in the oil and gas sector. After controlling for firm characteristics, firm fixed effects, and year fixed effects, I find that the periods of dividend government are associated with higher profitability. I argue that due to the uniqueness of the four industries within the sector and the differences in regulations covering their operations, divided government may have different impact across the four industries; namely, crude petroleum and natural gas, drilling oil and gas wells, oil and gas field exploration services, and oil and gas field services, not elsewhere classified). I test this by analyzing subsamples that consist of firms in each of the four mentioned industries. I observe that divided government effect on return on assets (i.e. profitability) is driven by firms that operate in these two industries: crude petroleum and natural gas, and oil and gas field exploration services. These results are consistent with my argument that the effect of gridlock should differ across industries.

Next, I examine the effect of unified government (i.e. Democratic and Republican controls) on profitability and valuation. I find that both Democratic and Republican controls are associated with lower profitability, though the effect is much stronger during the periods of Democratic control. These results contradict my hypotheses that during the periods of Democratic (Republican) control, oil and gas companies will be less (more) profitable. As before, I examine unified government effect across industries. I find that the impact of Republican control on profitability is driven by firms that operate in the drilling and gas wells industry. And that of Democratic control is driven by firms in the oil and gas field exploration services' industry.

Finally, I restrict my analysis to firms that are headquartered in the state of Texas. The full sample consists of 641 unique firms that are headquartered across 37



states. More than 50% of these firms (i.e. 333 out of 641) are located in Texas. The energy sector is one of the sectors that drive Texas's economy. And it has been a dominant force politically and economically within the state. Texas is known to be one of the global leaders in this sector. Thus, the state may have regulations covering this sector that may differ from those of other states. Nevertheless, since most of the firms in my sample are in Texas, it is interesting to explore how government control type impact profitability and valuation of these firms.

I document that during the periods of Democratic control, firms that operate in the crude petroleum and natural gas industry are less profitable. I also find that Republican control is associated with valuation, but only for firms in the oil and gas field exploration services' industry. However, further analysis shows that Democratic control effect on profit is primarily driven by small oil and gas firms. The Republican control effect on profit is only seen in large oil firms. Lastly, I document that divided government is positively associated with higher profit; however, this effect is seen only in small firms, whereas the negative effect of divided government on profit is driven by large firms.

The paper proceeds as follows; section 2 briefly reviews the related literature. Section 3 describe the data and presents the summary statistics. Section 4 presents the main results of the effects of divided and unified government (i.e. Democratic and Republican controls) on profitability and valuation. Section 5 provides evidence from the oil and gas industry type. Section 6 provides evidence from a subsample of firms located in the state of Texas. Section 7 concludes.

## 2 Literature Review

In many democracies globally, there exists a conflict between branches of government. For instance, conflict between the executive and the legislative branches (Grossmann and Hopkins, 2015). In the United States (US), the government is formed by one of the two main rival parties (Republican and Democrats), which can create an executive and legislative arm of government interchangeably. Prior studies find that divided government leads to conflicts of interest between the executive and the legislative branches when it comes to budgetary allocations, policies and other trade-related policies and regulations. This division always results in economic consequences such as an imbalance growth of all sectors of the economy as each party tries to cater for its support base or voting bloc. This catering has an unintended consequence on the financial market.

Divided government has become a subject of much scholarly interest in recent years as partisan conflict and gridlock between the presidency and Congress have characterized American politics. A divided government is where the different political parties control the different branches of federal government. For instance, a split government exists where the Republican Party controls the presidency, and the Democratic Party controls the congress. This always results in a situation where each party is stalling the effort of its rival. For example, when a Democratic controlled party congress passes a bill, but a Republican president can reject it, and president's proposals always cannot get adopted since laws have to originate from the congressional leaders (Barber and McCarty, 2015). While much research has explored the impacts of divided government on policymaking and governance, relatively few studies have extended the discussion to financial market contexts. Divided government affects financial market outcomes when agents perceive division and potential gridlock as a signal of policy

uncertainty and factor such risk perceptions into their decision-making. This study examines the impacts of divided government on profitability and valuation of firms that operate in the oil and gas sector. I further explore the financial market implications (profitability and valuation) of single party control of the presidency and Congress. I posit that the impact of single party control on profitability and valuation will depend on whether the Democratic or the Republican Party controls both the presidency and congress.

Market performance is the process of methodical management of the company's resources with the aim of engaging in trade and business activities which will improve the economy and maintain quality in customer care and experience. In most cases, exemplary market performance (profitability and valuation) is tied to good governance and unified government (Lohmann & O'Halloran, 1994). Earlier research directly connects market performance of the US to its politics as presented by the Democratic and the Republican Party politics. At each election cycle, each party takes control of one or more branches of government: the executive or the legislature or both. This results in various conflicts of political interests which always affect the profitability and valuation of different sectors of the US economy.

Unlike when the government is divided, when the government is united (i.e. one-party controls both the legislative and executive branches), it responds more quickly to income shock by acting briskly to manage the situation so that market performance is restored (Roubini & Sachs, 1989). For instance, free trade policies will only be supported and implemented well and faster only if the president's party controls congress. Unlike under unified government, under divided government the president will face resistance when negotiating trade agreements. In most cases, the president's party is the minority in congress, thus making it difficult to adopt such

policies (Fabozzi, Ma, and Oliphant, 2008). Failure to take such policies in totality or timely hinders market performance (Roubini and Sachs, 1989).

Market performance highly depends on set policies which should be reviewed more often due to the ever-changing market environment posed by technological advancement and global competition. Therefore, it is prudent for the US government to review its policies frequently for today and future good market performance and relevancy internationally (Alesina and Rosenthal, 1995). Using the Balancing Model, Fiorina (1992) shows that under unified government such policies are agreed on faster with much ease than under divided government. Recent research has explained the various roles played by institutions in forming US trade policies and the bond between party affiliation of the president and market performance. President's leadership is weighed on the overall performance of the various sectors of the economy which translate to market performance (Hensel and Ziemba, 1995).

Good market performance has been recorded under Democratic presidency than under Republican president. The Republican president is associated with big businesses and investments which upon full engagement and accomplishment has a huge boost to market performance, whereas the Democratic president focuses on equity across board to improve the life of the ordinary citizens. This makes the Republican policies favorable for large companies and investors rather than for ordinary citizens (Hobbs and Riley, 1984). However, many economists and scholars argue that the Republican Party policies are for short-term benefits, whereas those of the Democratic Party are partly good for the short-term and best for the long-term achievement of good market performance (Hensel and Ziemba, 1995). Many average citizens appreciate the Democratic Party policies because they address their current plights and seek to stabilize and improve market performance for the long-term basis.

Some studies have analyzed the nature of growth or decline of market performance under both the Democratic and the Republican presidencies based on the first and final years in office. A number of studies have been done on Presidential election and short-term stock market performance and find that markets prefer a Republican President. Niederhoffer, Gibbs and Bullock (1970) document that, few days and weeks after a Republican presidential victory, stock markets perform much better than Democrats presidential victory. The same results have been documented by Riley and Lucksetich (1980), Reilly and Drzycimski (1976) and Siegel (1998).

For long-term stock market performance, Smith (1992) research documents that between 1921 and 1991, the average annual S&P 500 returns were 2.5% higher during Democratic regime than Republicans but the difference was not statistically significant. Stovall in 1992 also did a similar research from 1901 to 1992 and documented that, the average change in the Dow Jones industrial average during Democratic regime was higher (34.9%) than Republicans (30.5%).

According to Huang (1985) one of the myths of the stock market is that, the market prefers Republicans and sees Republicans as a business party. In his research he shows that, higher average returns have been recorded during democrats' administration than during republican administration. The literature documents good market performance during the last two final years as compared to the first two years in office (Johnson Chittenden and Jensen, 1999). This is attributed to increased large capitalization returns during the third and fourth year and increased utilization of microeconomic policies. Blinder and Watson (2016), in a broader sense argues that, the US economy in general no matter how one defines performance, is better under democrat's presidency than under republican's presidency. Their research further show that, growth rate of every major area of real GDP is higher under democrats than

republicans. They show that, for the 64 years of data collected from Truman to Obama's years, annualized stock market returns, and corporate profit share of gross domestic income are all doing better under democrats.

However, according to Sabherwal et al (2017), these studies done so far only dwelled on overall market performance of all firms in the United States. They believe that conducting a separate study for each sector, we will observe that profitability (returns) largely depends on the party that occupies the White House and/or controls congress (see e.g. Fama and French, 1993). For instance, Sabherwal et al. (2017) show that the "sin" stocks (i.e. publicly listed companies that produce tobacco, alcohol, and gaming) perform better under the Republican presidency than under Democrat presidency.

Agricultural and biotechnology industries are lucrative industries responsible for agricultural research and safe production of food and related products. Monsanto is an example of a company which falls in this industry. Monsanto has been criticized by various researchers and organizations for producing products that are unsafe for human consumption. However, Monsanto and its competitors have received maximum protection from the US government, especially from the Republican presidency and congress representatives (Lawson, 2014). It is evident that Monsanto experiences cycles of good and bad performances depending on which political party is in power. This forces many firms in this industry to support the party whose policies favor them (Lawson, 2014).

Performance of the health sector has been put in dilemma by the politics of divided government. Democratic Party policies favor their core voters who are low and middle-income earners, whereas Republican Party models its policies to favor its voting

block who tend to be high income earners (Davenport, 2015). Democrats want a health sector which is accommodative irrespective of one's social or financial status. This has been rejected by the Republicans who advocate for healthcare where one is responsible for his/her health. For instance, the famous Obama Healthcare was passed under Democrat presidency, whereas the Republican presidency that succeeded it has tried to do away with this healthcare policy. Such push and pull brought by the uncertainty surrounding Obama Healthcare have adversely affected the healthcare sector (Davenport, 2015).

Most of the policies of the Republican Party, unlike those of the Democratic Party, favor many of oil and gas companies (Davenport, 2015). This makes the Republican Party an ally of the oil and gas companies and thus, receives overwhelming campaign contribution support from them (see e.g. Sabherwal et al., 2017). In the most recent years, the Democratic Party's policies have been unfavorable to oil and gas sector. This makes the party lose grip of the support from the sector's firms and became unpopular. These firms play an important role regarding which party gets to occupy the White House. Ironically, these firms support candidates whose policies are friendly to them irrespective of their party affiliation. For instance, in 2008, Mr. McCain tirelessly advocated for environmental policies and ran for president on climate change credentials which were stronger than those of his opponent Barack Obama, who played neutralism on that issue. This did not go well with the wealthy oil and gas companies who in turn shifted their support to Mr. Barack Obama. Just like history repeats itself, President Trump of the Republican Party called a global warming a hoax on his run for White House and reversed environmental policies that Mr. McCain fronted and defeated his opponent who held stronger opinions on climatic change. In fact, it was

announced that he intends to take the US out of Paris climate accord (Barber and McCarty, 2015).

Actions by President Trump during his campaign saw the Republican Party got huge support from the oil and gas companies. It is argued that fossil fuel multimillionaires injected more than \$100 million into the Republican Party presidential campaign. President Trump himself has millions of dollars invested in fossil fuel industry, which is under threat by the global warming (Barber and McCarty, 2015). It is therefore evident that more of Republican Party's politics and politicians are indirectly or directly linked to this sector than are the Democratic Party's politics and politicians. In many of Republican Party presidential campaigns, their ideology always does not conflict the interests of the oil and gas companies. This makes the Republican Party policies favor oil and gas sector and thereby enacting laws that favor companies that operate in the sector. It is therefore believed that these companies will do better (profitable and be valuable) during the periods that Republican Party controls Washington.

