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Leicher, Keri

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MASTERS RESEARCH REPORT

THE POLITICAL ECONOMY OF OIL AND HUMAN DEVELOPMENT IN AFRICA

Student Name: Keri Leicher
Student Number: 0609366E
Supervisor: Professor Rod Alence

I declare that this thesis is my own unaided work. It is submitted for the degree of Masters of Arts in the University of the Witwatersrand, Johannesburg. It has not been submitted before in any other degree or examination in any other university.

Abstract:

This thesis looks at the relationship between oil wealth and human development in Africa. Given that so many hydrocarbon rich countries across the continent have failed to harness such revenues to achieve meaningful development, this paper constructs statistical models to determine the exact workings of the paradox of plenty. In doing so, it identifies corruption and, more importantly, political structure and regime type as the primary hindrances to unlocking natural and economic benefits of oil production. This paper therefore illustrates that the resource curse in Africa is a by-product of poor governance only. The case studies of Equatorial Guinea and Gabon further highlight this reality.

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Chapter One: Introduction

The research question

Resource wealth, particularly hydrocarbon wealth, is all too often written off as a sordid blessing in Africa. Between 2004 and 2007, for example, the British Broadcasting Commission (BBC) conducted various polls to determine the public's response to the discovery of vast oil and gas reserves across the continent.[1] As participants wrote in from all corners of the world, a common fatalistic attitude emerged. Throughout the debate, many concluded that such discoveries would only contribute to the region's woes and paradoxically worsen human development. One writer from Angola, for example, noted that it brings corruption, war and an unbalanced economy. A participant from Zimbabwe shared the same sentiment by declaring that oil would be just another reason for Africans to kill each other. Moreover, one writer from Nigeria even went so far to say that Africans must shut the ground if they want peace and progress for their citizenry. Damning comments did not stem from the developing world only, as participants from first world countries shared the same views. One writer from the United Kingdom noted that natural resources have never made a country rich for example, whilst another British participant concluded, "Quite frankly, I view all African natural resources as a curse on a poor continent run by thugs galore."[2]

The above opinions all suggest that hydrocarbon wealth forms part of a *resource curse* in Africa. This term, first coined by the economist Richard Auty in 1993, describes the phenomenon he explored of how countries with rich resources often develop more slowly, more corruptly, more violently and with more authoritarian governments than others.[3] The very notion of a curse however, is seductive as it prematurely determines the future of such countries. In doing so, it remains a shallow assessment that fails to penetrate deeper questions surrounding the role of resources, particularly oil and gas, across the continent. This paper moves beyond such conclusions in an attempt to answer the question, 'what is the relationship between oil wealth and human development in Africa?'In doing so, it will not only test the validity of this so-called resource curse but also highlight governance as a primary factor driving future outcomes.

[1] British Broadcasting Commission (BBC) "Africa's Oil: a Blessing or a Curse?" Accessed November 2011. http://news.bbc.co.uk/2/hi/africa/3537045.stm
[2] BBC. "Africa's Oil: a Blessing or a Curse?"
[3] Richard M Auty. *Sustainable Development in Mineral Economies* (London: Routledge, 1993)

This assessment is particularly important given recent and significant discoveries of oil and gas reserves in Africa. Where continental producers in the hydrocarbon market traditionally stemmed from the Gulf of Guinea and North Africa, new players are constantly emerging. These include the likes of Ethiopia, Ghana, Kenya, Liberia, Madagascar, Mozambique, Namibia, Senegal, Tanzania, Uganda and Zambia among many others.[4] A real opportunity to harness resource wealth to achieve meaningful development, eradicate poverty and reverse age-old notions associated with the continent therefore exists. To achieve such growth and progress however, a more holistic understanding of the role of oil and gas reserves becomes imperative.

Existing research and gaps in the literature

A vast body of work on the resource curse already exists. Within the literature, two distinct schools of thought are evident. On the one hand, social scientists associate resource wealth with poor economic performance: an almost fundamental paradox. On the other hand, some academics tie such wealth to adverse social and political consequences including deep-seated corruption, institutional weakness, the advent of autocracy and widespread conflict. The following chapter will elaborate on each of these findings.

Despite the robustness of these associations, a few shortcomings remain thereby warranting new research. Firstly, the literature often fails to determine the effect of resources in Africa only. On the contrary, social scientists merely infer associations from other developing regions to the continent even though it has its own unique political and economic history. Secondly, research on the resource curse seldom focuses exclusively on oil and gas. The very nature of the oil and gas industry, which remains so exclusive, may produce very different outcomes than mineral production, for example. Thirdly, and most importantly for this study, social scientists have produced little research on the direct relationship between hydrocarbons and human development. In this regard, academics merely extend those associations as mentioned above to include some vague assessment of its affect on living standards and poverty. Bearing in mind that the continent hosts some of the world's most impoverished countries, this shortcoming weakens former assessments.

Taken together, these gaps only inspire greater questions surrounding the current and future role of hydrocarbon production in Africa. This paper will address each one of these

[4] Duncan Clarke. *Crude Continent: The Struggle for Africa's Oil Prize* (London: Profile Books, 2008) 521

limitations. Not only will it focus exclusively on the continent, where all countries considered stem from Africa only, but it isolates oil and gas production out of all resources and measures its impact on human development in terms of living standards. To achieve this distinction, this paper uses both quantitative and qualitative analysis in the form of case studies.

By combining statistical models with case studies, this paper takes a mixed-method approach, known as a 'Nested Analysis' approach,[5] to answering the research question. This strategy improves the quality of the research as statistical models not only provide a tangible appreciation for the role of hydrocarbons in Africa but also assist in identifying suitable case studies. Moreover, this approach enables this paper to identify patterns in the data whilst applying International Relations theories to account for any unanswered questions.

Roadmap

The following chapter provides a basic assessment and test of the resource curse. After conducting a thorough review of the relevant literature, it moves onto establish the very first statistical model for this paper. This model determines the direct relationship between oil and gas wealth in Africa and human development, measured in terms of country poverty levels. This first model, which provides the foundation for subsequent chapters, reveals somewhat surprising results as it indicates that such wealth has close to no effect on human growth whatsoever. It even suggests that an increase in hydrocarbon wealth is futile as it neither improves nor worsens living standards.

Given this almost counterintuitive result, Chapter Three seeks to determine why oil and gas revenues remain so negligible to the continent by building on the statistical model. In returning to those associations discussed in the literature, it identifies corruption as the primary culprit. Unaccountability at the state level therefore almost exactly cancels out any possible beneficial outcomes naturally emanating from resource revenues.

Chapter Four subsequently seeks to determine whether regime type plays a role in mitigating this unwanted outcome. In distinguishing between democracies and non-democracies, the statistical model identifies that although fuel wealth amounts to greater unaccountability in both regime types; it is multiple times more destructive in the authoritarian state.

[5] Evan Lieberman. "Nested Analysis as a Mixed-Method Strategy for Comparative Research." *American Political Science Review* 99 (2005)

To demonstrate this difference, Chapter Five evaluates and compares the case studies of Equatorial Guinea and Gabon where the latter represents a more open society. Although both countries have had a history of one party rule, this chapter argues that small allowances for freedom in a state unlock immense potential from oil and gas wealth. The representative state therefore remains the most promising in overcoming the paradox of plenty.

Finally, Chapter Six turns to conclude by summarising each section to reiterate the political economic aspect of the resource curse. In doing so, it argues that adverse outcomes emanating from oil and gas wealth are not inevitable but are rather direct results of poor governance. It further highlights the importance of this study given the emergence of new oil players across Africa and identifies areas for future research.

Chapter Two: Oil, Poverty and the Resource Curse

Oil creates the illusion of a completely changed life, life without work, life for free... The concept of oil expresses perfectly the eternal human dream of wealth achieved through lucky accident... In this sense oil is a fairy tale and like every fairy tale a bit of a lie.[6]

The discovery of oil generates promises and in doing so many come to regard this resource as the key to endless possibility. As identified by Ryszard Kapuscinski in the above quote from his account of the failures of Iran during the rise of its hydrocarbons industry, these promises seldom make the crossover from rhetoric to reality. On the contrary, opportunities for the common man frequently remain unchanged and often deteriorate. Nowhere is this false sense of hope more apparent than across Africa where leaders vehemently deny intoxication with oil whilst pointing to futures akin to the likes of Alaska, Canada and Norway. Whilst African players in the industry remain markedly diverse in both their own political histories and oil ascendancies, the continent remains connected by paradoxical realities. Despite the accumulation of billions of dollars in oil revenues, poverty remains a common burden.

Table 2.1: Ratios of poverty among top oil producers in sub-Saharan Africa

Country	Crude oil production per capita for 2008/2009 (barrels per annum)[7]	Percentage of the population living below the poverty line since 2005[8]
Nigeria	5*	70
Angola	38	41
Congo, Republic of	24	50
Equatorial Guinea	192	70
Gabon	59	32

**Nigeria has one of the world's largest populations, which may undermine its production capability per capita. It remains the continent's largest producer however.*

[6] Ryszard Kapuscinski, *Shah of Shahs* (New York: Harcourt, 1983) 34

[7] British Petroleum. "Statistical Review of World Energy 2011," accessed August 2011, http://www.bp.com/sectionbodycopy.do?categoryId=7500&contentId=7068481

[8] National estimates are based on population-weighted subgroup estimates from household surveys. This data has been taken from the following two sites: Central Intelligence Agency. "CIA World Fact Book: Population Below the Poverty Line" Accessed August 2011, https://www.cia.gov/library/publications/the-world-factbook/fields/2046.html, and
The World Bank. "World Bank Data on Poverty." Accessed August 2011, http://data.worldbank.org/indicator/SI.POV.NAHC/countries/CG?display=graph

The above table indicates that not even African heavyweights in the global oil market, in particular Nigeria, Angola, the Republic of Congo and Equatorial Guinea, have used their oil wealth to escape age-old stereotypes associated with the continent. On the contrary, these figures suggest some association between the hydrocarbons industry and poverty where oil production appears to go hand in hand with high ratios of underdevelopment. This seeming association reinforces those opinions of the global community as identified in Chapter One.

It is figures such as these, as well as those pertaining to all aspects of poor development that demand a study that seeks to discover whether oil naturally contributes to poverty across the African continent: a study that provides a deeper understanding of the alleged resource curse.

In this regard, this chapter introduces the very first statistical model established in an effort to identify any relationship between the hydrocarbons industry and poverty. This model essentially tests the so-called resource curse and provides a foundation for subsequent chapters. To place later findings in context, this chapter will first conduct a brief reflection on the literature. In doing so, a gap in the work regarding poverty becomes apparent.

Economic effects of resources

One of the biggest conundrums that astound social scientists in studying the resource curse is the adverse relationship between resources and economic growth. Long before Sachs and Warner's statistical models confirmed such results in the 1990s,[9] academics offered a variety of theories. One such academic was the Argentine economist: Raúl Prebisch.

Prebisch derived the developing world's dependence on natural resources from its colonial past. He claimed that former colonisers urged their territories to embark on comparative advantage in the hope of achieving some form of sustained economic growth. In doing so, primary goods driven economies locked states into supplying raw materials to a world market whose prices fell relative to the prices of the manufactured goods they imported.[10] Prebisch therefore highlighted declining terms of trade as one of the fundamental culprits undermining growth in underdeveloped regions, such as Africa.

[9] Jeffrey Sachs and Andrew Warner, *Natural Resource Abundance and Economic Growth* (Cambridge: Centre for International Development and Harvard Institute for International Development, 1997)
[10] Angus Deaton, "Commodity Prices and Growth in Africa," *The Journal of Economic Perspectives* 3 (1999) 8 See also See Raúl Prebisch, "International Trade and Payments in an Era of Coexistence: Commercial Policy in the Underdeveloped Countries," *American Economic Review* 49 (1959)

Evidence supporting this hypothesis remains weak however, as there is little statistical support for the existence of long-term declines in the terms of trade of developing states.[11] Despite this lack of evidence, Prebisch's work requires recognition as it laid the foundations for future research into price volatility: an acknowledged source of poor economic growth.

Resource prices, particularly in the hydrocarbons industry, are infamous for being unstable and unpredictable. Such volatility adversely affects growth initiatives in resource dependent states. According to Paul Collier, price crashes in these markets have the potential to cause a loss of income of around seven percent of gross domestic product (GDP).[12] In such instances, this shock may then trigger a cumulative contraction of the economy over the next two or three years which leads to an additional loss of output of around 14 percent of GDP.[13] In sub-Saharan Africa, these shocks are generally short-lived but in one-third of cases, shocks become permanent.[14] This boom – bust cycle of resource prices not only affects the economy directly by causing it to contract, but it affects the ability of resource dependent states to plan for the long run. In doing so, it becomes difficult for the state to distinguish between market shifts, trends and long run implications of resource depletion.[15]

The phenomenon of 'Dutch Disease' also provides insight into the seeming curse of resource dependent states. Taken from the Netherlands' experience, where the discovery of large natural gas deposits in the North Sea adversely affected non-oil segments of its economy,[16] this 'illness' has become synonymous with resource wealth.

A country is prone to Dutch Disease following a sudden export boom in its economy. The discovery of natural wealth such as oil may trigger such a boom. This surge in the economy causes the country's exchange rate to appreciate, which weakens the economy's competitiveness and causes its traditional export sector to shrink. This process is the 'spending effect.' Following this initial shock to the economy, long run symptoms materialise as the increase in demand for the now booming sector results in a shift of capital and labour

[11] Raymond Mikesell, "Explaining the Resource Curse with Special Reference to Mineral Exporting Countries," *Resource Policy* 4 (1998)192
[12] Paul Collier, "Primary Commodity Dependence and Africa's Future," in *The New Reform Agenda,* ed. Boris Pleskovic and Nicholas Stern (New York: World Bank and Oxford University Press, 2003) 3
[13] Collier, "Primary Commodity Dependence," 3
[14] Paul Cashin and Catherine Pattillo, "The Duration of Terms of Trade Shocks in sub-Saharan Africa," *Finance and Development* 2 (2000) 2
[15] Alan Gelb and Ginger Turner, "Confronting the Resource Curse: Lessons of Experience for African oil producers" *Globalisation and Economic Success: Policy Lessons for Developing Countries*, ed. Barry Desker, Jeffrey Herbst and Greg Mills (Johannesburg, Brenthurst Foundation, 2008) 43
[16] Christine Ebrahim-Zadeh, "Dutch Disease: Too Much Wealth Managed Unwisely," *Finance and Development* 1 (2003) 50

which often results in an almost permanent deindustrialisation of the state. This final process is the 'resource – movement effect' in which the opportunity to learn by doing and establish a more diversified and robust economy is foregone.[17]

'Dutch disease' through resource wealth therefore provides another explanation for the alleged negative relationship between oil wealth and economic growth.

Governance effects of resources

Apart from adversely affecting economic growth, many have tied resources to poor governance in naturally wealthy states. In this regard, academics highlight corruption, institutional weakness and political instability as inevitable symptoms of the resource curse.

The resource rich state is known as the perfect breeding ground for corruption. With the flood of sudden wealth generated from resources, the work ethic of the elite frequently disintegrates, as position and reward are isolated from talent and diligence. Prosperity is therefore perceived to arrive without effort as the 'work-reward' linkage is severed.[18] The 'production state' becomes the 'allocation state' where government is perceived as a vast gravy train of handouts and pet projects where patron-client relations remain the only viable option for individuals to gain a piece of the national pie.[19] Financial corruption, through which government officials rob and pillage the state, remains inevitable.

So rife is corruption in oil rich regions across Africa that many accept it as the norm. Former President Omar Bongo of oil-rich Gabon, for example, once asserted that corruption "is not an African word." [20]

In addition to fostering corruption, social scientists assert that resources undermine institutional strength and the rule of law.[21] Hoff and Stiglitz find that in resource rich states, where natural endowments constitute a large source of income, a portion of the population finds it has an interest in the persistence of a weak rule of law.[22] This inefficient and

[17] Warner Corden, "The Economic Effects of a Booming Sector," *International Social Science Journal* 3 (1983) 444-445
[18] Douglas Yates, *Enhancing the Governance of Africa's Oil Sector (Occasional Paper no. 51)* (Johannesburg: South African Institute of International Affairs, 2009) 7
[19] John Ghazvinian, *Untapped: the Scramble for Africa's Oil*, (Orlando: Harcourt Inc., 2007)103
[20] Omar Bongo, *Blanc Comme Nègre: Entretiens avec Airy Routier*, (Paris: Grasset, 2001) 223
[21] Sachs and Warner, *Natural Resource Abundance and Economic Growth*, 23
[22] Karla Hoff and Joseph Stiglitz, *Obstacles to the Emergence of the Rule of Law in post-Communist Societies: Coordination Failures and Conflict of Interest,* (Washington, DC: World Bank, 2002)

permeable state subsequently becomes vulnerable to the final governance effect of resources: conflict.

According to a variety of theories, resources and rebellion go hand-in-hand. Various reasons put forth for this association include greed, geography or because some resources are easier to loot. These reasons fall part of the resource-predation theory, geographical location theory and lootability-obstructability theory. [23] In Africa, the Movement for the Emancipation of the Niger Delta (MEND) in Nigeria, Front for the Liberation of the Enclave of Cabinda (FLEC) in Angola and the Sudan People's Liberation Movement (SPLM) in Sudan personify these paradigms. Although state structures are fragile across the entire continent, natural resources, particularly oil, appear to be quite conducive to breeding political instability.

This review of the literature has identified associations between resources and poor economic growth because of comparative advantage, price volatility or Dutch disease in addition to associations between resources and poor governance such as corruption, institutional weakness and political instability. These findings are tried and tested associations. Despite their robustness however, questions concerning poverty remain unanswered. The following statistical model accounts for this relationship.

Introducing the statistical model

This study constructed a model, which includes all states from sub – Saharan as well as North Africa, to quantify and have a tangible appreciation for the affect of oil on poverty. Data for the model stems from the year 2008, as this was the most recent year for which all data was available. The model also excludes smaller states such as islands as well as states for which data was missing,[24] thereby ensuring a more robust analysis.

Before this chapter turns to analyze patterns in the data, all variables used in the model require an introduction: beginning with the dependent variable pertaining to poverty.

The Human Poverty Index (HPI), which the United Nations (UN) first introduced in the Human Development Report of 1997, represents the dependent variable. Although the institution has recently released a new measurement of poverty, known as the Multidimensional Poverty Index, it fails to include top oil producers originating from Africa. Such states excluded include the likes of Equatorial Guinea, Libya and Sudan. These oil

[23] Yates, *Enhancing the Governance of Africa's Oil Sector (Occasional Paper no. 51)*, 9
[24] See Appendix, Table 2.1

producers remain central to later models thus rendering the Multidimensional Poverty Index less useful for this analysis.

The HPI uses various indicators pertaining to different dimensions of deprivation to measure poverty. For developing states, the UN uses the HPI-1 in which three levels of deprivation are considered. The first level relates to survival where the probability of not surviving to the age of forty represents the likeliness of death. The second dimension of deprivation pertains to knowledge where the UN considers adult literacy rates. Finally, the third level relates to a decent standard of living where in developing states the institution measures the unweighted average of the percentage of the population without access to safe water and the percentage of children underweight for their age.[25] The UN averages each of these levels of deprivation and combines them to form a value lying between 0 and 100 where ratios lying closer to 100 represent *impoverished* societies.[26]

The HPI therefore moves beyond traditional measures of poverty that typically encompass indicators pertaining to income. Through this index, the UN considers basic dimensions of human development and defines poverty as the ability of the population to acquire and use capabilities.[27] This broad analysis inspired the inclusion of the HPI in the statistical model.

Fuel revenue per capita, taken from the United Nations Conference on Trade and Development's (UNCTAD) handbook of statistics, serves as the independent variable for this model.[28] UNCTAD defines fuel as a wide array of materials that produce energy including mineral fuel and lubricants.[29] The independent variable therefore ascertains whether oil is present in a state and whether the distribution of its revenue is fair.