### **3 Data Source and Summary Statistics**

In this section, I discuss data sources, key variables, and present summary statistics. The main variables of interest in this paper are divided government and unified government, either under Republican or Democratic Party. I winsorize all continuous variables at the 1<sup>st</sup> and 99<sup>th</sup> percentiles to remove any potential effects of extreme values on the results.



### 3.1 Data Sources and Main Variables

I collect all firm-year observations for publicly listed oil companies with Standard Industry Classification (SIC) codes of 1311 (Crude Petroleum and Natural Gas), 1381 (Drilling Oil and Gas Wells), 1382 (Oil and Gas Field Exploration Services), and 1389 (Oil and Gas Field Services, not elsewhere classified). The sample period is from 1989 to 2016, which covers the period where President George H. W. Bush (a Republican) started his first term, and President Barack Obama (a Democrat) ended his second term. Data on company financials come from Compustat database. For the analysis, I combine data from numerous sources. I also obtain political information (i.e. which party controls the house, the senate, and White House) from Wikipedia (<https://www.wikipedia.org>), and Dave Leip's Atlas of U.S. Presidential Elections (<https://uselectionatlas.org>).<sup>6</sup>

I merge Compustat data with political information and obtain initial firm-year observations of 7,597.<sup>7</sup> The main predictors are divided government, unified government under Republican Party, and unified government under Democratic Party. In line with prior literature (see Hutton, Jiang, and Kumar, 2014), my dependent variables are return on assets (ROA), and Tobin's q. My firm-level controls are market-to-book ratio, lagged total debt to assets ratio, firm size, and loss dummy.<sup>8</sup> I exclude all observations that are missing values for any of the firm-level control variables. This restriction results in a final sample that consists of 641 unique firms and 5,544 firm-year observations.

---

<sup>6</sup> Further, I verify the political information from <https://web.education.wisc.edu/nwhillman/index.php/2017/02/01/party-control-in-congress-and-state-legislatures/>, and <http://wiredpen.com/resources/political-commentary-and-analysis/a-visual-guide-balance-of-power-congress-presidency/>

<sup>7</sup> The sample consists of only oil and gas companies headquartered in U.S.

<sup>8</sup> I define the construction of our variables in the next section.

### 3.2 Variables' Construction

I define divided government as a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. Democrat control is a dummy variable that takes a value of one if Democratic Party controls the White House, the house, and the senate. Republican control is a dummy that takes a value of one if the Republican Party controls the White House, the house, and the senate.

Following Hutton, Jiang, and Kumar (2014), I define the dependent variables as follows: ROA as the ratio of income before extraordinary items (IB) to total assets (AT), and Tobin's q as book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. Further, I define the controls as follows: Size is the log of total book assets (AT); Loss is a dummy that takes a value of one if ROA is negative and zero otherwise; Lag TDA is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; and market-to-book as the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC).

### 3.3 Descriptive Statistics

Table 1 provides the summary statistics for political information and firm-level variables used in the analysis. Panel A shows the year-level summary statistics for political information variables. I observe that divided government has an average of

0.500, indicating that I had a divided government for 14 years out of 28 years that my sample period covers. Unified government type (i.e. Democrat control or Republican control) has an average of 0.143, implying each type of government control is for 4 years during the sample period.

Panel B of Table 1 reports summary statistics at the firm-year level. Approximately 51 percent of all firm-year observations occurred during the period of divided government, and about 14 (13) percent of them occurred during the period of unified government under Democrat (Republican) control. Average return on assets (ROA) is negative 0.24., and average Tobin's q is about 3.59. Panel C shows the various standard industrial classification and the number of unique firms in each classification. Crude petroleum and natural gas industry has the most number of firms (536 unique firms), while oil and gas field exploration industry has the least number of firms (24 unique firms). More than half of the oil and gas companies are headquartered in the state of Texas. Panel D indicates the number of firms located in Texas for each industry classification. Crude petroleum and natural gas industry have the most number of firms, while oil and gas field exploration services' industry has the least. 333 unique oil companies are in Texas.

## 4 Empirical Model

### 4.1 Model Specification

Here, I examine the effects of divided government and unified government type on return on assets (Profitability) and Tobin's q (Valuation). I conduct this analysis by estimating the following regression model:

$$\text{Dep}_{i,t} = \alpha + \beta \text{GovType}_t + \lambda \text{Controls}_{i,t} + \text{Firm}_i + \text{Year}_t + \varepsilon_{i,t} \quad (1)$$

where Dep represents the dependent variables: return on assets (ROA), and Tobin's q. GovType denotes the three key predictors, namely, divided government, Democrat control, and Republican control. Controls denotes a vector of firm-specific characteristics that can explain some of the variation in the dependent variables. I control for characteristics such as market-to-book, firm size, loss, and lag of total debt to asset ratio (TDA).

In addition, my model specification includes both firm fixed effects and year fixed effects. Firm fixed effects control for unobserved firm attributes that are constant across time but have the potential to influence the dependent variables. Year fixed effects control for shocks to the economy that have bearing on the dependent variables. The GovType estimates in these firm fixed effects regressions would only capture the time variation in profitability, and valuation that are likely caused by these different GovType.<sup>9</sup> This model specification in (1) above follows that of Hutton et. al. (2014).

#### 4.2 The Effect of Divided Government Control on Oil and Gas Sector

The literature suggests that divided government causes gridlock that leads to policy uncertainty. Consequently, market agents and managers of corporations will consider this policy risk when valuing financial assets. All things being equal, I expect that during the periods of divided government oil and gas firms will be less profitable and have lower valuation. I examine these hypotheses here.

Table 2 presents the results for the regression estimations. The result in Column 1 shows that divided government explains some of the variation in profitability (i.e. return on assets, ROA). The estimated coefficient on divided government is positive

---

<sup>9</sup> I use OLS regressions with standard errors that allow for heteroskedasticity and clustering at the firm level for our estimations.

0.348 and significant at 1% level, this indicates that oil and gas companies are profitable when the government is divided. Similar inference cannot be made about the valuation of oil and gas companies. The coefficient of divided government is positive 0.043, but it is not significant, as shown in Column 2. This implies that the periods of divided government do not provide valuable information to the market which can affect the valuation of oil and gas companies.

#### 4.3 The Effect of Unified Government Control on Oil and Gas Sector

Next, I test whether the periods where one party controls both the White House and congress (i.e. both the house and the senate) can explain some of the variation in profitability and valuation. If Republican (Democratic) party's policies favor (do not favor) the oil and gas sector, then I expect that during the periods of Republican (Democratic) control firms that operate in this sector will be more (less) profitable and have higher (lower) valuation.

I provide the results for this test in Table 2. In Column 3, the estimated coefficient on Democratic (Republican) control is negative 0.556 (0.348), and significant at 1% level, indicating that oil and gas companies are less profitable when there is a unified government. The reduction in profitability is more severe under Democratic control than under Republican control. In contrast, I don't see any evidence that unified government has impact on firm valuation. The coefficient on both Democratic and Republican controls are not statistically different from zero, as indicated in Column 4.

Taken together, I find that the market doesn't price the information provided by unified government, and profit is lower under each type of unified government, though it is much lower under Democratic control.

## 5 Oil and Gas Industry Type

In this section I argue that the effect of divided and unified governments on profitability and valuation will depend on the type of industry the oil and gas companies operate in. I re-estimate the model conditional on industry type.

### 5.1 The Effect of Divided Government Control by Industry Type

Columns 2 of Table 3 Panel A shows that divided government has no effect on valuation (Tobin's  $q$ ) for firms that operate in crude petroleum and natural gas industry. The coefficient on divided government is positive 0.024 for Tobin's  $q$ , but it is not significant at 10% level. However, oil and gas companies in this industry tend to be profitable during the periods of divided government. The estimated coefficient on divided government is positive 0.419, and significant at 1% level, as indicated in Column 1. For firms in drilling oil and gas wells' industry, I observe that there is no effect of divided government on profitability, and valuation, as indicated in Columns 3, and 4, respectively.

For Panel B, divided government only has effect on profitability of firms in oil and gas field exploration services' industry. Column 1 shows that the coefficient on divided government is positive 1.050 and it is significant at 10% level for ROA. For Tobin's  $q$ , the coefficient on divided government is not significant, as indicated in Column 2. For firms that operate in the industry categorized as oil and gas field services, not elsewhere classified, I find no evidence that divided government affect profitability and valuation of these firms, according to Columns 3 and 4, respectively. In sum, I infer that firms operating in crude petroleum and natural gas, and oil and gas field exploration services' industries are profitable during the periods of divided government.

## 5.2 The Effect of Unified Government Control by Industry Type

Here, I further explore whether restricting the sample to industry type would change the main results for unified government. Table 4 provides the results for my estimations conditional on industry type, using Democratic and Republican controls as the key predictors. Panel A provides the results for firms that operate in the crude petroleum and natural gas industry. In Column 1, I find that during the years of Republican party control oil and gas companies are less profitable (the coefficient on Republican control is negative 0.419, and significant at 1% level) – this result contradicts the notion that these firms will be profitable under Republican party control since the party's policies favor them. There is no Democratic control effect on profitability. Further, Column 2 suggests that each unified government type has no impact on firm valuation.

I show in Panel A Column 4 that for firms in drilling oil and gas wells' industry, unified government has no effect on valuation. Column 3 indicates that Democratic control has no effect on profitability; however, there is a reduction in profit during periods of Republican control (the coefficient on Republican control is negative 0.233 and significant at 10% level).

I observe different results for firms in the oil and gas field exploration services industry. Column 2 of Panel B show that unified government has no effect on valuation. Column 1 shows that firms in this industry are less profitable when Democratic Party controls Washington, but there is no effect of Republican control on profitability. For firms in oil and gas field service, not elsewhere classified industry, I can infer that unified government has no effect on profitability and valuation, as shown in Columns 3, and 4, respectively. In sum, I can infer that firms that operate in crude

petroleum and natural gas, and drilling oil and gas wells' industries are less profitable when Republican Party controls both the executive and legislative branches.

## 6 Texas firms

Texas is the hub of oil and gas sector. There are more oil and gas companies headquartered in the state of Texas than the rest of the states. As indicated earlier in Panel C of Table 1, more than half of all companies in the full sample are in Texas.<sup>10</sup> The energy sector is the main driver of the state's economy. Indeed, the state is one of the global leaders in the energy sector and has sets of policies and regulation that govern the activities of firms that operate in the state. Consequently, Washington policies that affect the energy sector may have different effects on firms that are headquartered in Texas. Thus, one can argue that divided and unified government effects on profitability, and valuation could be driven by firms that are located in Texas. I address this concern by re-estimating my model using subsample of firms that are headquartered in Texas.

### 6.1 Texas Firms and Type of Government Control

Columns 1, and 2 of Panel A Table 5 show that for firms in crude petroleum and natural gas industry, divided government has no impact on profitability, and valuation. I find that divided government has no effect on profitability and valuation, for firms in the drilling oil and gas wells industry, as indicated in Panel A Columns 3, and 4, respectively. Firms in the oil and gas exploration services' industry are less valuable under divided government (see Column 2 of Panel B). The coefficient on divided government is negative 0.855 and significant at 5% level. However, divided

---

<sup>10</sup> The full sample consists of 641 unique firms that are headquartered in 37 states.



government has no effect on profitability, according to Column 1. There is no divided government effect on both profitability and valuation for firms that operate in the oil and gas field services, not elsewhere classified industry, as observed in Columns 3, and 4 of Panel B.