In addition to the above independent and dependent variables, the statistical model included the geographic and political economic features of states to serve as control variables. Controls considered included indicators pertaining to population size, *non-fuel* revenues per capita, whether a state was land locked or not and degrees of trade openness. After testing the

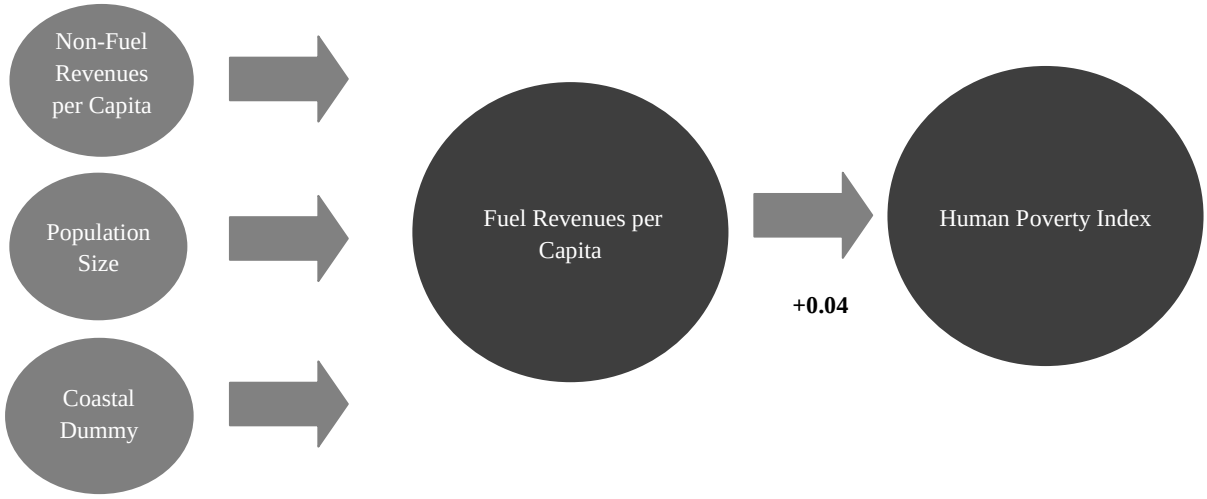
[25] United Nations Development Programme "The Human Poverty Index (HPI)," *Human Development Reports*, accessed July 2011, http://hdr.undp.org/en/statistics/indices/hpi
[26] See Appendix, Table 2.2
[27] Sue Bowden and Blessing Chiripanhura: "Measuring and Explaining Poverty in Six African countries: a Long Period Approach," *Journal of International Development* 20 (2008) 1059
[28] See Appendix, Table 2.3
[29] United Nations "Detailed structure and explanatory notes on Standard International Trade Classification (SITC) Rev. 3," accessed July 2011, http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=14

applicability of each of these controls, non-fuel revenues per capita, population size and the location of a state[30] remained the most significant.

With these political economic and geographic features of African states considered, the diagram in the following section illustrates the first statistical model used to test whether a direct relationship between oil and poverty exists.

Results from the statistical model

Figure One: The relationship between oil and poverty



To clarify the effect fuel wealth has on poverty, this study first tested the direct relationship between the independent and dependent variables *without* the inclusion of controls. The results that followed were logical. Higher fuel revenues per capita, which translate into more income per household, appeared conducive to lowering levels of poverty and raising living standards across the continent.[31] The North African states of Algeria, Libya and Tunisia from the sample solidified this finding as they each have relatively low values on the HPI whilst being major oil exporters.

After including the controls however, the relationship between fuel revenues per capita and poverty transformed. Where patterns in the data previously suggested that higher revenues were conducive to lowering levels of poverty, it now indicated that these revenues had close to *no effect* on living standards whatsoever. The inclusion of the geographic and political

[30] See Appendix, Tables 2.4, 2.5 and 2.6
[31] See Appendix, Table 2.7

economic features of states therefore resulted in the direct relationship between hydrocarbon wealth and poverty approximating zero at positive 0.04, as illustrated in the above model.[32]

Interpretation of the results

This finding, albeit somewhat counterintuitive, does not necessarily suggest that natural resources and human development are mutually exclusive, however. On the contrary, it indicates that revenues originating from the hydrocarbons industry have less impact on living standards than any other source of income in the state. In effect, this means that US$50 originating from the non-resource sector in an African economy, such as the banking sector, has more potential to benefit a family and raise living standards than US$50 emanating from the hydrocarbon sector. The question remains then: what is it about *fuel* revenues in comparison to other revenues that make them so negligible to African people?

Concluding remarks

The fairytale like quality of oil, as alluded to in the opening quote of this chapter, suggested that the mere presence of this resource generates an illusion of prosperity that never materialises into reality.

The statistical model established in this chapter however, negated this. Once it introduced controls variables, no strong direct relationship between fuel wealth and poverty could be found. Such wealth apparently neither improves nor worsens the living standards of African people. Moreover, the model even suggested that additional fuel revenue per capita across the continent was insignificant.

This finding generates deeper questions into the paradox of plenty. To better understand and effectively test the resource curse, it now becomes imperative to know *why* such wealth is so futile to Africans, especially given its abundance. A return to those associations already identified in the literature review provides some direction in this regard.

The following chapter turns to look at the effect of corruption in oil rich African states to account for the lack of beneficial outcomes emanating from resource revenues. Corruption is therefore the first governance factor considered and used to trace an *indirect* pathway between the independent and dependent variables in this analysis.

[32] See Appendix, Table 2.8

Chapter Three: the Role of Corruption

Poverty is an outcome of the accountability and responsiveness of state institutions.[33]

Civil society, nongovernmental organisations (NGOs) and international organisations alike have long acknowledged the debilitating effects of corruption in African economies. This acknowledgement demands the inclusion of corruption in the assessment of the relationship between oil and poverty. This chapter will consequently expand on the basic statistical model, as identified in Figure One of Chapter Two. In doing so, it will create room to consider poor governance as an explanatory variable for not only the lack of a relationship between hydrocarbon wealth and human development but also for the suggested ineffectiveness of fuel revenues in raising the living standards of African people.

Before turning to analyze the data, this chapter will conduct a brief recap of the relevant literature pertaining to corruption in oil-rich countries. With a sound understanding of the literature, this chapter will subsequently move on to trace an indirect pathway between oil and poverty and identify poor governance as a hindrance to any natural and beneficial outcomes oil revenues may generate in an African economy.

Patterns in the data will therefore prove that corruption almost exactly cancels out potential, positive spinoff effects of oil: bringing the model one-step closer to a more holistic understanding of the resource curse.

A review of the literature on corruption

As soon as one begins to look at the literature pertaining to oil and corruption, one comes across a vast body of contradictory work. On the one hand, the majority asserts that the very presence of oil in a state directly results in a lack of accountability.[34] On the other hand, opponents find absolutely no correlation between the hydrocarbons industry and corruption.[35] Relevant arguments put forth in support of the latter include the following:

Firstly, corruption across Africa is not limited to oil producing states but is evident within every state structure. The very political and economic ascendancies of such states seem to have bred unaccountability where social scientists attribute this phenomenon to what some

[33] World Bank. *World Development Report 2000/2001: Attacking Poverty* (New York: World Bank and Oxford University Press, 2001) 99
[34] See Michael Ross. *Extractive Sectors and the Poor*. (California: Oxfam America, 2001)
[35] See Jean-Philippe C. Stijns, "Natural Resource Abundance and Economic Growth Revisited," *Resources Policy* 30 (Boston: Elsevier, 2005)

call the medievalism of the continent.[36] Secondly, it is difficult to assert that only once top producers in Africa started to extract oil, did they become corrupt. One cannot even begin to claim that the likes of Chad or the Republic of Congo were the epitome of good governance before they discovered hydrocarbons beneath their soil, for example.

Despite the weight attached to these arguments, statistical findings presented later on will suggest some association between the two factors where patterns in the data correlate higher fuel revenues per capita with higher levels of unaccountability. Although this finding is not conclusive, it does demand a review of the literature that identifies the somewhat corrupt nature of the hydrocarbons industry: even if fuel is only exacerbating current levels of unaccountability.

In Africa and other resource rich regions, fuel revenues seem conducive to doing just that. Without well-established institutions, governments are able to generate high location specific rents from fuel production without any major economic repercussions. In doing so, the state becomes isolated from its electorate, as it no longer needs to embark on traditional methods of taxation to raise revenues.[37] Government subsequently becomes an exclusive entity and sidelines the majority, particularly the poor.

Many refer to this type of corruption, which frequently captures newspaper headlines and public disapproval, as 'big-time corruption.' International organisations have recently begun to call for the acknowledgement of 'quiet corruption' in Africa however, as this may prove more damaging than its counterpart. In this regard, 'big time corruption' establishes a mentality that leads to 'quiet corruption' through which malpractice of front line providers becomes the norm. This may include small actions such as lower effort levels, absenteeism or even a slight bending of entrenched rules: all of which serve to undermine developmental efforts within the state.[38]

The literature on corruption demonstrates how unaccountability in an oil rich economy contributes to lower levels of development and hence poverty. The very nature of the oil industry, which remains infamous for its exclusivity, thus serves to marginalise the masses and benefit a select few. Without sound institutions, the poorest of the poor must rely on patron client relations to gain a piece of the national pie. Big time and quiet corruption

[36] Clarke, *Crude Continent,* 524 - 541
[37] Paul Collier, "Primary Commodity Dependence," 5
[38] World Bank. *Silent and lethal: How Quiet Corruption Undermines Africa's Development Efforts.* (Washington, DC: the World Bank, 2010)

consequently go hand-in-hand in undermining beneficial outcomes emanating from fuel revenues. The following statistical model quantifies this effect.

Introducing corruption in the statistical model

The Worldwide Governance Indicator project, a World Bank Group venture, produces and updates a corruption index biannually, which measures the extent of corruption in all states. The body traditionally defines corruption as the exercise of public power for private gain, including petty and grand forms of corruption, and uses scores of variables from surveys and polls of experts in each country as the basis for this indicator.[39] It then divides this data into five groups to form percentile ranks lying between two point estimates: negative 2.5 and positive 2.5.[40] Scores lying closer to positive 2.5 correspond with higher levels of unaccountability.[41] The following table demonstrates measurements from this index as it identifies the top five most corrupt countries in Africa for 2008.

Table 3.1: Top Corruption Scores across Africa

Country	Corruption Score for 2008[42]
Equatorial Guinea	1.58
Democratic Republic of Congo	1.42
Chad	1.39
Angola	1.34
Sudan	1.24

This table highlights the relationship between oil revenues and corruption given that four out of the top five most corrupt countries in Africa for 2008 were significant if not primary oil producers. These include Equatorial Guinea, Chad, Angola and Sudan. The Democratic Republic of Congo (DRC) is not oil poor either although this resource does not constitute the largest share of its GDP and so does not amount to much revenue per capita.