In Table 6, I present the results for the effect of unified government profitability, and valuation for the restricted sample of Texas firms. I observe that Democratic control has negative effect on profitability of firms operating in the crude petroleum and natural gas industry, while Republican control has no effect (see Panel A Column 1). According to Column 2, unified government has no effect valuation.

For firms in the drilling oil and gas wells' industry unified government has no effect on profitability, and valuation (see Columns 3 and 4 of Panel A). Further, Republican control has no effect on profitability, whereas Democratic control has negative effect on profitability for firms in the oil and gas field exploration services' industry (see Column 1 of Panel B). For Column 2, Republican control is positively associated with valuation, whereas, Democratic control has no effect on valuation. Finally, for firms in the oil and gas field services, not elsewhere classified industry (as shown in Panel B), Columns 3, and 4 show that unified government has no effect on profitability and valuation.

In sum, I can infer that during the periods of divided government, firms in the oil and gas field exploration services' industry tend to have lower valuation. I also infer that firms that operate in either crude petroleum and natural gas industry or oil and gas field exploration services' industry are less profitable when Democratic Party controls all branches of government.

## 6.2 Size of Texas Firms and Type of Government Control

Here, I analyze whether divided and unified governments' effects are dependent on the size of the oil and gas companies. I categorize these companies as small, medium or large according to their total assets. More specifically, I classify these companies into 3 partitions: small, medium, and large.

Table 7 provides the results for divided government effect conditional on company size. Column 1 shows that small companies are more profitable during the periods of gridlock. There seems to be no divided government effect on valuation for small companies, according to Column 2. For medium companies, there is no divided government effect on both profitability and valuation, according to Columns 3 and 4. Large companies are less profitable when there is a divided government as shown in Column 5; however, there is no impact of divided government on valuation (see Column 6).

Similarly, Table 8 shows the results for the unified government effect conditional on company size. According to Column 1, small firms are less profitable under unified government. However, I find evidence that unified government has no effect on valuation, as shown in Column 2. For medium firms, there is no unified government effect, as indicated in Columns 3 and 4. Large firms are more profitable under Republican control, whereas Democratic control has no effect (see Column 5). From Column 6, I see that unified government has no effect on valuation. Overall, I find evidence that during the periods of divided (unified) government, small firms are more (less) profitable.

## 7 Conclusion

Why should profitability and valuation vary across years for firms that operate in the oil and gas sector? Many firm fundamental factors (i.e. firm characteristics) such as leverage, market-to-book, firm size etc. have been found as determinants of this variation. The literature has omitted a potential factor, political institutions (i.e. divided and unified governments). Corporate managers perceive division and gridlock caused by divided government as a signal of policy uncertainty and consequently factor this risk perception into their corporate level decision-making. This study seeks to examine the financial implications of divided government on oil and gas sector. In addition, I consider unified government and argue that the impact of single party control on oil and gas sector will depend on the ideology of the party that controls both the White House and congress.

I find that during the periods of divided government oil and gas companies are more profitable. In contrast, during the periods of either Democratic or Republican control, these firms are less profitable. These effects differ across industries in the sector. Further, I do the same analysis on firms that are in the state of Texas since the state has more than half of all unique firms in our full sample. I find that Democratic control is associated with less profit for small firms and for those that operate in the crude petroleum and natural gas industry. Large firms are profitable under Republican control. In addition, I observe that small firms are more profitable when there is a divided government. In sum, I document that political institution (i.e. government control type) is associated with profitability; however, the effect differs across firm size and the industry it operates in.

## **Appendix A: Variable Definitions**

Divided government is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate.

Democrat control is a dummy variable that takes a value of one if Democratic Party controls the White House and congress.

Republican control is a dummy that takes a value of one if the Republican Party controls the White House and congress.

ROA is the ratio of income before extraordinary items (IB) to total assets (AT)

Tobin's q is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets.

Size is the log of total book assets (AT)

Loss is a dummy that takes a value of one if ROA is negative and zero otherwise.

Lag TDA is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year

Market-to-book as the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC).

**Table 1**

Summary statistics and industrial classification

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. See appendix A for the definitions of the remaining variables.

## Panel A: Summary statistics at year level

	Mean	Std. Dev.	Median	25th	75th	Obs.
Divided government	0.500	0.509	0.500	0	1	28
Democrat control	0.143	0.356	0	0	0	28
Republican control	0.143	0.356	0	0	0	28

## Panel B: Summary statistics at firm-year level

	Mean	Std. Dev.	Median	25th	75th	Obs.
Divided government	0.507	0.500	1	0	1	5544
Democrat control	0.142	0.349	0	0	0	5544
Republican control	0.133	0.340	0	0	0	5544
ROA	-0.244	1.168	0.005	-0.114	0.053	5544
Tobin's q	3.587	14.086	1.405	1.075	2.008	5544
Market-to-book ratio	2.554	7.728	1.111	0.795	1.672	5544
Size	4.893	2.722	5.011	2.927	7.001	5544
Loss	0.478	0.500	0	0	1	5544
Lag of TDA	0.342	0.492	0.258	0.079	0.433	5544

## Panel C: Standard industrial classification and number of firms

## Panel A: All firms

SIC Code	Industry Name	Number of Firms
1311	Crude petroleum and natural gas	536
1381	Drilling oil and gas wells	41
1382	Oil and gas field exploration services	24
1389	Oil and gas field services, not elsewhere classified	40
Total number of firms		641

## Panel B: Texas firms

SIC Code	Industry Name	Number of Firms
1311	Crude petroleum and natural gas	259
1381	Drilling oil and gas wells	31
1382	Oil and gas field exploration services	18
1389	Oil and gas field services, not elsewhere classified	25
Total number of firms		333

**Table 2**

The effect of government type on profitability and valuation

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. ROA is the ratio of income before extraordinary items (IB) to total assets (AT); *Tobin's q* is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. *Size* is the log of total book assets (AT). *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise. Lag TDA is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year. *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

	Divided government		Unified government	
	ROA (1)	Tobin's q (2)	ROA (3)	Tobin's q (4)
Divided government	0.348*** (3.69)	0.0428 (0.09)		
Democratic control			-0.556*** (-4.76)	-0.307 (-0.51)
Republican control			-0.348*** (-3.69)	-0.0428 (-0.09)
Market-to-book	-0.0831*** (-7.68)	1.767*** (19.50)	-0.0831*** (-7.68)	1.767*** (19.50)
Size	0.222*** (5.81)	-0.155 (-0.86)	0.222*** (5.81)	-0.155 (-0.86)
Loss	-0.219*** (-8.80)	-0.0931 (-0.95)	-0.219*** (-8.80)	-0.0931 (-0.95)
Lag of TDA	-0.0235 (-0.26)	-0.885 (-1.04)	-0.0235 (-0.26)	-0.885 (-1.04)
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	5544	5544	5544	5544
Adjusted R-square	0.689	0.920	0.687	0.920

**Table 3**

Divided government effect conditional on firm type

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. ROA is the ratio of income before extraordinary items (IB) to total assets (AT). *Tobin's q* is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	ROA (1)	Tobin's q (2)	ROA (3)	Tobin's q (4)
Divided government	0.419*** (4.16)	0.0237 (0.04)	0.448 (1.58)	-4.959 (-1.40)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	4521	4521	430	430
Adjusted R-square	0.698	0.921	0.048	0.422

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	ROA (1)	Tobin's q (2)	ROA (3)	Tobin's q (4)
Divided government	1.050* (2.10)	-2.078 (-1.43)	0.309 (1.11)	-0.109 (-0.77)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	200	200	393	393
Adjusted R-square	0.827	0.986	0.406	0.985

**Table 4**

Unified government effect conditional on firm type

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. ROA is the ratio of income before extraordinary items (IB) to total assets (AT). *Tobin's q* is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	ROA	Tobin's q	ROA	Tobin's q
	(1)	(2)	(3)	(4)
Democratic control	-0.0784 (-1.42)	-0.431 (-1.26)	-0.305 (-1.44)	3.876 (1.34)
Republican control	-0.419*** (-4.16)	-0.0237 (-0.04)	-0.233* (-1.80)	2.492 (1.49)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	4521	4521	430	430
Adjusted R-square	0.698	0.921	0.048	0.422

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	ROA	Tobin's q	ROA	Tobin's q
	(1)	(2)	(3)	(4)
Democratic control	-1.050** (-2.10)	2.078 (1.43)	-0.309 (-1.11)	0.109 (0.77)
Republican control	-0.538 (-1.37)	0.141 (0.23)	-0.232 (-1.05)	-0.0225 (-0.22)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	200	200	393	393
Adjusted R-square	0.827	0.986	0.406	0.985



**Table 5**

Divided government effect conditional on firm type- Texas firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. ROA is the ratio of income before extraordinary items (IB) to total assets (AT). *Tobin's q* is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	ROA (1)	Tobin's q (2)	ROA (3)	Tobin's q (4)
Divided government	0.138 (1.29)	0.110 (0.20)	0.493 (1.43)	-6.390 (-1.47)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	2348	2348	341	341
Adjusted R-square	0.681	0.910	0.035	0.420

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	ROA (1)	Tobin's q (2)	ROA (3)	Tobin's q (4)
Divided government	0.0671 (0.51)	-0.855** (-1.95)	-0.00921 (-0.09)	-0.0279 (-0.13)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	182	182	264	264
Adjusted R-square	0.343	0.540	0.814	0.960

**Table 6**

Unified government effect conditional on firm type-Texas Firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. ROA is the ratio of income before extraordinary items (IB) to total assets (AT). *Tobin's q* is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	ROA	Tobin's q	ROA	Tobin's q
	(1)	(2)	(3)	(4)
Democratic control	-0.428*** (-3.26)	0.740 (1.14)	-0.359 (-1.26)	5.179 (1.42)
Republican control	-0.138 (-1.29)	-0.110 (-0.20)	-0.353 (-1.54)	3.792 (1.57)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	2348	2348	341	341
Adjusted R-square	0.681	0.910	0.035	0.420

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	ROA	Tobin's q	ROA	Tobin's q
	(1)	(2)	(3)	(4)
Democratic control	-0.306*** (-3.07)	0.328 (0.51)	0.00921 (0.09)	0.0279 (0.13)
Republican control	-0.0671 (-0.51)	0.855* (1.95)	0.0323 (0.34)	0.0351 (0.23)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	182	182	264	264
Adjusted R-square	0.343	0.540	0.814	0.960

**Table 7**

Divided government effect conditional on firm size – Texas firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. ROA is the ratio of income before extraordinary items (IB) to total assets (AT). *Tobin's q* is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

	Small firms		Medium firms		Large firms	
	ROA	Tobin's q	ROA	Tobin's q	ROA	Tobin's q
	(1)	(2)	(3)	(4)	(5)	(6)
Divided government	0.940*** (2.73)	-0.419 (-0.23)	0.0622 (0.94)	0.0570 (0.65)	0.0341** (-2.03)	0.0198 (0.41)
Firm controls	YES	YES	YES	YES	YES	YES
Constant	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
# of observations	791	791	783	783	774	774
Adjusted R-square	0.693	0.906	0.443	0.940	0.510	0.950

**Table 8**

Unified government effect conditional on firm size – Texas firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. ROA is the ratio of income before extraordinary items (IB) to total assets (AT). *Tobin's q* is defined as the book value of assets plus market value of equity minus book value of equity, all divided by book value of assets. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

	Small firms		Medium firms		Large firms	
	ROA	Tobin's q	ROA	Tobin's q	ROA	Tobin's q
	(1)	(2)	(3)	(4)	(5)	(6)
Democratic control	- 1.104*** (-2.79)	3.217 (1.50)	- 0.0552 (-1.41)	-0.0564 (-0.71)	0.00430 (0.31)	0.00347 (0.07)
Republican control	- 0.940*** (-2.73)	0.419 (0.23)	- 0.0622 (-0.94)	-0.0570 (-0.65)	0.0341** (2.03)	-0.0198 (-0.41)
Firm controls	YES	YES	YES	YES	YES	YES
Constant	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
# of observations	791	791	783	783	774	774
Adjusted R-square	0.693	0.906	0.443	0.940	0.510	0.950

### **Essay 3: The Effect of Political Divide on Investment in Tangible Assets and R&D: Evidence from the oil and gas sector.**

#### **1 Introduction**

The extant economic and finance literature show that political uncertainty has significant effect on firm behavior. For example, empirical findings indicate that firms tend to reduce their investment during the periods of higher political uncertainty (see e.g. Gulen and Ion, 2016; Jens, 2016). In contrast, other studies show that firms increase investment activities when political uncertainty is high (see e.g. Stein and Stone, 2013; Atanassov, Julio and Leng, 2018). These studies primarily focus on all firms, excluding only firms in the financial and utilities sectors, and use U.S. gubernatorial and presidential election cycle as a proxy for political uncertainty.

Because firms' decision making is linked to the policies of the government in place, I argue that the ideology of the political party in charge of government and the extent of its power in enacting its policies should play a role in firms' investment decision making. Hence, I consider the types of government (i.e. a unified government and a divided government) as proxies for political uncertainty.<sup>11</sup> In addition, I focus on the oil and gas sector, which is considered as a key sector in every economy. Specifically, I investigate whether both unified government and divided government can explain some of the variation in firm's investment behavior.

Using a sample that consists of publicly traded oil and gas firms from the Compustat database covering the periods 1989 to 2016, I find that the periods of divided government are associated with higher R&D spending. I test whether the divided

---

<sup>11</sup> I define a unified government as when a single party controls both the executive and legislative branches of government, and a divided government as when each of these two branches of government is controlled by a different party

government effect will differ across the four industries within the oil and gas sector.<sup>12</sup> I find that the negative effect of divided government on R&D spending affects only the firms that operate in the industry categorized as oil and gas field services, not elsewhere classified. This result is consistent with my argument that the effect of gridlock should differ across industries.

Further, I investigate the effect of unified government (i.e. Democratic and Republican controls) on investment in tangible assets and R&D. Contrary to my expectation that oil, and gas companies will increase R&D spending when Republican Party controls Washington, I find that, on average, these firms spend less on R&D. However, I observe no effect of Democratic control on R&D spending. I also examine the effect of a unified government on investment in tangible assets and R&D across industries. I find that only firms that operate in the oil and gas field services, not elsewhere classified industry spends less when the Republican Party controls Washington.

The full sample for the analysis consists of 641 unique firms that are headquartered across 37 states; however, more than 50% of these firms are in Texas. The energy sector is one of the sectors that drive Texas's economy. The state regulations covering this sector may differ from those of other states.<sup>13</sup> I restrict the analysis to firms that are headquartered in the state of Texas. I document that during the periods of Democratic control, firms that operate in the crude petroleum and natural gas industry invest less in tangible assets. I observe that the effect of Democratic control on investment in tangible assets is driven by small oil and gas firms. Further,

---

<sup>12</sup> The four industries within the sector are unique with respect to the government regulations and rules that cover each industry. The industries are: crude petroleum and natural gas, drilling oil and gas wells, oil and gas field exploration services, and oil and gas field services, not elsewhere classified.

<sup>13</sup> The energy sector has been a dominant force politically and economically within the state. Texas is known to be one of the global leaders in this sector.

I document that divided government is positively associated with higher investment in tangible assets; however, this effect is seen only in small oil and gas firms.

The paper proceeds as follows; section 2 briefly reviews the related literature. Section 3 describe the data and presents the summary statistics. Section 4 presents the main results of the effects of divided and unified government (i.e. Democratic and Republican controls) on investment in tangible assets and R&D spending. Section 5 provides evidence from the oil and gas industry type. Section 6 provides evidence from a subsample of firms located in the state of Texas and section 7 concludes.

## 2 Literature Review

Research and Development (R&D) investment is an imperative area in various sectors since it creates options for an organization future growth and flexibility (see Atanassov, Julio and Leng, 2018). Atanassov (2013) argue that R&D is considered as an input to innovation and goes along with tangible assets, human capital, creativity, managerial and employee effort and that firms which have invested more in tangible assets tend to have more citations per patent.

There has been a lot of debate concerning the possible impact of uncertainty on the firm's ability and behavior to invest in tangible assets and R&D. Theorists have argued that economic uncertainty can be a significant factor and determinant of investment levels and dynamics (see Stein and Stone, 2013). In relation to the above, the extant literature that examines the impact of political uncertainty on investment show that political uncertainty is associated with decreased investment in both tangible assets and R&D. This relation is corroborated by Kostovetsky (2015) who argues that firms are more likely to experience some regulatory changes which affect their corporate decisions, strategies, and business operations. Further, Pastor and Veronesi

(2012) argue that in a political uncertainty environment, future economic policies' adoption and enactment are not certain and this affects firm's decision to invest. On one hand it has been documented that investment decreases when there is a higher political uncertainty (see e.g. Julio and Young, 2012; Baker, Bloom and Davis, 2016; Gullen and Ion, 2016; Jen, 2016; and Wang, Wei and Song, 2017). On the other hand, other studies find that political uncertainty is positively related to investment in R&D as well as in tangible assets (Stein & Stone, 2013; Atanassov et al., 2018). The inference is that corporate decision policy makers should consider the effect of political uncertainty when making investment decisions.

Atanassov et al. (2018) results show that there is a bright side to political uncertainty. In the study, a plausible exogenous variation in political uncertainty was exploited by the timing of the United States gubernatorial elections which was used as a proxy for uncertainty. They show that a lot of firms in the United States tend to increase their investment in R&D in election years by an average of 4.6% when compared to non-election years.

Several studies have considered the effects of government policy changes as political entities of uncertainty on asset prices (Pastor & Veronesi, 2012). Pastor and Veronesi (2012) investigated the effect of uncertainty about government policy on stock prices. The authors establish that the uncertainty brought about by government policy changes is bound to increase the volatilities and correlations among stocks. Based on their general equilibrium model utilized in the study, they argue that stock prices should fall at the announcement of a policy change, on average. The authors indicate that a higher policy uncertainty will lead to a higher decline in stock price and that stock price will decline if the policy change is preceded by a short or shallow economic down turn.



Though, the effect of policy uncertainty on financial markets and R&D spending has been well documented, there is lack of adequate studies examining the effect of policy uncertainty on investment in tangible assets and R&D due to variation in political ideology of the party that controls both or one of the two branches of government, namely, presidency and legislature. Indeed, Pastor and Veronesi (2012) indicate that there is still much to learn about the role of the government as a political entity in asset pricing.

The type of government, whether a unified government (i.e. a single party controls both the presidency and legislature) or divided government, can affect firm's decision to invest in tangible assets and/or R&D. The government is the main political entity in every nation. According to Pastor and Veronesi (2012), governments as political entities and policy forming structures have the capability of shaping the environment that the private sector operates. The government that is in place affects firms in many ways, such as: creating and enforcing laws and policies, defining environmental policies, levying taxes, providing subsidies, and regulating competition among other key market functions (see Pastor & Veronesi, 2012). Firth, Gong, and Shan (2013) argue that government policies affect the share performance, firm value, and financial choices as well as the firm's decision to invest in tangible assets and R&D. In other words, the government sets the rules of the game and keeps changing the rules from time to time which leads to price reactions and constraints in financial markets (see Pastor & Veronesi, 2012; Firth et al., 2013).

Firms might not have an idea of which industry a government is going to support or the key direction of future industrial development of a country (Wang et al., 2017). This creates uncertainty and suggest that government political ideology, which is reflected in its policy choices, may lead to a reduction in investment in tangible assets

and R&D. For example, examining the investment behavior of U.S. firms, Yonce (2015) find that firms reduce investment expenditures during periods of single-party control and during periods where the White House is occupied by a Republican president, though the reduction is more in the latter. The author also finds that firms tend to invest more during periods of divided government, consistent with the theory that firms have positive outlook when there is a lower likelihood of a policy change due to gridlock in periods of divided government.

The literature on policy uncertainty and investment in tangible assets and R&D is well documented. These studies have mostly focused on investment behavior of firms across all sectors. However, sectors are different with respect to rules and regulations that they must follow and the level of competition that exists differs across sectors. I fill this gap by studying how variation in political ideologies and the interaction of those ideologies influence the investment decisions of firms that operate in the oil and gas sector. Specifically, I examine how these firms invest when one party controls both the presidency and congress. Further, I investigate their investment decisions when there is a divided government.

### **3 Data and Summary Statistics**

This section presents data sources, sample selection, variable construction, and summary statistics for the key variables used in our analysis. The main variables of interest in this paper are divided government and unified government, either under Republican or Democratic Party. I winsorize all continuous variables at the 1<sup>st</sup> and 99<sup>th</sup> percentiles to remove any potential effects of extreme values on the results.

### 3.1 Data Sources and Main Variables

I collect all firm-year observations for publicly listed oil companies with Standard Industry Classification (SIC) codes of 1311 (Crude Petroleum and Natural Gas), 1381 (Drilling Oil and Gas Wells), 1382 (Oil and Gas Field Exploration Services), and 1389 (Oil and Gas Field Services, not elsewhere classified). The sample period is from 1989 to 2016, which covers the period where President George H. W. Bush (a Republican) started his first term, and President Barack Obama (a Democrat) ended his second term. Data on company financials come from Compustat database. For the analysis, I combine data from numerous sources. I also obtain political information (i.e. which party controls the house, the senate, and White House) from Wikipedia (<https://www.wikipedia.org>), and Dave Leip's Atlas of U.S. Presidential Elections (<https://uselectionatlas.org>).<sup>14</sup>

I merge Compustat data with political information and obtain initial firm-year observations of 7,597.<sup>15</sup> The main predictors are divided government, unified government under Republican Party, and unified government under Democratic Party. In line with prior literature (see Hutton, Jiang, and Kumar, 2014), the dependent variables are investment in tangible assets (INV), and research and development (R&D). My firm-level controls are market-to-book ratio, lagged total debt to assets ratio, firm size, and loss dummy.<sup>16</sup> I exclude all observations that are missing values for any of the firm-level control variables. This restriction results in a final sample that consists of 641 unique firms and 5,544 firm-year observations.

---

<sup>14</sup> Further, I verify the political information from <https://web.education.wisc.edu/nwhillman/index.php/2017/02/01/party-control-in-congress-and-state-legislatures/>, and <http://wiredpen.com/resources/political-commentary-and-analysis/a-visual-guide-balance-of-power-congress-presidency/>

<sup>15</sup> My sample consists of only oil and gas companies headquartered in U.S.

<sup>16</sup> I define the construction of our variables in the next section.

### 3.2 Variables' Construction

I define divided government as a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. Democrat control is a dummy variable that takes a value of one if Democratic Party controls the White House, the house, and the senate. Republican control is a dummy that takes a value of one if the Republican Party controls the White House, the house, and the senate.