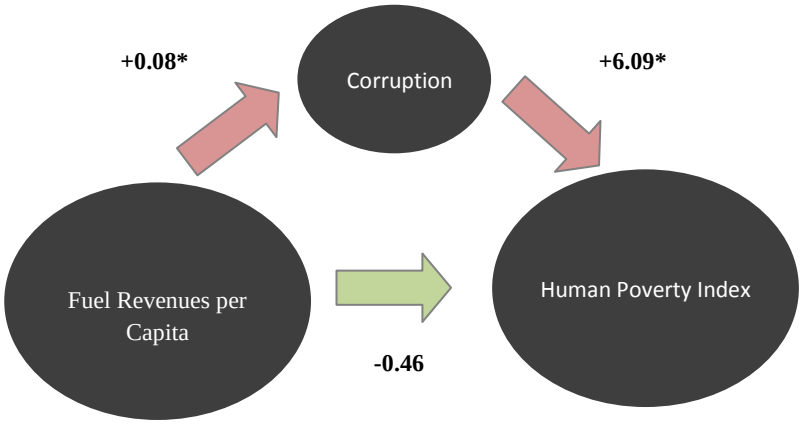
[39] World Bank. "Worldwide Governance Indicators." Accessed October 2011. http://info.worldbank.org/governance/wgi/index.asp
[40] World Bank. "Worldwide Governance Indicators."
[41] This study has reversed the original data in the World Bank's Control of Corruption Index for ease of interpretation. See Appendix, Table 3.1
[42] World Bank. "Worldwide Governance Indicators"

Given the robustness and reliability of the corruption index, this study chose to include it in its assessment of the effect of fuel revenues per capita on human development.

Results from the statistical model

The following diagram illustrates the inclusion of the corruption index in the statistical model.[43] The relationship between the independent and dependent variable has now expanded where two pathways between fuel revenues per capita and the HPI now exist, namely: a direct pathway and an indirect one via corruption.

Figure Two: Tracing the pathway of corruption[44]



The direct pathway, shaded green, demonstrates the effect of fuel revenues per capita in an African economy *without* corruption. This pathway previously approximated zero in Chapter Two, which suggested that an oil boom in an African country would do little to raise the living standards of its people. Once states embark on greater transparency however, an increase in such revenue has the *potential* to produce beneficial results. The above model identifies that if governments mitigate corruption, every unit increase in fuel revenues per capita may reduce the country's score on the HPI by 0.46 units.[45] Because the sample of countries used in this study is relatively small, poverty reduction through oil wealth is merely suggested and not guaranteed. Nevertheless, this finding is important as it identifies the possibility of human development through hydrocarbon production in Africa.

On the other hand, the indirect pathway, shaded red, demonstrates the effect of fuel revenues per capita in an African economy *in face of* corruption. This pathway traces an important domino effect.

[43] Control variables have been excluded in the diagram for ease of interpretation
[44] Statistically significant coefficients (p-value<0.05) have been starred
[45] See Appendix, Table 3.2 Part 1

Firstly, fuel revenues are positively associated with corruption. The above model identifies that every unit increase in revenues from fuel has the potential to contribute to a 0.08 increase on the corruption scale.[46] Given that this scale ranges from negative 2.5 to positive 2.5, this association constitutes a 1.6 percent increase in poor governance in an oil rich economy every time fuel revenues per capita go up, such as during an oil boom.

This association means that a relatively oil-rich country such as Chad is therefore expected to score 0.76 units higher on the corruption index than an oil-poor country such as Ethiopia, all else equal. Moreover, this finding further implies differences among top oil producers where the Republic of Congo, is expected to score 0.02 units higher than Gabon purely because of its extra oil wealth, all else equal again.

The model also identifies a second positive association along the indirect pathway. This association is between corruption and poverty where every unit increase in unaccountability has the potential to increase the HPI scale by a whopping 6.09 units.[47] On a scale that ranges from zero to 100, this amounts to an increase of 6 percent in poverty levels every time an oil rich country becomes less transparent. This second association results in the domino effect.

This finding also means that Chad, which scores so highly on the corruption index because of its abundance in oil, is further expected to score 4.62 units higher on the HPI than Ethiopia, all else equal. Moreover, higher levels of corruption in the Republic of Congo should result in it scoring 0.14 units higher on the HPI than Gabon, all else equal again.

Interpretation of the results

These two positive associations, between oil and corruption and thereafter between corruption and poverty, demonstrate how fuel revenues coupled with unaccountability amounts to underdevelopment in African economies. As a whole, the indirect pathway illustrates that every unit increase in fuel revenues per capita in face of corruption has the potential to contribute to a 0.47 increase on the HPI scale. This increase explains those differences between Chad and Ethiopia, and between the Republic of Congo and Gabon. Although it does not seem that much at first, this domino effect is exactly large enough to cancel out all possible beneficial outcomes stemming from oil revenues.

[46] See Appendix, Table 3.2 Part 2
[47] See Appendix, Table 3.2 Part 1

As previously noted, fuel revenues have the *potential* to improve living standards in African states should governments mitigate corruption. The direct pathway in the model illustrated this as it identified a beneficial relationship through which fuel revenues could reduce the HPI by 0.46 units. On the contrary, should such states fail on measures of transparency and accountability, increases in fuel revenues per capita amount to increases on the HPI of 0.47 units. The two futures taken together and thus the *total effect* of fuel revenues in an African state, almost exactly cancel each other out. This negation effect explains the lack of a relationship between fuel revenues per capita and the HPI initially identified in Chapter Two. It further explains stagnant development in oil-rich African economies.

Corruption therefore remains the primary culprit in this model as it explains why revenues originating from fuel sources in an economy are so ineffective at raising the living standards of African people. In this regard, the exclusive nature of fuel wealth breeds corruption, which in turn amounts to higher poverty and lower standards of living. The indirect pathway therefore remains littered with domino effects that serve to cancel out alternative futures.

Concluding remarks

In attempting to quantify the role of corruption in the relationship between oil wealth and poverty, this chapter found that fuel revenues coupled with unaccountability does not necessarily result in underdevelopment but rather creates a stagnant situation where progress is limited. Corruption, whether driven by fuel revenues or not, therefore remains a significant hurdle to unlocking the economic benefits of natural resources for all African economies venturing into the hydrocarbons industry. Without embarking upon on good governance measures such economies will only continue to fall behind.

Given the importance of this finding, deeper penetration into the debate of the resource curse is now required. The following chapter addresses questions concerning the role of different regimes types in mitigating poor governance. Chapter Four therefore distinguishes between democratic and non-democratic oil rich nations in their approach to harnessing fuel revenues to raise the living standards of their people.

Chapter Four: Democratic and non Democratic Oil Producers

The pattern of oil wealth fostering corruption rather than economic development will continue. The quality of governance, rather than resource endowments, will be the key determinant of development and differentiation among African states.[48]

The global political economy witnessed a third wave of democratisation over the past twenty years through which many former autocracies experienced changes in their regime types and approach to the rule of law. Africa was frequently the location of such developments but in hindsight, it becomes apparent that those changes were often insufficient. Tyrannies therefore continue to burden the continent where many of the leaders who have been in power the longest sit comfortably in major oil and mineral exporting economies. This concentration of power coupled with immense resource wealth often amounts to poor governance: the root cause of underdevelopment across the continent.

This chapter will differentiate the effects of corruption in democratic and non-democratic oil-rich African economies. In doing so, it will identify that the very distribution of power is the fundamental determinant of whether they are able to overcome the domino effect and unlock natural and logical benefits of oil wealth. This chapter will further highlight African economies that encourage public participation and representation as the most promising.

To measure the differences between democracies and non-democracies this chapter will expand on the statistical model from Chapter Three. In doing so, it will create room for an assessment of regime type among African states where it will take measurements of political rights and civil liberties from Freedom House. This section will therefore achieve a clear distinction between democracies and non-democracies in the African oil industry thereby facilitating the selection of case studies for the following chapter.

Similarly to the section on corruption, this chapter will begin by briefly reflecting on the literature pertaining to the role of regime types in oil abundant nations. This will help place later findings and discussions in context.

[48] National Intelligence Council and the National Foreign Intelligence Board. *Global Trends 2015: A Dialogue about the Future with Nongovernment Experts* (Washington, DC: National Intelligence Council, 2000) 43

A review of the literature on regime types and oil economies

Most of the literature regarding regime types in oil exporting economies seeks to prove that the hydrocarbons industry undermines democracy in all states.[49] This study will not attempt to link these two factors, however. On the contrary, it will take whether a country is democratic or not as given and subsequently illustrate the relevant consequences. A variety of authors has outlined these effects.

Joseph Siegle in his study on governance strategies and the resource curse identifies a link between regime type and types of growth that promote improved living conditions in oil producing states. In a sample of over 50 countries, Siegle finds that autocratic hydrocarbon-rich states are generally less effective at promoting meaningful development. Between 2000 and 2005, for example, such countries saw median levels of infant deaths drop by just 4.2 percent over the five-year period as compared to the 15.3 percent and 18 percent of mixed regimes and democracies.[50]

Michael Ross also examines the relationship between oil, regime type and poverty across the developing world. In his study, he finds that some of the key ailments of oil dependent states, including low life expectancy, child mortality and income inequality, diminish when government is at least partially democratic. According to Ross, this is because representative governments in oil rich economies are less likely to spend vast revenues on the military and more like to spend them on health care. Although he concludes that democracy in itself cannot solve all the problems of oil dependent states, he identifies openness in a society as the first step to achieving better living standards.[51]

This brief review of the literature highlights the adverse consequences of autocracies in oil rich states as compared to democracies. These findings are applicable to Africa where most hydrocarbon-rich states lack representative governments.