I follow prior literature (see Hutton, Jiang, and Kumar, 2014) and define my two dependent variables as follows: INV as the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT); and R&D as the ratio of research and development expense (XRD) to total assets (AT), I code R&D as zero if missing XRD. In addition, I define my firm controls similar to Hutton et. al. (2014) as follows: Size is the log of total book assets (AT); Loss is a dummy that takes a value of one if ROA is negative and zero otherwise; Lag TDA is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; and market-to-book as the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC).

### 3.3 Descriptive Statistics

Table 1 exhibits the summary statistics for political information and firm-level variables. Panel A presents the year-level summary statistics for political information variables. Divided government has an average of 0.500, indicating that in the sample,

14 years out of the 28 years were periods that we had a divided government. Panel A shows that each unified government type (i.e. Democrat control or Republican control) has an average of 0.143, implying that we had each type for 4 years during my sample period.

Table 1, Panel B presents the summary statistics at the firm-year level. Approximately 51 percent of all firm-year observations occurred during the period of divided government, and about 14 (13) percent of them occurred during the period of unified government under Democrat (Republican) control. An average investment in tangible assets (INV) is about 0.29, while an average research and development (R&D) is 0.002. The standard industrial classifications and the number of unique firms in each classification is exhibited in Panel C. Crude petroleum and natural gas industry has the most number of firms (536 unique firms), while oil and gas field exploration industry has the least number of firms (24 unique firms). Panel D indicates the number of firms located in Texas for each industry classification. Crude petroleum and natural gas industry have the greatest number of firms, while oil and gas field exploration services' industry has the least. 333 unique oil companies are headquartered in the state of Texas.

## 4 Empirical Model

### 4.1 Model Specification

In this section, I examine whether government type (i.e. divided government and unified government) affects firm investment in both tangible assets, and research and development. I investigate this by running the regression model specification below:

$$Pre_{i,t} = \alpha + \beta GovType_t + \lambda Controls_{i,t} + Firm_i + Year_t + \varepsilon_{i,t} \quad (1)$$

where the variable, *Pre*, denotes the following dependent variables: investment in tangible assets (*INV*), and research and development (*R&D*). *GovType* denotes the three key predictors, namely, Divided government, Democrat control, and Republican control. *Controls* denotes a vector of firm-specific characteristics that can explain some of the variation in our dependent variables. I control for characteristics such as market-to-book, firm size, loss, and lag of total debt to asset ratio (*TDA*).

In addition, my model specification includes both firm fixed effects and year fixed effects. Firm fixed effects control for unobserved firm attributes that are constant across time but have the potential to influence the dependent variables. Year fixed effects control for shocks to the economy that have bearing on the dependent variables. The *GovType* estimates in these firm fixed effects regressions would only capture the time variation in corporate investment policies that are likely caused by these different *GovType*.<sup>17</sup> The regression model specification in (1) above is similar to that of Hutton et. al. (2014).

#### 4.2 The effect of government type

The literature suggests that divided government causes gridlock that leads to policy uncertainty. Consequently, market agents and managers of corporations will consider this policy risk when making investment decisions. If the probability of policy changes is lower during periods of divided government due to gridlock, then, I expect that during these periods oil and gas companies will invest less in tangible assets and R&D, all things being equal. Hypotheses analysis is as follows.

---

<sup>17</sup> I use OLS regressions with standard errors that allow for heteroskedasticity and clustering at the firm level for our estimations.

I present the estimates in Table 2, Columns 1 and 2. The result in Column 1 is not consistent with the findings of Yonce (2015) that firms invest more in capital expenditures during the periods of divided government. Though, the estimated coefficient (0.035) on divided government is negative, it is not statistically significant at 10% level, suggesting that policy uncertainty due to divided government does not influence oil and gas companies' investment decision regarding tangible assets. In contrast, Column 2 shows that divided government explains some of the variation in R&D spending. The coefficient is positive 0.002, and it is statistically significant at the 10% level, indicating that oil and gas companies tend to spend more in research and development projects during periods of gridlock. The result is economically significant. Since, the average R&D spending is 0.002, the coefficient of 0.002 represents an increase of 100% in R&D spending during the periods of divided government.

Columns 3 and 4 of Table 2 present the results for the test that examine whether the periods where one party controls both the White House and congress (i.e. both the house and the senate) can explain some of the variation in investment in tangible assets and R&D. If Republican (Democratic) party's policies favor (do not favor) the oil and gas sector, then it is expected that during the periods of Republican (Democratic) control firms that operate in this sector will invest more (less) in tangible assets and R&D. Column 3 shows that during the years of Democratic (Republican) control, these firms tend to invest less (more) in tangible assets, though those investments are not significantly different from those in periods where no single party controls both branches of government. The coefficient on Democratic (Republican) control is negative (positive) 0.041 (0.035), but it is not statistically significant at 10% level. Column 4 indicates that Democratic control has no role in determining R&D spending,

whereas Republican control has negative effect on R&D spending. The coefficient on Republican control is negative 0.002 and it is significant at 10% level; the coefficient on Democratic control is also negative 0.003, but it is not significant at 10% level. The result suggests that during the periods where Republican Party controls Washington, oil and gas companies tend to reduce R&D spending by 100% (the average R&D spending in our sample is 0.002). This observation contradicts the expectation that oil and gas companies will increase R&D spending under Republican Party control because the party's policies favor them.<sup>18</sup>

## 5 Analysis on Oil and Gas by Industry Type

In this section I argue that the effect of divided and unified governments on investment in tangible assets and R&D will depend on the type of industry the oil and gas companies operate in. I re-estimate the model conditional on industry type.

### 5.1 The Effect of Divided Government by Industry Type

Table 3 presents the results for the effect of divided on investment in tangible assets (INV), and R&D spending (R&D) conditional on firms that operate in the crude petroleum and natural gas industry. The coefficient on divided government is positive 0.051 for INV, and positive 0.001 for R&D but each is not significant at 10% level, according to Columns 1 and 2 of Panel A. For firms in drilling oil and gas wells' industry, I observe that they invest less in tangible assets when there is a gridlock in Washington. The coefficient on divided government is negative 0.151, and significant at 1% level (as shown in Column 3 of Panel A), indicating that firms in this industry

---

<sup>18</sup> I expect more R&D spending if Republican party's policies favor oil and gas sector.



lower investment in tangible assets by about 51% during gridlocks<sup>19</sup>. There appears to be no effect of divided government on R&D spending, as indicated in Column 4.

For Panel B, divided government has no effect on investment in both tangible assets and R&D of firms in oil and gas field exploration services' industry. Columns 1 and 2 show that the coefficient on divided government for INV, and R&D, respectively, are not significant. For firms that operate in the industry categorized as oil and gas field services, not elsewhere classified, investment in R&D increases during periods of gridlocks. The estimated coefficient on divided government is positive 0.034, and significant at 5% level. In contrast, I find no evidence that divided government affect investment in tangible assets.

## 5.2 The Effect of Unified Government by Industry Type

Table 4 provides the results of the effect of unified government (i.e. Democratic and Republican controls) on investment in tangible assets and R&D conditional on industry type. Columns 1 and 2 of Panel A exhibit the results for firms that operate in the crude petroleum and natural gas industry. Column 1 shows that both Democratic and Republican controls have negative effect on investment in tangible assets. The coefficient on Democratic (Republican) control is positive (negative) 0.064 (0.051), and it is significant at 5% (10%) level. There is no unified government effect on R&D spending, as indicated in Columns 2. I observe in Panel B Column 4 that for firms in drilling oil and gas wells' industry, unified government has no effect on R&D spending; however, these firms invest more in tangible assets during Democratic control, whereas

---

<sup>19</sup> The average investment in tangible assets for our subsample of firms that operate in the crude petroleum and natural gas industry is positive 0.297.

in Republican control there is no effect on investment in tangible assets, as indicated in Column 3.

For firms in the oil and gas field exploration services industry, Columns 1, and 2 of Panel B indicate that unified government has no effect on investment in tangible assets, and R&D spending. The estimated coefficients on both Democratic and Republican controls are not significantly different from zero. For firms operating in the oil and gas field service, not elsewhere classified, the coefficient of Democratic (Republican) control is negative 0.034 (0.024), and significant at 5% level, according to Column 4 of Panel B – indicating that these firms spend less on R&D. I find no effect of unified government on investment in tangible assets, as shown in Column 3.

## 6 Texas firms

Texas is the hub of oil and gas sector. There are more oil and gas companies headquartered in the state of Texas than the rest of the states. As indicated earlier in Panel C of Table 1, more than half of all companies in our full sample are in Texas.<sup>20</sup> The energy sector is the main driver of the state's economy. Indeed, the state is one of the global leaders in the energy sector and has sets of policies and regulation that govern the activities of firms that operate in the state. Consequently, Washington policies that affect the energy sector may have different effect on firms that are headquartered in Texas. Thus, one can argue that divided and unified government effect on investment in tangible assets and R&D could be driven by firms that are located in Texas. I address this concern by re-estimating our model using subsample of firms that are headquartered in Texas.

---

<sup>20</sup> The full sample consists of 641 unique firms that are headquartered in 37 states.

## 6.1 Texas Firms and Type of Government Control

For firms in crude petroleum and natural gas industry, divided government has no impact on investment in tangible assets, and R&D spending, according to Columns 1 and 2 of Panel A Table 5. Divided government has no effect on investment in tangible assets and R&D for firms that operate in the oil and gas field services, not elsewhere classified industry as well for firms in the oil and gas field exploration services, as observed in Columns 1, 2, 3, and 4 of Panel B. I find that divided government has negative effect on investment in tangible assets, but it has no effect on R&D spending, for firms in the drilling oil and gas wells industry, as indicated in Panel A Columns 3, and 4, respectively. Specifically, these firms reduce investment in tangible assets by about 74% (the average investment in tangible assets for this industry is 0.218) when there is a divided government (the coefficient of divided government is negative 0.161, and it is significant at 5% level).<sup>21</sup>

Table 6 presents the results for the effect of unified government on investment in tangible assets and R&D for the restricted sample of Texas firms. Democratic control has negative effect on investment in tangible assets for firms operating in the crude petroleum and natural gas industry, while Republican control has no effect (according to Panel A Columns 1). According to Columns 2, unified government has no effect on R&D spending. Column 3 indicates that firms in drilling oil and gas wells' industry have higher investment in tangible assets under Democratic control, whereas Republican control has no effect. Unified government has no effect on R&D spending, as shown in Column 4.

---

<sup>21</sup> The summary statistics for each industry for firms in Texas are not reported for brevity reason.

Further, unified government has no effect on investment in tangible assets and R&D spending for firms in the oil and gas field exploration services' industry (see Panel B Columns 1 and 2). For firms in the oil and gas field services, not elsewhere classified industry, Column 3 shows that unified government has no effect on investment in tangible assets. Finally, Column 4 indicates that these firms tend to invest less in R&D under Republican control, while Democratic control has no effect on R&D.

## 6.2 Size of Texas Firms and Type of Government Control

I investigate whether the size of the oil and gas companies is driving the effect of divided and unified governments on investment in tangible assets and R&D. I categorize these companies as small or medium or large according to their total assets. More specifically, I classify these companies into 3 partitions: small, medium, and large.

Table 7 exhibits the results for divided government effect conditional on company size. I observe in Columns 1 that during the periods of gridlock, small companies invest more in tangible assets. For small companies, divided government has no effect on R&D spending, as indicated in Column 2. Columns 3, and 4 indicate that divided government has no effect on investment in tangible assets, and R&D spending for medium-sized companies. Similarly, for large companies, there is no divided government effect.

The results for the unified government effect conditional on company size is presented in Table 8. Column 1 indicates that small firms tend to invest less in tangible assets under unified government. Unified government has no effect on R&D spending, according to Column 2. For medium firms, there is no unified government effect on

investment in tangible assets and R&D, as indicated in Columns 3 and 4. Similarly, I observe from Columns 5 and 6 that unified government has no effect for large firms.

Overall, I find evidence that the negative effect of divided government on investment in tangible assets is not driven by small oil and gas firms, but rather these small firms invest more (less) during the periods of divided (unified) government.

## 7 Conclusion

Corporate managers perceive division and gridlock caused by divided government as a signal of policy uncertainty and consequently factor this risk perception into their investment decision making. This study seeks to examine whether divided government influences the investment behavior of firms in the oil and gas sector. Further, I examine whether unified government (i.e. a single party control of the executive and legislative branches) also affects the investment behavior of these firms.

The empirical findings suggest that during the periods of divided government oil and gas companies spend more on R&D. I find that during the periods where the Republican Party controls both the executive and legislative branches, firms tend to spend less on R&D. These effects differ across industries in the sector. In contrast, Democratic control has no effect on R&D spending. Both Republican and Democratic controls have no effect on investment in tangible assets. Further, I do the same analysis on firms that are headquartered in the state of Texas since the state has more than half of all unique firms in our full sample. I find that Democratic control is associated with less investment in tangible assets for small firms and for those that operate in the crude petroleum and natural gas industry. In addition, I observe that small firms invest more

in tangible assets when there is a divided government. In sum, I document that political institution (i.e. government control type) is associated with investments in tangible assets and R&D; however, the effect differs across firm size and industry.

## **Appendix A: Variable Definitions**

Divided government is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate.

Democrat control is a dummy variable that takes a value of one if Democratic Party controls the White House and congress.

Republican control is a dummy that takes a value of one if the Republican Party controls the White House and congress.

INV is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT)

R&D is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD.

Size is the log of total book assets (AT)

Loss is a dummy that takes a value of one if ROA is negative and zero otherwise.

Lag TDA is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year

Market-to-book as the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC).

**Table 1**

## Summary statistics

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. See appendix A for the definitions of the remaining variables.

## Panel A: Summary statistics at year level

	Mean	Std. Dev.	Median	25th	75th	Obs.
Divided government	0.500	0.509	0.500	0	1	28
Democrat control	0.143	0.356	0	0	0	28
Republican control	0.143	0.356	0	0	0	28

## Panel B: Summary statistics at firm-year level

	Mean	Std. Dev.	Median	25th	75th	Obs.
Divided government	0.507	0.500	1	0	1	5544
Democrat control	0.142	0.349	0	0	0	5544
Republican control	0.133	0.340	0	0	0	5544
INV	0.287	0.249	0.230	0.121	0.383	5544
R&D	0.002	0.010	0.000	0.000	0.000	5544
Market-to-book ratio	2.554	7.728	1.111	0.795	1.672	5544
Size	4.893	2.722	5.011	2.927	7.001	5544
Loss	0.478	0.500	0	0	1	5544
Lag of TDA	0.342	0.492	0.258	0.079	0.433	5544

## Panel C: Standard industrial classification and number of firms

## Panel A: All firms

SIC Code	Industry Name	Number of Firms
1311	Crude petroleum and natural gas	536
1381	Drilling oil and gas wells	41
1382	Oil and gas field exploration services	24
1389	Oil and gas field services, not elsewhere classified	40
Total number of firms		641

## Panel B: Texas firms

SIC Code	Industry Name	Number of Firms
1311	Crude petroleum and natural gas	259
1381	Drilling oil and gas wells	31
1382	Oil and gas field exploration services	18
1389	Oil and gas field services, not elsewhere classified	25
Total number of firms		333



**Table 2**

The effect of government control type on investment

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. *INV* is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT). *R&D* is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD. *Size* is the log of total book assets (AT). *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise. *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year. *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

	Divided government		Unified government	
	INV (1)	R&D (2)	INV (3)	R&D (4)
Divided government	-0.0354 (-1.22)	0.00235* (1.74)		
Democratic control			-0.0409 (-1.24)	-0.00248 (-1.45)
Republican control			0.0354 (1.22)	-0.00235* (-1.74)
Market-to-book	0.00273** (2.42)	0.0000574 (0.67)	0.00273** (2.42)	0.0000574 (0.67)
Size	0.00421 (0.55)	0.0000323 (0.08)	0.00421 (0.55)	0.0000323 (0.08)
Loss	-0.00597 (-0.69)	0.000352 (1.11)	-0.00597 (-0.69)	0.000352 (1.11)
Lag of TDA	-0.0327** (-2.21)	0.000000572 (0.00)	-0.0327** (-2.21)	0.000000572 (0.00)
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	5544	5544	5544	5544
Adjusted R-square	0.302	0.613	0.302	0.613

**Table 3**

Divided government effect conditional on firm type

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. INV is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT). R&D is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	INV (1)	R&D (2)	INV (3)	R&D (4)
Divided government	0.0513 (1.70)	0.000706 (0.79)	-0.151*** (-2.86)	-0.00153 (-1.34)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	4521	4521	430	430
Adjusted R-square	0.284	0.425	0.464	0.848

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	INV (1)	R&D (2)	INV (3)	R&D (4)
Divided government	0.252 (1.15)	0.0103 (0.74)	0.159 (1.29)	0.0337* (2.36)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	200	200	393	393
Adjusted R-square	0.428	0.840	0.438	0.782

**Table 4**

Unified government effect conditional on firm type

The sample consists of all publicly traded oil and gas companies covering the period 1989 to 2016. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. INV is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT). R&D is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	INV	R&D	INV	R&D
	(1)	(2)	(3)	(4)
Democratic control	0.0641** (2.19)	0.000502 (1.09)	0.119** (2.58)	0.00134 (1.28)
Republican control	-0.0513* (-1.70)	-0.000706 (-0.79)	0.0521 (1.54)	0.00158 (1.02)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	4521	4521	430	430
Adjusted R-square	0.284	0.425	0.464	0.848

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	INV	R&D	INV	R&D
	(1)	(2)	(3)	(4)
Democratic control	-0.252 (-1.15)	-0.0103 (-0.74)	-0.159 (-1.29)	-0.0337** (-2.36)
Republican control	0.0926 (0.84)	-0.00475 (-0.27)	-0.147 (-1.46)	-0.0235** (-2.51)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	200	200	393	393
Adjusted R-square	0.428	0.840	0.438	0.782

**Table 5**

Divided government effect conditional on firm type - Texas firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. INV is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT). R&D is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	INV	R&D	INV	R&D
	(1)	(2)	(3)	(4)
Divided government	0.0113 (0.28)	0.000839 (0.69)	-0.161** (-2.47)	-0.00152 (-0.94)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	2348	2348	341	341
Adjusted R-square	0.294	0.349	0.439	0.854

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	INV	R&D	INV	R&D
	(1)	(2)	(3)	(4)
Divided government	-0.166 (-1.64)	0.00374 (0.21)	0.0539 (0.37)	0.0166 (1.57)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	182	182	264	264
Adjusted R-square	0.371	0.835	0.534	0.779

**Table 6**

Unified government effect conditional on firm type - Texas firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. INV is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT); R&D is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

Panel A	Crude petroleum and natural gas		Drilling oil and gas wells	
	INV	R&D	INV	R&D
	(1)	(2)	(3)	(4)
Democratic control	-0.102** (-2.39)	0.000501 (0.29)	0.157** (2.33)	0.00149 (0.94)
Republican control	-0.0113 (-0.28)	-0.000839 (-0.69)	0.0378 (0.68)	0.00125 (0.95)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	2348	2348	341	341
Adjusted R-square	0.294	0.349	0.439	0.854

Panel B	Oil and gas field exploration services		Oil and gas field services, not elsewhere	
	INV	R&D	INV	R&D
	(1)	(2)	(3)	(4)
Democratic control	-0.138 (-0.65)	-0.00817 (-0.62)	-0.0539 (-0.37)	-0.0166 (-1.57)
Republican control	0.166 (1.64)	-0.00374 (-0.21)	-0.0718 (-0.68)	-0.0138* (-1.70)
Firm controls	YES	YES	YES	YES
Constant	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
# of observations	182	182	264	264
Adjusted R-square	0.371	0.835	0.534	0.779

**Table 7**

Divided government effect conditional on firm size - Texas firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Divided government* is a dummy variable that takes a value of one if the president's party is different from the party that controls both the house and the senate. *INV* is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT); *R&D* is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

	Small firms		Medium firms		Large firms	
	INV (1)	R&D (2)	INV (3)	R&D (4)	INV (5)	R&D (6)
Divided government	0.222* * (2.41)	0.0012 4 (0.27)	0.057 2 (0.99)	0.0000704 (0.90)	0.019 1 (0.28)	0.0014 8 (1.55)
Firm controls	YES	YES	YES	YES	YES	YES
Constant	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
# of observations	791	791	783	783	774	774
Adjusted R-square	0.262	0.364	0.377	0.022	0.494	0.501

**Table 8**

Unified government effect conditional on firm size - Texas firms only

The sample consists of all publicly traded oil and gas companies that are headquartered in the state of Texas covering the period 1989 to 2016. *Democrat control* is a dummy variable that takes a value of one if democratic party controls the White House and congress. *Republican control* is a dummy that takes a value of one if the Republican party controls the White House and congress. INV is the ratio of capital expenditure (CAPEX) to total net property, plant, and equipment (PPENT); R&D is the ratio of research and development expense (XRD) to total assets (AT), we code R&D as zero if missing XRD. Firm controls include: *Size* is the log of total book assets (AT); *Loss* is a dummy that takes a value of one if ROA is negative and zero otherwise; *Lag TDA* is the ratio of total debt (debt in current liabilities (DLC) plus long-term debt (DLTT)) to total book assets (AT), lagged by one year; *Market-to-book* is the ratio of market value of assets (MVA) to total book assets (AT), where MVA is the sum of the market value of equity (price close (PRCC) times shares outstanding (CSHPRI) plus debt in current liabilities (DLC), long-term debt (DLTT), the liquidation value of preferred stock (PSTKL) minus deferred taxes and investment tax credit (TXDITC). All regressions include firm and year fixed effects. Standard errors are corrected for heteroscedasticity and are clustered at the firm level. T-statistics are presented in the brackets below the estimates, with \*, \*\*, and \*\*\* indicating significance at the 10%, 5%, and 1%, respectively.