[49] See Jeffrey A Frankel. *The natural Resource Curse: a Survey* (Cambridge: National Bureau of Economic Research, 2010) Accessed November 2010. http://www.nber.org/papers/w15836, and
Michael Ross. "Does Oil Hinder Democracy?" *World Politics* 53 (2001)
[50] Joseph Siegle. "Governance strategies to remedy the natural resource curse." *International Social Science Journal* 57 (2009) 46-48
[51] Ross, *Extractive Sectors and the Poor*, 18

Measuring Freedom

The international organisation, Freedom House, conducts an annual survey that monitors the progress of political rights and civil liberties in 193 countries and 14 related territories. The survey rates each country and territory on a scale from one to seven where it considers states lying closest to one as most Free. Freedom house bases these ratings on a checklist of 10 political rights and 15 civil liberty questions. It therefore considers the electoral process, political pluralism and participation, functioning of government, freedom of expression and belief, associational and organisational rights, rule of law and personal autonomy, and individual rights when rating states. In doing so, it is able to assign each country a status of Free, Partly Free or Not Free.[52]

Freedom House asserts that its ratings do not merely assess the conduct of governments but reflect the realities of daily life. In this regard, its in house regional experts, consultant writers and academic advisors weigh the actions of non-state as well as state actors when considering freedom.[53] In doing so, the organisation is able to factor in the effect of terrorist movements or armed groups within a country. This inclusion remains particularly important for many hydrocarbon-rich countries in Africa as armed groups continue to hamper freedom in states such as in Angola and Nigeria.

Introducing Freedom in the statistical model

For this study, it is worthwhile noting that Freedom House considers few states across the continent as truly Free. In 2008, for example, only seven countries from the sample were categorised as Free, namely: Benin, Botswana, Ghana, Mali, Namibia, Senegal and South Africa.[54] To establish a clear distinction between democracies and non-democracies, Partly Free and Free states were therefore categorised together up against those classified as Not Free for this analysis.[55] Distribution of hydrocarbon-rich[56] states in the sample is as follows.

[52] Freedom House. "Methodology." Accessed October 2011. http://www.freedomhouse.org/template.cfm?page=351&ana_page=363&year=2010
[53] Freedom House. "Methodology."
[54] Freedom House. "Map of Freedom in the World: 2008 Edition." Accessed November 2011 http://www.freedomhouse.org/template.cfm?page=363&year=2008
[55] See Appendix, Table 4.1
[56] Taken as countries with fuel exports above ten percent of GDP for 2008

Table 4.1 Regimes types across African oil producers

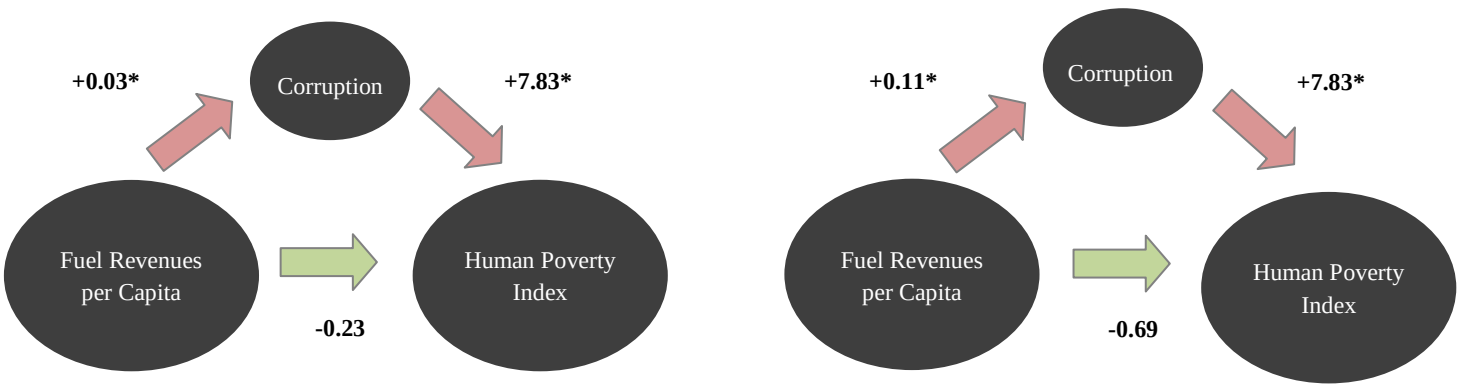
Not Free oil-rich countries	Free oil-rich countries
Algeria	Gabon
Angola	Mauritania
Cameroon	Nigeria
Congo , Republic	
Cote D'Ivoire	
Equatorial Guinea	
Libya	
Sudan	

A brief review of the above table identifies that most of the major hydrocarbon-rich states in Africa are considered Not Free and therefore autocratic. The statistical models presented below measure the effectiveness of these regimes in mitigating corruption and unlocking potential beneficial outcomes of resource wealth.

Results from the statistical model

As mentioned above, this chapter takes regime type as given and traces the different outcomes of fuel revenues in democracies and non-democracies. The statistical models therefore look the same as the one presented in Chapter Three for each regime time.[57]

Figure Three: Tracing the political economy of oil for democracies and non-democracies[58]



[57] Control variables have been excluded in the diagrams for ease of interpretation
[58] Statistically significant coefficients (p-value<0.05) have been starred

The above models identify that both regimes face significant challenges to using their resource wealth to raise the living standards of their people. They also suggest that the autocratic state has a much tougher time, however.

For the non-democratic state, the indirect pathway between fuel wealth and poverty via corruption is severely destructive. Every unit increase in fuel revenues per capita amounts to an increase of 0.11 units on the corruption scale.[59] This increase is significantly larger than the average increase of only 0.08 units for all states as identified in Chapter Three.

On the contrary, increases in fuel revenue per capita in a *democracy* amount to an increase on the corruption scale of 0.03 units only.[60] Although corruption still results, the magnitude of unaccountability is almost four times smaller than in the autocratic state. This is a large enough difference to better equip such governments in overcoming the first phase of the domino effect. Bearing in mind the association between corruption and poverty, which remains identical for each regime type at positive 7.83,[61] the democracy and non-democracy now face very different futures.

Interpretation of the results

For the democracy, albeit more free, the use of oil wealth in face of corruption still contributes to poor living standards as every unit increase in such wealth amounts to a 0.2 unit increase on the HPI. In comparison to the autocracy however, this increase is slight, as oil wealth in the hands of a dictator has the potential to increase the HPI by 0.9 units every time resources generate more revenue. Greater oil production in corrupt, non-representative states therefore remains at least four times more destructive to African people than in a state that is participatory and open.

What is most interesting is that if the non-democratic state eradicated corruption from its affairs it would have the *potential* to concentrate its resources on improving the living standards of its people more effectively than the free society. Increases in fuel revenues per capita in the non-democratic state without corruption, for example, has the potential to reduce the HPI by 0.69 units, as indicated by the green arrow.[62] On the contrary, the democratic state

[59] See Appendix, Table 4.2 Part 2
[60] See Appendix, Table 4.2 Part 2
[61] See Appendix, Table 4.2 Part 1
[62] See Appendix, Table 4.2 Part 1

is able to channel these resources to reduce the index by 0.23 units only.[63] As noted in Chapter Two, because the sample size for this study is so small, poverty reduction through managed oil wealth in both regime types is merely suggested and not guaranteed.

Nevertheless, this analysis identifies that corruption is damaging to both the democratic and autocratic state, but, more importantly, that it is multiple times more destructive in the latter. The indirect pathway, upon which the domino effect lies, is therefore littered with pitfalls for the non-democracy. Because so many oil-rich African countries in the sample lack representative governments, as illustrated in Table 4.1, a closer review of the relationship between regime type, hydrocarbons and unaccountability is necessary.

Simulating the effects of regime type

To quantify all possible outcomes in oil-rich democratic and non-democratic states, this chapter ran a series of simulations.[64] Such simulations permitted it to measure all corresponding levels of corruption to increasing levels in fuel revenue per capita within each regime type. The following graphs illustrate these outcomes and highlight the stronger relationship between oil wealth and unaccountability in the non-democracy.

[63] See Appendix, Table 4.2 Part 1
[64] See Appendix, Table 4.3 and Table 4.4

Figure Four: Fuel revenues per capita and expected corruption scores for non-democracies

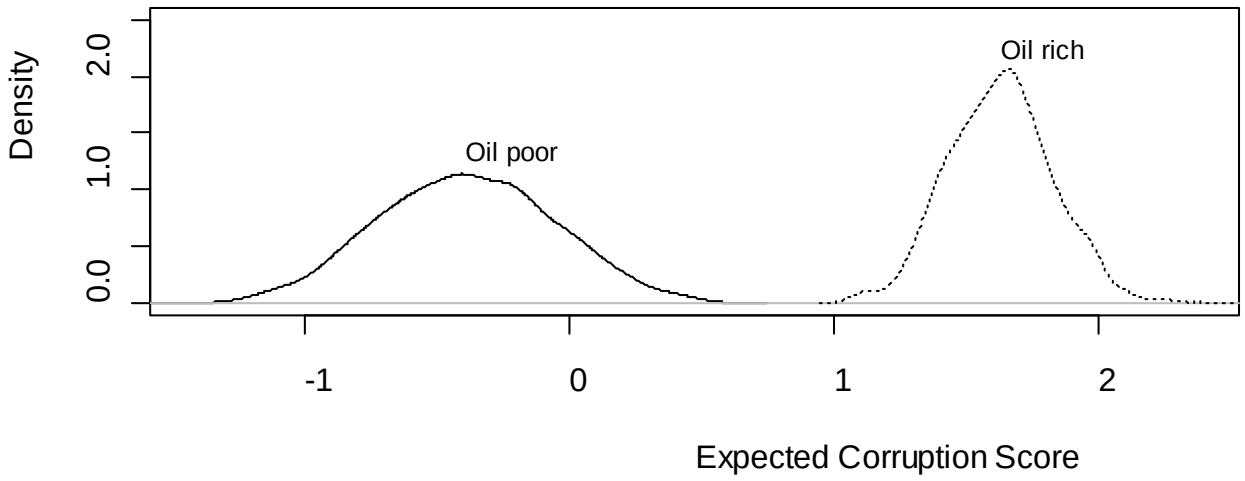
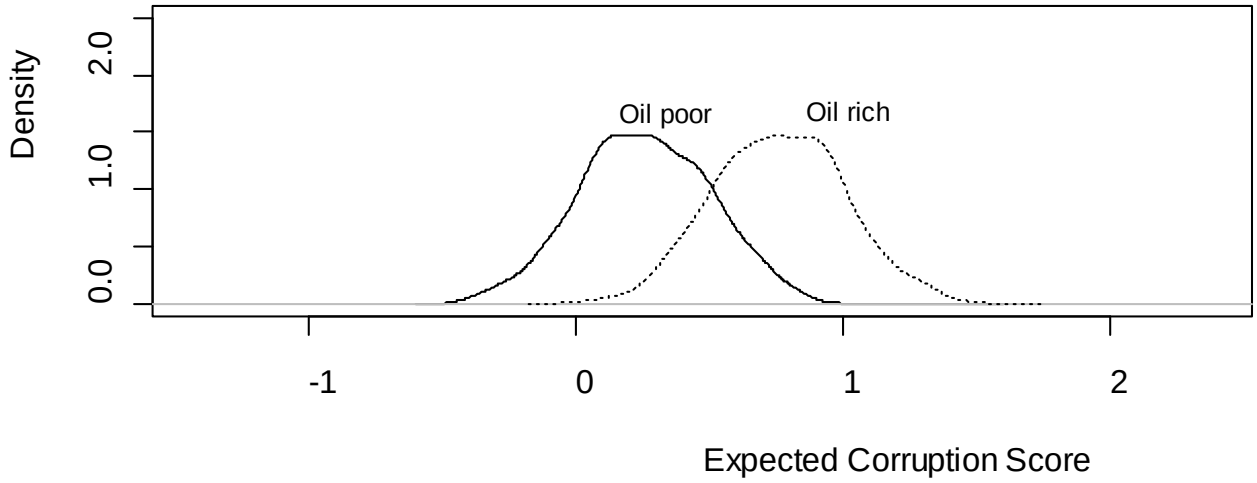


Figure Five: Fuel revenues per capita and expected corruption scores for democracies



At low levels of fuel revenue per capita, the non-democratic state achieves remarkable levels of transparency as illustrated by the solid line in Figure Four. Where there is absolutely no fuel wealth in the country, levels of unaccountability approximate an expected corruption score of negative 0.38.[65] Such high levels of good governance remain unprecedented across the continent as traditionally only countries who are members of the Organisation for Economic Cooperation and Development (OECD) achieve such openness. Moreover, the above diagrams illustrate that the oil-poor non-democratic state is actually more accountable than the oil-poor democratic state as the latter's expected score on the corruption index approximates positive 0.25 only.[66]

[65] See Appendix, Table 4.4 Parts 1 and 3
[66] See Appendix, Table 4.3 Parts 1 and 3

Once oil starts to generate greater revenues in each economy however, the realities between democratic and non-democratic states quickly reverse and diverge. The dotted line in each diagram represents this change, which is effectively the domino effect.

Upon greater access to oil wealth, the expected score on the corruption index for the autocracy increases exponentially to approximate a positive two on the governance scale[67] whilst it approximates just over 0.5 in the open society.[68] Increased access to fuel revenues has therefore caused the non-democracy to score more than two units higher on the index, whilst the same access has caused the democracy to score an additional 0.25 units only.

A 35 percent gap in transparency between the two regime types now exists. This gap is now similar to differences on the corruption index found between countries such as Norway and Costa Rica, and Canada and Cuba. In fact, upon increased access to fuel wealth, the autocratic oil-rich African economy has quickly become as corrupt as countries such as Iran and Iraq.[69]

Such high levels of unaccountability make it exponentially difficult for fuel wealth to reach the masses and raise the living standards of African people in non-democratic states. In the absence of relevant institutions to guard against the greed of such wealth, the autocratic state quickly experiences an almost unstoppable domino effect.

Concluding Remarks

This chapter sought to build on the model of Chapter Three and identify the role of regime type in mitigating corruption and overcoming the domino effect of the resource curse. In doing so, it noted that corruption remains a hindrance to both the democratic and non-democratic state as it has the potential to negate beneficial outcomes of resource wealth. Where it is a hurdle to the open society however, it is the autocracy's greatest and most important challenge.

In the absence of resource wealth, the non-representative state has the potential to achieve remarkable levels of accountability and transparency, mirroring those found in the developed world. As soon as fuel production generates additional revenues in the economy however, the state of affairs rapidly deteriorates to mirror levels of unaccountability found in some of the

[67] See Appendix, Table 4.4 Parts 2 and 4
[68] See Appendix, Table 4.3 Parts 2 and 4
[69] World Bank. "Worldwide Governance Indicators."

most destitute places. In this regard, fuel wealth is able to contribute to greater corruption and thereby poverty in the closed society primarily because it lacks institutions and mechanisms to guard against the domino effect.

As identified by Collier in Chapter Three,[70] the very nature of oil production generates high location specific rents. Such rents remain at the disposal of governments. If oil production commences in the absence of institutions that promote transparency however, that age-old relationship between resource wealth and corruption, which ultimately amounts to poverty through the domino effect, quickly materialises. Oil wealth is therefore not an inevitable curse but its outcome is directly dependent on the political economy and governance structures of African states.

The following chapter builds on this finding to illustrate the diverging futures of democratic and non-democratic oil-rich African economies. To demonstrate the realities and true workings of the paradox of plenty it will turn to examine the case studies of Equatorial Guinea and Gabon.

[70] Paul Collier, "Primary Commodity Dependence," 5

Chapter Five: Case Studies

Introduction

This chapter will provide a comparative assessment of the oil-rich countries Equatorial Guinea and Gabon where the former represents a non-democratic society and the latter an open one.

These two countries have much in common. Not only are they each major oil players where Equatorial Guinea is the continent's third largest producer and Gabon its fourth,[71] but their oil stems from the same source. In this regard, both countries are located alongside each other on the west coast of Africa where they each have access to the hydrocarbon-rich Gulf of Guinea. With such access, oil production across the two states closely mirrors each other. In 2008, for example, Equatorial Guinea produced 347 thousand barrels of oil per day whilst Gabon produced 235.[72] This production further forms a large share of national income where those barrels of oil constituted more than 50 percentage of GDP in each country for 2008.[73] Fuel revenues per capita are therefore similar as citizens in each country have access to thousands upon thousands of dollars in oil revenue.[74]

In addition to similarities in oil wealth and location, it is useful to note that the countries share political economic features as well. Population size in each state is below two million, for example.[75] This low population size should enable each country to fast track development through oil wealth and raise living standards.

With all these parallels between Equatorial Guinea and Gabon, the only significant difference between the two states concerns governance. Although both countries have a history of one-party rule, Gabon has achieved greater openness than its counterpart has. This study is aware that many social scientists would not regard Gabon as an exemplary model of good governance but it is important to note that the continent fails to produce *true* exceptions.

The following sections will therefore discuss the political economies of each state to highlight the advantages of achieving greater openness in an oil-rich country. Despite its shortcomings, Gabon provides important and useful lessons.

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[71] British Petroleum. "Statistical Review of World Energy."
[72] British Petroleum. "Statistical Review of Word Energy."
[73] African Development Bank. *Crude Oil and Natural Gas Production in Africa and the Global Market Situation*. (Tunis: AFDB, 2010) 8
[74] See Appendix, Table 2.3
[75] See Appendix, Table 2.5

Case Study: Equatorial Guinea

References to Equatorial Guinea have always been contradictory in nature. On the one hand, the country's despotic history and self-isolation from international affairs have often likened it to North Korea. On the other hand however, the sheer possibility that oil wealth generates in this small nation has caused many to label it the Kuwait of Africa. With such conflicting futures, the question remains then: where does reality lie?

The story of Equatorial Guinea is one of forgone opportunity. As the continent's third largest producer of hydrocarbons as well as the country with the highest GDP per capita,[76] development of a population of less than one million people should be an attainable goal. The rule of President Teodoro Obiang Nguema and his cronies however, have single-handedly hampered this achievement. Oil funds and state wealth therefore remain a family affair where billions upon billions of dollars disappear from government coiffeurs. So rife is poor governance in this country that it remains the continent's most corrupt nation according to the World Bank's corruption index[77] where even the Extractive Industries Transparency Initiative (EITI) has expelled it from its ranks.

It is for these reasons that this study chose Equatorial Guinea as its case study to highlight the debilitating effects of autocracy. This section will provide an assessment of the country's political economic history to demonstrate the domino effect where entrenched authoritarian rule remains the fundamental culprit.

The rise of autocracy and oil wealth

Autocracy has been a part of Equatorial Guinea's history since it gained independence from Spain on 12 October 1968.[78] Although citizens voted in Francisco Macias Nguema as their first president, Macias wasted no time in manipulating state power to his will as by 1970, he had banned all other political parties and by 1972 had declared himself president for life.[79] The first decade of independence subsequently witnessed immense political misrule and economic chaos under his leadership, so often characterized by extreme political repression. On 3 August 1979, Teodoro Obiang Nguema, the nephew of the then current leader, overthrew Macias in a violent coup with the assistance of a group of military and naval

[76] See Appendix, Tables 2.3 and 2.4
[77] See Appendix, Table 3.1
[78] Central Intelligence Agency. "CIA World Fact Book: Equatorial Guinea." Accessed October 2011. https://www.cia.gov/library/publications/the-world-factbook/geos/ek.html
[79] Clarke, *Crude Continent*, 137

officers.[80] Nguema has been the president since then, making him the continent's longest serving dictator today along with José Eduardo Dos Santos of oil-rich Angola.

By the time Equatorial Guinea discovered lucrative offshore oil fields, first with Alba and then Zafiro in the mid-1990s,[81] autocracy along with all its other side effects of institutional weakness, oppression and corruption had been the only system of rule for almost three decades. The very first dollar from oil wealth was therefore generated in what at the time was one of the world's least open societies. This flood of sudden resource wealth subsequently contributed to the deterioration of institutions along with the marginalisation of the poor.

Deep-seated corruption

Oil production started to pump wealth into the Equatorial Guinean economy from around 1997-1998. Fortunately, Worldwide Governance Indicators and the corruption index stem this far back. Although the state was by no means the epitome of good governance before it discovered oil, as mentioned above, this study notes the rapid deterioration of institutions thereafter.

The lowest level of corruption that Equatorial Guinea has experienced in the last 15 years was between 1996 and 1998. During this period, the country's score on the corruption index was already high as it hovered around positive 1.22 to positive 1.25.[82] This study takes these scores in the absence of oil wealth. The following decade and a half however, saw scores on the corruption index quickly increase and peak within only six years of access to fuel revenues at positive 1.68:[83] an increase of almost nine percent in poor governance. Although corruption has decreased since, unaccountability continues to remain disproportionately high. Oil wealth has therefore contributed to the corruption of the work ethic of the elite as well as vast financial corruption in the state.