	Small firms		Medium firms		Large firms	
	INV (1)	R&D (2)	INV (3)	R&D (4)	INV (5)	R&D (6)
Democratic control	-0.200* (-1.83)	0.00236 (0.44)	0.0668 (1.34)	0.000163 (0.91)	0.00926 (0.14)	- (-1.29)
Republican control	0.222** (-2.41)	0.00124 (-0.27)	0.0572 (-0.99)	0.0000704 (-0.90)	-0.0191 (-0.28)	-0.00148 (-1.55)
Firm controls	YES	YES	YES	YES	YES	YES
Constant	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
# of observations	791	791	783	783	774	774
Adjusted R-square	0.262	0.364	0.377	0.022	0.494	0.501

## References:

- Acemoglu, D., & Robinson, J. A. (2013). *Why nations fail: The origins of power, prosperity, and poverty*. Broadway Business.
- Agarwal, S., & Ramaswami, S. N. (1992). Choice of foreign market entry mode: Impact of ownership, location and internalization factors. *Journal of International business studies*, 23(1), 1-27.
- Alesina, A., & H. Rosenthal, (1995). *Partisan Politics, Divided Government, and the Economy*, New York, NY, Cambridge University Press.
- Alexeev, M., & Conrad, R. (2009). The elusive curse of oil. *The Review of Economics and Statistics*, 91(3), 586-598.
- Allvine, F. C., & O'Neill, D. E. (1980). Stock market returns and the presidential election cycle: Implications for market efficiency. *Financial Analysts Journal*, 36(5), 49-56.
- Amapala, (2017). [www.economist.com/the-americas/2017/08/12/honduras-experiments-with-charter-cities](http://www.economist.com/the-americas/2017/08/12/honduras-experiments-with-charter-cities)
- Argyres, N. (1996). Evidence on the role of firm capabilities in vertical integration decisions. *Strategic Management Journal*, 17(2), 129-150.
- Asher, A., & Miller, S. (2011). So you want to do anthropology in your library? *A Practical Guide to Ethnographic Research in Academic Libraries*, 1-31. Retrieved from [www.erialproject.org/wp-content/uploads/2011/03/Toolkit-3.22.11.pdf](http://www.erialproject.org/wp-content/uploads/2011/03/Toolkit-3.22.11.pdf)
- Atanasov, J. (2013). Do hostile takeovers stifle innovation? Evidence from antitakeover legislation and corporate patenting. *The Journal of Finance*, 68(3), 1097-1131.
- Atanasov, J., Julio, B., & Leng, T. (2018). *The bright side of political uncertainty: The case of R&D*. Retrieved from <https://ssrn.com/abstract=2648252>
- Ayensu, F. (2013). MANAGING GHANA'S OIL REVENUE: GHANA PETROLEUM FUNDS (Gpfs). *Asian Journal of Humanities and Social Sciences (AJHSS)*, 1(2).
- Barber, M., & McCarty, N. (2015). Causes and consequences of polarization. *Political Negotiation: A Handbook*, 37.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.



- Basedau, M., & Lay, J. (2009). Resource curse or rentier peace? The ambiguous effects of oil wealth and oil dependence on violent conflict. *Journal of Peace Research*, 46(6), 757-776.
- Basedau, M., & Richter, T. (2011). *Why do some oil exporters experience civil war but others do not: A Qualitative comparative analysis of net oil exporting countries?* GIGA Working Paper, Research Program: Violence and Security.
- Baum, C. F., Caglayan, M., & Talavera, O. (2010). On the sensitivity of firms' investment to cash flow and uncertainty, *Oxford Economic Papers*, 62(2), 286–306.
- Bell, C., & Wolford, S. (2015). Oil discoveries, shifting power, and civil conflict. *International studies quarterly*, 59(3), 517-530.
- Belo, F., Gala, V. D., & Li, J. (2013). Government spending, political cycles, and the cross section of stock returns. *Journal of Financial Economics*, 107(2), 305-324.
- Birdsall, N., & Subramanian, A. (2004). Saving Iraq from its oil. *Foreign Affairs*, 77-89.
- Blinder, A. S., & Watson, M. W. (2016). Presidents and the US economy: An econometric exploration. *American Economic Review*, 106(4), 1015-45.
- Bond, S. R., & Cummins, J. G. (2004). *Uncertainty and investment: An empirical investigation using data on analysts' profits forecasts*. Working paper, FEDS.
- Bond, S., Moessner, R., Mumtaz, H., & Syed, M. (2005). *Microeconomic evidence on uncertainty and investment*. Discussion paper, Institute for Fiscal Studies.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(1), 77–101.
- Brouthers, K. D. (2002). Institutional, cultural and transaction cost influences on entry mode choice and performance. *Journal of international business studies*, 33(2), 203-221.
- Chima, C. M., & Hills, D. (2007). Supply-chain management issues in the oil and gas industry. *Journal of Business & Economics Research*, 5(6), 27-36.
- Coase, R. (1937) "The nature of the firm", *Economica*, 4: 386-405.
- Cockx, L., & Francken, N. (2014). Extending the concept of the resource curse: Natural resources and public spending on health. *Ecological economics*, 108, 136-149.

Collier, P., & Hoeffler, A. (1998). On economic causes of civil war. *Oxford Economic Papers*, 50(4), 563-573.

Collier, P. (2000). Economic causes of civil conflict and their implications for policy.

Collier, P., & Hoeffler, A. (2002). On the incidence of civil war in Africa. *Journal of Conflict Resolution*, 46(1), 13-19.

Collier, P., & Hoeffler, A. (2002). The Political Economy of Secession manuscript.

Collier, P., & Hoeffler, A. (2004). Greed and grievance in civil war. *Oxford economic papers*, 56(4), 563-595.

Cotet, A. M., & Tsui, K. K. (2013). Oil and conflict: What does the cross country evidence really show? *American Economic Journal: Macroeconomics*, 5(1), 49-80.

Cox, A. (1999). Power, value and supply chain management. *Supply chain management: An international journal*, 4(4), 167-175.

Czarnitzki, D., & Toole, A. (2007). Business R&D and the interplay of R&D subsidies and product market uncertainty, *Review of Industrial Organization*, 31(3), 169–181.

Czarnitzki, D., & Toole, A. (2011). Patent protection, market uncertainty, and R&D investment, *Review of Economics and Statistics*, 93(1), 147–159.

Davenport, C. (2015). Citing Climate Change, Obama Rejects Construction of Keystone XL Oil Pipeline (12.7). sandyclass.com

De Quinn, J. B. (2000). Outsourcing innovation: the new engine of growth. *Sloan Management Review*, 41(4):13-28

De Soysa, I. (2002). Paradise is a bazaar? Greed, creed, and governance in civil war, 1989-99. *Journal of Peace Research*, 39(4), 395-416.

De Vita, G. & Wang, C.L. (2006). Development of Outsourcing theory and practice: A Taxonomy of Outsourcing Generations, In: Kehal, H. & Singh, V.P (Ed.), *Outsourcing and Offshoring in the 21st Century: A Socio-Economic Perspective*. Idea Group Publishing, Hershey, PA.

Dreher, A., Gassebner, M., & Siemers, L. H. (2012). Globalization, economic freedom, and human rights. *Journal of Conflict Resolution*, 56(3), 516-546.

- Eghosa E. O. (1995). The ogoni uprising: Oil politics, minority agitation and the future of the Nigerian State. *African Affairs*, 94, 325-344.
- Eifert, B., Gelb, A., & Tallroth, N. B. (2003). Managing oil wealth. *Finance and Development*, 40(1), 40-45.
- Embleton, P. R., & Wright, P. C. (1998). A practical guide to successful outsourcing. *Empowerment in Organizations*, 6(3), 94-106.
- Erramilli, M. K., & Rao, C. P. (1993). Service firms' international entry-mode choice: A modified transaction-cost analysis approach. *The Journal of Marketing*, 57: 19-38.
- Espino-Rodríguez, T. F., & Padrón-Robaina, V. (2006). A review of outsourcing from the resource-based view of the firm. *International journal of management reviews*, 8(1), 49-70.
- Fabozzi, F. J., K. C. Ma, & B.J. Oliphant, 2008, "Sin Stock Returns," *Journal of Portfolio Management* 35, 82–94.
- Fama, E. F. & K. R. French (1993). Common Risk Factors in the Returns on Stocks and Bonds. *Journal of Financial Economics* 33, 3–56.
- Fearon, J. D., & Laitin, D. D. (2003). Ethnicity, Insurgence and Civil war. *American Political Science Review*, 97 (1) 1-16
- Fetterman, D. M. (1998). *Ethnography*. 2nd ed. Thousand Oaks, CA: Sage Publications
- Fiorina, M. P. (1992). An era of divided government. In *Developments in American politics* (pp. 324-354). Palgrave, London.
- Firth, M., Gong S. X., & Shan, L. (2013). Cost of government and firm value. *Journal of Corporate Finance*, 21, 136–152.
- Frankel, J. A. (2012). The Natural Resource Curse: A Survey of Diagnoses and Some Prescription. *HKS Faculty Research Working Paper Series RWP12–014*. Boston, MA: John F. Kennedy School of Government, Harvard University.
- Gilchrist, S., Sim, J. W., & Zakrajšek, E. (2010). Uncertainty, financial frictions, and investment dynamics. Discussion paper, mimeo.
- Gimpel, J. G., F. E. Lee, & M. Parrott (2014). Business Interests and the Party Coalitions: Industry Sector Contributions to US Congressional Campaigns. *American Politics Research* 42, 1034–1076.
- Goldsmith, P., Abura, L. A., & Switzer, J. (2002). Oil and water in Sudan. *Scarcity and Surfeit: The Ecology of Africa's Conflicts*, 187-229.

- Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, 33(3): 114-135.
- Grier, K.B. & M.C. Munger (199). Committee Assignments, Constituent Preferences, and Campaign Contributions. *Economic Inquiry* 29, 24-43.
- Grossmann, M., & Hopkins, D. A. (2015). Ideological Republicans and group interest Democrats: The asymmetry of American party politics. *Perspectives on Politics*, 13(1), 119-139.
- Gulen, H., & Ion, M. (2015). Policy uncertainty and corporate investment. *The Review of Financial Studies*, 29, 523-564.
- Hammersley, M. (1990). *Reading Ethnographic Research: A Critical Guide*. London, UK: Longman.
- Hammond, J. L. (2011). The resource curse and oil revenues in Angola and Venezuela. *Science & society*, 348-378.
- Harris, M., & Johnson, O. (2000). *Cultural Anthropology*. 5th ed. Needham Heights, MA: Allyn and Bacon.
- Hegre, H. (2002, August). Some social requisites of a democratic civil peace: Democracy, development, and armed conflict. In *Annual Meeting of the American Political Science Association, Boston, MA* (Vol. 29).
- Hennart, J. F. (1991). The transaction costs theory of joint ventures: An empirical study of Japanese subsidiaries in the United States. *Management science*, 37(4), 483-497
- Hensel, C. R. & W. T. Ziemba (1995). United States Investment Returns during Democratic and Republic Administrations, 1928-1993. *Financial Analysts Journal*, Vol 51, No. 2 pp. 61-69
- Hobbs, G. R., & Riley, W. B. (1984). Profiting from a presidential election. *Financial Analysts Journal*, 40(2), 46-52.
- Huang, R. D. (1985). Common stock returns and presidential elections. *Financial Analysts Journal*, 41(2), 58-61.
- Human Rights Watch. (2004). *Some Transparency, No Accountability: The Use of Oil Revenue in Angola and Its Impact on Human Rights*. New York, NY: Human Rights Watch.
- Human Rights Watch. (2005). *Rivers and Blood: Guns, Oil and Power in Nigeria's Rivers State*. New York, NY: Human Rights Watch Briefing Paper, February.

Humphreys, M. (2005). Natural resources, conflict, and conflict resolution: Uncovering the mechanisms. *Journal of conflict resolution*, 49(4), 508-537.

Humphreys, M., & Martin E. S. (2007). *The political economy of natural resource funds*. Pp. 194–233 in M. Humphreys, J. D. Sachs, and J. E. Stiglitz, eds., *Escaping the Resource Curse*. New York, NY: Columbia University Press.

Hussain, R. A. E. D., Assavapokee, T. I. R. A. V. A. T., & Khumawala, B. A. S. H. E. E. R. (2006). Supply chain management in the petroleum industry: challenges and opportunities. *International Journal of Global Logistics & Supply Chain Management*, 1(2), 90-97.

Hutton, I., Jiang, D., & Kumar, A. (2014). Corporate Policies of Republican Managers. *Journal of Financial and Quantitative Analysis* 49, 1279-1310.

Ikelegbe, A. (2006). The economy of conflict in the oil rich Niger Delta region of Nigeria. *Africa and Asian Studies*, 5(1), 23-26.

International Monetary Fund. (2006). *Angola: 2006 article IV consultations. Preliminary conclusions of the IMF mission*. Washington, DC: International Monetary Fund

Jayaram, K., Riese, J., & Sanghvi, S. (2017). Agriculture: abundant opportunities. [wedocs.unep.org](http://wedocs.unep.org)

Jedrzy, G. F., & Geoffrey, W. (2001). Oil and war in Angola: *Review of African Political Economy*, 21 (9). 589 –606.

Johnson, R. R., Chittenden, W., & Jensen, G. (1999). Presidential politics, stocks, bonds, bills, and inflation. *Journal of Portfolio Management*, 26, 27-32.

Julio, B., & Yook, Y. (2012). Policy uncertainty and corporate investment cycles. *Journal of Finance*, 67, 45–83.

Kaldor, M. (2013). In Defense of New Wars. *Stability: International Journal of Security and Development*, 2 (1), 1–16.

Klein, N. (2014). *Capitalism vs. the Climate*. Alternative Radio.

Kostovetsky, L. (2015). Political capital and moral hazard. *Journal of Financial Economics*, 116 (1), 144-159.

Lawson, S. F. (2014). *Running for freedom: Civil rights and black politics in America since 1941*. John Wiley & Sons.

Le Billon, P. (2001). Angola's political economy of war: The role of oil and diamonds, 1975–2000. *African Affairs*, 100(398), 55-80.

Lehman Brothers (1999). Pharmaceutical Outsourcing. *Digest*, December 03.

Lewin, M. (2011). Botswana's success: Good governance, good policies, and good luck. *Yes Africa Can*, 81.

Lévi-Strauss, C. (2008). *Structural anthropology*. New York, NY: Basic Books.

Lohmann, S., & O'Halloran, S. (1994). Divided government and US trade policy: theory and evidence. *International Organization*, 48(4), 595-632.

Magee, C. S. P., & Massoud, G. (2011). Openness and internal conflict. *Journal of Peace Research*, 48(1), 59–72.

Mahler, A. (2010). *Nigeria: A prime example of the resource curse? Revisiting the oil violence link in the Niger Delta*. GIGA Research Program Working Paper, GIGA WP 120/2010.

Makino, S., & Neupert, K. E. (2000). National culture, transaction costs, and the choice between joint venture and wholly owned subsidiary. *Journal of International Business Studies*, 31(4), 705-713.

Malinowski, B. (1922). *Argonauts of the Western Pacific*. London, UK: Routledge.

Matthias, B., & Wegenast, T. C. (2009). Oil and diamonds as causes of civil war in sub-Saharan Africa under what conditions? *Colombia Internacional*, 70, 35-59.

Mei, J., & Guo, L. (2004). Political uncertainty, financial crisis and market volatility. *European Financial Management*, 10(4), 639-657.

Modern Ghana. (nd). *Ghana Western Region*. Retrieved from <https://www.modernghana.com/GhanaHome/regions/western.asp>

Moss, T., & Young, L. (2009). Saving Ghana from its oil: The case for direct cash distribution. *Centre for Global development working paper*, No186

Moss, T. (2011). Oil-to-Cash: Fighting the Resource Curse through Cash Transfers. *Yale J. Int'l Aff.*, 6, 43.

Myklebust, T. (2010). The Norwegian Government Pension Fund: Moving Forward on Responsible Investing and Governance. *Rotman International Journal of Pension Management*, 3(1) 20-23.

- Niederhoffer, V., Gibbs, S., & Bullock, J. (1970). Presidential elections and the stock market. *Financial Analysts Journal*, 111-113.
- Oyefusi, A. (2010). Oil, youths, and civil unrest in Nigeria's Delta: The role of schooling, educational attainments, earnings, and unemployment. *Conflict Management and Peace Science*, 27(4), 326-346.
- Palley, T. I. (2003). Lifting the natural resource curse. *Foreign Service Journal*, 80(12), 54-61.
- Pastor, L., & Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The Journal of Finance*, 67(4), 1219-1264.
- Pastor, L., & Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial Economics* 110(3), 520-545.
- Päivi L., Jan, R., & Nadja, T. (2007) Fighting over oil: Introducing a new dataset, *Conflict Management and Peace Science*, 24 (3), 239-256.
- Patey, L. A. (2010). Crude days ahead? Oil and the resource curse in Sudan. *African Affairs*, 109(437), 617-636.
- Pendergast, S. M., Clarke, J. A., & Van Kooten, G. C. (2011). Corruption, development and the curse of natural resources. *Canadian Journal of Political Science*, 44(2), 411-437.
- Quinn, J. B., & Hilmer, F. G. (1994). Strategic outsourcing. *MIT Sloan Management Review*, 35(4), 43.
- Reilly, F., & Drzycimski, E. F. (1976). Vote republican if you want the market to rise after election day. *Barron's*, October, 18.
- Riley, W. B., & Luksetich, W. A. (1980). The market prefers republicans: Myth or reality. *Journal of Financial and Quantitative Analysis*, 15(3), 541-560.
- Romer P. (2010). Technologies, Rules and Progress: The Case for Charter Cities. *Center for Global Development Essay*  
[www.cgdev.org/content/publications/detail/1423916](http://www.cgdev.org/content/publications/detail/1423916)
- Ross, M. L. (2004). What do we know about natural resources and civil war? *Journal of Peace Research*, 41(3), 337-356.

- Ross, M. L. (2006). A closer look at oil, diamond and civil war, *Annual Review Political Science*, 9(1), 265 – 300.
- Ross, M. L. (2008): 'Blood Barrels: Why Oil Fuels Conflict', *Foreign Affairs*, Vol. 87, Issue 3, May/June.
- Ross, M. L. (2012). *The oil curse: How petroleum wealth shapes the development of nations*. Princeton, NJ: Princeton University Press.
- Ross, M. L. (2015). What have we learned about the resource curse? *Annual Review of Political Science*, 18, 239–259.
- Roubini, N., & Sachs, J. (1989). Government spending and budget deficits in the industrial countries. *Economic policy*, 4(8), 99-132.
- Ryan, A., Sutton, M., & Doran, T. (2014). Does winning a pay-for-performance bonus improve subsequent quality performance? Evidence from the hospital quality incentive demonstration. *Health services research*, 49(2), 568-587.
- Sabherwal, S., Sarkar, S. K., & Uddin, M. R. (2017). Political party affiliation of the president, majority in congress, and sin stock returns. *Financial Management*, 46(1), 3-31.
- Sagar, R. (2016). Are charter cities legitimate? *Journal of Political Philosophy*, 24(4), 509-529.
- Sakyi, P. A., Efavi, J. K., Atta-Peters, D., & Asare, R. (2012). Ghana's quest for oil and gas: Ecological risks and management frameworks. *West African Journal of Applied Ecology*, 20(1), 57-72.
- Sala-i-Martin, X., & Subramanian, A. (2013). Addressing the natural resource curse: An illustration from Nigeria. *Journal of African Economies*, 22(4), 570-615.
- Santa-Clara, P. and R. Valkanov (2003). The Presidential Puzzle: Political Cycles and the Stock Market. *Journal of Finance* 58, 1841–1872.
- Schrodt, P. A. (2014). Seven deadly sins of contemporary quantitative political analysis. *Journal of Peace Research*, 51(2), 287-300
- Shaxson, N. (2007). *Poisoned Wells: The Dirty Politics of African Oil*. New York, NY: Palgrave Macmillan.
- Siegel, J. J. (1998). *Stocks for the long run: The definitive guide to financial market returns and long-term investment strategies* (pp. 246-251). New York: McGraw-Hill.



Smith, B. (2004). Oil wealth and regime survival in the developing world, 1960–1999. *American Journal of Political Science*, 48(2), 232-246.

Smith, Keith V. (1992). The Stock Market Doesn't Mind Democrats. *The Wall Street Journal*, July 20<sup>th</sup>, pp10.

Stein, L. C., & Stone, E. (2013). The effect of uncertainty on investment, hiring, and R&D: Causal evidence from equity options. Retrieved from <http://ssrn.com/abstract=1649108>

Stewart, F., Brown, G. K., & Langer, A. (2008). Major findings and conclusions on the relationship between horizontal inequalities and conflict. In *Horizontal inequalities and conflict* (pp. 285-300). Palgrave Macmillan, London.

Stone, S. E., & Truman, E. M. (2016). *Uneven Progress on Sovereign Wealth Fund Transparency and Accountability* (No. PB16-18).

Stovall, R. H. (1992). Forecasting stock market performance via the presidential cycle. *Financial Analysts Journal*, 5-8.

Strüver, G., & Wegenast, T. (2016). The hard power of natural resources: oil and the outbreak of militarized interstate disputes. *Foreign Policy Analysis*, 14(1), 86-106.

Swensen, R. B., & Patel, J. B. (2004). NYSE sector returns and political cycles. *Journal of business ethics*, 49(4), 387-395.

Switzer, J. (2002). *Oil and violence in Sudan*. International institute for sustainable. Development & IUCN-World Conservation Union Commission on Environmental, Economic and Social Policy. Retrieved at <http://americaslibrary.pbworks.com/w/file/fetch/50330524/sudan's%20oil.pdf>

United Nations Development Program. (2007). *Human Development Report 2007–2008: Fighting Climate Change: Human Solidarity in a Divided World*. New York, NY: United Nations Development Program

Sy, O., & Al Zaman, A. (2011). Resolving the presidential puzzle. *Financial Management*, 40(2), 331-355.

Valley, K., Gabriella, S., Tobias, B., & Thomas, B. (2014). Do natural resources matter for interstate and intrastate armed conflicts? *Journal of Peace Research*, 51(2). 227-243.

Van Maanen, J. (1996). Ethnography. In: A. Kuper and J. Kuper (eds.) *The Social Science Encyclopedia*, 2nd ed., pages 263-265. London: Routledge.

Vidal, N. (2008). *Social Neglect and the Emergence of Civil Society*. Pp. 200–236. In P. Chabal and N. Vidal, eds., *Angola: The Weight of History*. New York, NY: Columbia University Press.

Wang, Y., Wei, Y., & Song, F. M. (2017). Uncertainty and corporate R&D investment: Evidence from Chinese listed firms. *International Review of Economics & Finance*, 47, 176-200.

Watts, M. (2004). Resource curse? Governmentality, oil and power in the Niger Delta, Nigeria. *Geopolitics*, 9(1), 50-80.

Weinthal, E., & Luong, P. J. (2006). Combating the resource curse: An alternative solution to managing mineral wealth. *Perspectives on Politics*, 4(1), 35-53.

William, J. C. (2015). The biggest oil producers in Africa. *Investopedia*. Retrieved from [www.investopedia.com/articles/investing/101515/biggest-oil-producers-africa.asp](http://www.investopedia.com/articles/investing/101515/biggest-oil-producers-africa.asp)

Williamson, O. E. (1979). Transaction-cost economics: the governance of contractual relations. *The journal of Law and Economics*, 22(2), 233-261.

World Bank. (2011). The changing wealth of nations: Measuring sustainable development in the new millennium. Washington, DC: *The World Bank*.

Work A. G. (2012) Charter Cities: The future trade centres of the world? *Cayman Financial Review Magazine*, Pg. B018

Yonce, A. (2015). US Corporate Investment Over the Political Cycle. *The Quarterly Journal of Finance*, 5(01), 1550015.