Patron-client relations, for example, remain the only viable option for Equatorial Guineans to gain a piece of the national pie where nepotism in power structures is rife. By 2008, 21 out the 50 ministers in government were related to President Nguema.[84] Moreover, Nguema recruits all members of his armed forces from his hometown in Mongomo where he

[80] Clarke, *Crude Continent,* 137
[81] Clarke, *Crude Continent,* 142
[82] World Bank. "Worldwide Governance Indicators."
This study has reversed scores on the World Bank's Control of Corruption Index for ease of interpretation.
[83] World Bank. "Worldwide Governance Indicators."
[84] Ghazvinian. *Untapped*. 177

handpicks elite from the Family Council of Elders.[85] The president therefore maintains a close and trusted circle of allies that have exclusive access to state wealth.

In 2004, an international scandal involving Riggs Bank in Washington, DC exposed such exclusivity. According to various reports, the bank administered more than 60 accounts to the value of US400 million for the government of Equatorial Guinea between 1995 and 2004.[86] Investigations further revealed that Riggs serviced the accounts without adhering to any anti-money laundering obligations. In the absence of these obligations, President Obiang and his family accepted million of dollars in cash deposits with few questions asked. The bank therefore held the entirety of the country's oil wealth and subjected it to two signatures only: President Obiang and his son, Teodorin.[87]

Teodorin himself has been tied to numerous scandals involving the country's oil wealth given his lavish lifestyle. According to Global Witness, for example, Teodorin's official government position of Minister of Forestry, Fisheries and the Environment generates a salary of around US$4000 – US$5000 per month only.[88] On this salary, however the president's son was able to spend US$35 million on a property in Malibu Beach in 2009.[89] The NGO claims that it would have taken him "somewhere between 580 to 730 years to squirrel away enough money to buy his Malibu property, assuming he had no other expenses and paid no taxes on his [official] income."[90] This exclusive access to the country's oil wealth further enables Teodorin to spend lavishly on private jets, luxury cars and boats. His personal shopping sprees between 2004 and 2007, for example, amounted to nearly double the country's education budget for 2005.[91]

This predatory nature of politically exposed persons has contributed to international condemnation of Equatorial Guinea. In 2010, for example, the EITI expelled the state from its ranks.

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[85] Geoffrey Wood. "Business and Politics in a Criminal State: the case of Equatorial Guinea" *African Affairs* 103 (2004) 550
[86] Anonymous. "Rigging the System." *Multinational Monitor* 25 (Washington: 2004) 7
[87] "Rigging the System." *Multinational Monitor*
[88] Global Witness. *The Secret Life of a Shopaholic: How an African Dictator's Playboy Son went on a Multi-million Dollar Shopping Spree in the US* (London: Global Witness, 2009) 1
[89] Global Witness. *The Secret Life of a Shopaholic.*
[90] Global Witness. *The Secret Life of a Shopaholic*
[91] Human Rights Watch. "World Report 2011: Equatorial Guinea." Accessed October 2011. http://www.hrw.org/world-report-2011/equatorial-guinea

The EITI supports improved governance in resource-rich countries through the verification and full publication of company payments and government revenues from oil, gas and mining.[92] Equatorial Guinea initially expressed its willingness to participate in the organisation at a World Bank-sponsored workshop in 2004. The EITI accepted the nation as a candidate country in 2007 where it granted Equatorial Guinea three years to validate all its measures.[93] By April 2010 however, Africa's third largest oil producer faced expulsion from the body on the grounds of government suppression. The EITI highlighted the following obstacles to transparency and accountability in the state: weak capacity, government restrictions on freedom of expression and association, hostile government rhetoric and actions against independent actors.[94]

Equatorial Guinea thus fails to meet international standards on good governance as President Obiang continues to concentrate resource wealth in the hands of his allies, which only serves to marginalise the poor.

Unchanging living standards

The discovery of oil has supplied Equatorial Guinea with unprecedented opportunity for development. Although its GDP per capita remains the highest in Africa and not far off from the likes of Luxembourg, 60 percent of the population have an income below $350 per year.[95] Citizens located in urban areas such as Malabo and Bata also endure the cost of weak development as they lack access to basic facilities where three out of five households have no running water or electricity.[96] With such discrepancies between receipts and reality, Equatorial Guinea has one of the lowest human development index (HDI)[97] rankings in relation to its income per capita.

As illustrated in the statistical models of chapters Three and Four, oil wealth coupled with autocracy and high corruption does not necessarily worsen poverty levels but merely creates a situation where the living standards of a population neither progress nor regress. Equatorial

[92] Extractive Industries Transparency Initiative. "What is the EITI." Accessed October 2011. http://eiti.org/eiti
[93] Equatorial Guinea Justice. *Disempowered Voices: the Status of Civil Society in Equatorial Guinea* (Washington, DC: EG Justice, 2011) 2-3
[94] Equatorial Guinea Justice. *Disempowered Voice*. 2-3
[95] Hazel M Mcferson. "Governance and Hyper-Corruption in Resource-Rich African countries." *Third World Quarterly* 30 (2009) 1538
[96] Mcferson. "Governance and Hyper-Corruption." 1538
[97] The HDI which is calculated on an annual basis by the United Nations, measures deprivation in terms of the absence/prevalence of the capabilities to acquire and use three essential elements of human life: longevity, knowledge and a decent standard of living. Taken from: United Nations, "Human Development Index (HDI), Accessed November 2011. http://hdr.undp.org/en/statistics/hdi/

Guinea personifies these findings, as the living standards of its people today are not dissimilar from that before oil wealth entered the economy. The country's score on the HPI, for example, remains the same as it did a decade ago at 31.9.[98]

Long-term outlooks for the people of this oil-rich nation fail to paint a better picture. Analysts maintain that President Obiang and his government will only seek to increase their stake in the country's oil wealth thereby contributing to significant uncertainty regarding the future economic conditions and living standards of the population.[99]

Concluding remarks

During a presidential rally in 2002, President Obiang foresaw and promised great opportunity and change from the country's oil wealth. As he addressed the crowds he declared, "like the scriptures say when the Pharaoh of Egypt had a dream of lean and fat cows, we have passed the time of lean cows that represent hunger and we are now in the time of fat cows which is prosperity."[100] Unfortunately, the people of Equatorial Guinea have not experienced this dream. On the contrary, they have lived only in the shadow of that fairytale alluded to by Kapuscinski.

Authoritarian rule, entrenched over four decades, along with untold levels of corruption are the primary culprits for this paradoxical reality. The exclusivity of wealth is so stark that social scientists claim that the key problem is not even so much corruption "but the fact that *all* of the oil revenue goes to a tiny elite around the President's family and friends."[101] Little has therefore changed in the country since independence. Where the British once referred to the country during World War 2 as a "little dreadful Spanish island" for example, an aid worker recently noted that, "on a scale of one to ten, even an African scale, it's a zero."[102]

Equatorial Guinea is therefore the absolute personification of the statistical models presented in this study. Without sound institutions and greater civil and public participation, President Obiang and politically exposed persons will be able to continue to prey on the state to the detriment of the poor. Moreover, as Teodorin prepares to become the future president of this West African nation, the most vulnerable populations face innumerable challenges ahead.

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[98] United Nations Development Programme. *Human Development Report 2004* (New York: UNDP, 2004) 148
[99] The Economist Intelligence Unit. *Energy Industry Report: Equatorial Guinea* (Washington, DC: Economic Intelligence Unit, 2010) 6-7
[100] Ian Gary and Terry Lynn Karl. *Bottom of the Barrel: Africa's Oil Boom and the Poor* (Baltimore: Catholic Relief Services, 2003) 38
[101] Anonymous. "Oil, Gas and Uneasiness." *Petroleum Economist* (2007) 1
[102] Mark Hemingway. "Destination Malabo." *The Weekly Standard*, 25 August, 2008, 24

Case Study: Gabon

The story of Gabon is to some degree one of great exception as this small tropical country on the west coast of Africa largely defies the defining characteristics of its region. With neighbours that include the likes of Equatorial Guinea, Cameroon and the Republic of Congo, Gabon's peaceful history, which remains free from civil war, is unprecedented. Moreover, the reign of President Omar Bongo from 1967 to 2009,[103] albeit of one-party rule, cannot be placed in the same league as that of Presidents Nguema, Paul Biya or even Denis Sassou Nguesso. On the contrary, Bongo's presidency was more open and even encouraged civil society engagement toward the end of his rule. This study believes that these small exceptions have contributed to better use of the country's vast fuel revenues to achieve meaningful development.

Although most social scientists do not perceive Gabon as an exemplary model of good governance, to which this study admits the country has many faults, the small differences between it and its neighbour have contributed to better development and improved living standards. This chapter will highlight these differences to demonstrate how even small changes to freedom in society generate beneficial outcomes in the face of fuel revenues. In this regard, this chapter will review the political economy of Gabon in comparison to that of its neighbour: Equatorial Guinea.

Political history

Gabon achieved independence from France in 1960 after nearly five decades of colonial rule as one of four territories in French Equatorial Africa. The country's first president was Léon M'ba who faced and survived an attempted coup during his brief seven-year reign. Following his death in 1967, the people of Gabon voted in President Bongo to replace him. Admittedly, political oppression marked the first 20 years of his 40-year rule as by March 1968 President Bongo had declared Gabon a one-party state under the Parti Democratique Gabonais (PDG). In 1990, however, in face of internal and external pressure, President Bongo granted the hosting of multi-party legislative elections. Although he remained in power for almost

[103] Central Intelligence Agency. "CIA World Fact Book: Gabon." Accessed October 2011. https://www.cia.gov/library/publications/the-world-factbook/geos/gb.html

another 20 years, this change saw Gabon begin to witness greater political debate as well as the birth of civil society.[104]

This change in political management resulted in Gabon hosting various elections until President Bongo's death in 2009. Despite some dissent surrounding these events, external observers and the international community largely regarded them as credible and thereby free and fair.[105] In addition to the advent of political openness in the state, the people of Gabon enjoy greater political rights and civil liberties than their counterparts in Equatorial Guinea. Freedom to form and join political parties, for example, is largely respected. Moreover, although somewhat limited in practice, legislation guarantees press freedom in the country as well as the right of assembly and association. Religious freedom is also enshrined in the constitution, which the people established in 1991, and is generally upheld by authorities.[106]

Given these milestones of greater openness, Freedom House categorised Gabon as Partly Free for not only when this study selected data for its models in 2008 but for almost ten years before then as well.[107] The statistical models therefore consider Gabon as Free whilst on the contrary; Equatorial Guinea has never matured past Not Free in its history.

Fuel wealth and managed corruption

Hydrocarbon exploration in Gabon originally began in the 1930s although the country only commenced production in the 1950s under the auspices of the French government.[108] Gabon's access to fuel wealth thus spans over more than half a century where, admittedly, less accountable regimes generated a large portion of these revenues. Since the 1990s however, the country has experienced improved governance measures and greater transparency given its openness as discussed above. This latter period requires attention.

As noted in the case study of Equatorial Guinea, Worldwide Governance Indicators stem back to the mid 1990s. When reviewing the corruption index for Gabon during this period, a significant pattern emerges.

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[104] Clarke, *Crude Continent*, 159-162 and Freedom House, "Country Report: Gabon 2011 Edition," Accessed November 2011, http://www.freedomhouse.org/template.cfm?page=22&year=2011&country=8040

[105] Freedom House. "Country Report: Gabon."
[106] Freedom House, "Country Report: Gabon."
[107] Freedom House, "Country Report: Gabon."
[108] Institute for Democracy in Africa (IDASA). *Oil and Governance Report: a case study of Chad, Angola, Gabon and Sao Tome é Principe* (Pretoria: IDASA, 2008) 47

Hydrocarbon production peaked in Gabon at 365 thousand barrels of oil per day in 1996.[109] Interestingly, this is also the year that its level of corruption was its highest as thereafter it generally decreased.[110] This confirms the positive relationship between fuel wealth and unaccountability as identified in the statistical models for democracies and non-democracies alike in Chapter Four. Although access to fuel wealth has spurred on greater corruption in both case studies, the level of unaccountability has always been less in Gabon than Equatorial Guinea despite striking similarities in fuel production and its wealth per capita.

Gabon's score on the corruption index, for example, has never exceeded positive 1.02 over the course of the past 15 years.[111] In comparison, Equatorial Guinea's *lowest* score is positive 1.21 only.[112] Moreover, the past decade and a half has witnessed Gabon scoring as much as 20 percent lower on the scale than its counterpart: a difference large enough to distinguish between some developing and developed nations. This finding personifies Figure Three and Four in Chapter Four, which demonstrated the diverging levels of corruption in non-democratic and democratic states. Although the obstacle of unaccountability exists for both oil-rich nations, it remains larger in Equatorial Guinea given its regime type. Gabon thus achieves better governance of its fuel revenues because of its somewhat open society. One such measure that demonstrates this is its adherence to the EITI.

In 2004, the government of Gabon informed the World Bank of its country's commitment to join the EITI and requested technical support for its implementation. Since then, this small West African nation has produced three EITI reports, which provide information on the government's share of oil profits:[113] reports that Equatorial Guinea failed to produce. Although Gabon has not validated all EITI requirements, thus contributing to its status as a candidate and not a compliant country, the organisation has nevertheless categorised it as 'close to complaint.'[114] The thus EITI views Gabon as having made meaningful progress to greater transparency and has granted it until December 2012 to implement all its commitments.[115]

[109] British Petroleum. "Statistical Review of World Energy."
[110] World Bank. "Worldwide Governance Indicators."
[111] World Bank. "Worldwide Governance Indicators."
[112] World Bank. "Worldwide Governance Indicators."
[113] Extractive Industries Transparency Initiative. "Gabon: Candidate Country." Accessed November 2011. http://eiti.org/Gabon

[114] Extractive Industries Transparency Initiative. "Gabon: Candidate Country."
[115] Extractive Industries Transparency Initiative. "Gabon: Candidate Country."

The example of Gabon's adherence to the EITI demonstrates that the country is firmly on the path to achieve transparency of its fuel revenues. Moreover, the international community has greater faith in Gabon than Equatorial Guinea to reach such milestones as the organisation expelled the latter from its ranks in 2010. When considering international perceptions of the two countries, a review of the Revenue Watch Index is also useful.

This index considers Gabon as having achieved partial revenue transparency in that it provides citizens with information about country revenues from the extractive sector. According to the organisation, for example, Gabon has achieved 41.8 percent transparency of its resources.[116] On the contrary, Equatorial Guinea has 'scant' revenue accountability as it discloses the least amount of information to its people and has poor reporting practices. It therefore scores right at the bottom of the index, only better than Turkmenistan, with 11.6 percent levels of transparency.[117]

This difference in commitment to better governance of resource revenues has translated into higher living standards in Gabon as fuel wealth has contributed to enhanced development.

Development through resource wealth

A review of developmental indicators for Gabon over the past 20 years reveals that this small West African nation has achieved steady and continuous growth.

Gabon's score on the HDI, for example, has increased since it embarked on greater political and economic freedom. Where the country's score was 0.61 in 1990, it has grown to 0.67 today.[118] Although this increase may seem slight, it has enabled it to score well above average measures of growth for not only sub-Saharan Africa but also for countries classified in the 'medium human development' category. Gabon's growth therefore diverges from that of the developing world to track greater global trends. A closer examination of specific indicators demonstrates this achievement.

[116] Revenue Watch Institute. "2010 Revenue Watch Index." Accessed November 2011. http://www.revenuewatch.org/rwindex2010/rwindex.html
[117] Revenue Watch Institute. "2010 Revenue Watch Index."
[118] United Nations Development Programme. "International Human Development Indicators: Gabon country profile." Accessed November 2011. http://hdrstats.undp.org/en/countries/profiles/GAB.html

The under five-mortality rate per 1000 live births, for example, has declined in Gabon from 93 in 1990 to 69 in 2009.[119] Moreover, life expectancy has also slowly increased over the past two decades to 62.7 years today.[120] Apart from health, education indicators in Gabon also remain relatively higher than its African counterparts where expected adult literacy rate for both sexes above the age of 15 is high at 87.7 percent.[121]

Taken together, along with other measures, these indicators have resulted in Gabon scoring very low on the HPI. In 2008, Gabon scored a disproportionately low 17.5: almost 15 units lower than Equatorial Guinea at 31.9.[122]

In comparison to the rest of the continent and most importantly its neighbour, Equatorial Guinea, Gabon therefore seems leagues ahead in terms of meaningful human development.

Concluding remarks

As noted in the opening paragraph on the case study of Gabon, this country is a story of great exception. Like so many African countries, Gabon has witnessed a history of one party rule as well as resource-led corruption. It was President Bongo after all who declared, "Corruption is not African word."[123] Despite these challenges however, this small West African nation has channelled its resource wealth to achieve remarkable levels of development. This study is confident that such wealth has spurred this progress, given that fuel revenues constitute more than half of the nation's income.

In comparing Equatorial Guinea to Gabon, this chapter first noted striking similarities between the two nations. In this regard, the countries share the same access to resource wealth as well as the same opportunity to harness it to achieve meaningful development given the small population size that characterizes both states. Differences lie in the reality that Gabon has embarked on greater openness and freedom in society however, whilst Equatorial Guinea continues to display draconian behaviour.

[119] United Nations Development Programme. "International Human Development Indicators: under five mortality rate (per 1000 live births)." Accessed November 2011. http://hdrstats.undp.org/en/indicators/57506.html
[120] United Nations Development Programme. "International Human Development Indicators: life expectancy at birth (years)." Accessed November 2011. http://hdrstats.undp.org/en/indicators/69206.html
[121] UNDP. "International Human Development Indicators: Gabon country report."
[122] See Appendix, Table 2.2
[123] Bongo, *Blanc comme nègre*, 223

Although Gabon still has a long way to go to achieve absolute freedom and transparency, it is the small changes it has made to political rights, civil liberties and adherence to international standards that has enabled it to move forward and track global trends. On the contrary, Equatorial Guinea remains suspended in time. The strength of its institutions continues to deteriorate whilst the living standards of its population neither progress nor regress. By failing to achieve better governance of its resources, Equatorial Guinea has thus missed its opportunity to realise its status as the Kuwait of Africa and remains a tropical backwater.

Chapter Six: Conclusion

This paper sought to determine the relationship between oil in Africa and human development. As Africa is set to emerge as a significant player in the hydrocarbons market within the next few decades, the generation of such resources will afford its people with an unprecedented opportunity to harness a vast stream of wealth to achieve meaningful development. Bearing in mind that the continent hosts some of the most impoverished regions in the world, an assessment of the political economy of oil is imperative to unlocking this different future.

To determine the effects of oil in Africa, this paper first began by quantifying the most basic and direct relationship between this resource and living standards across the continent. With fuel revenues per capita as the measurement for oil and the HPI as the measurement for human development, Chapter Two essentially ran a test on the resource curse. In doing so, it negated former assumptions as such revenues appear to neither improve not worsen the living standards of African people. This finding even suggested that should an African country experience an oil boom, it would have no effect on eradicating poverty whatsoever thus rendering such revenues negligible. This finding only warranted more questions however, as Chapter Three sought to discover *why* such wealth is so futile to the continent.

In turning to isolate the role of corruption, Chapter Three identified an important domino effect that accounted for this counterintuitive reality. Firstly, it noted that an increase in fuel revenues itself generates greater corruption in African states. This association mirrors various findings in the literature on the resource curse. Thereafter, it identified that this increase in unaccountability in turn results in poor development: the second and most important phase of the domino effect. Where an increase in fuel revenues has the potential to contribute to economic benefits in a state, corruption cancels out this future almost exactly. What results is stagnation through which the living standards of African people neither progress nor regress despite increased resource revenues.

Chapter Four sought to determine the role of regime types in mitigating this unwanted outcome. By differentiating between democratic and non-democratic oil-rich African states, Chapter Four noted that although an increase in fuel revenues generates more corruption in both regimes: the domino effect remains multiple times more destructive in the authoritarian state. In this regard, the open and representative state holds greater promise for harnessing hydrocarbon revenues to achieve meaningful development and raise living standards.

The case studies of Equatorial Guinea and Gabon demonstrate these opposing realities. Where these states remain remarkably similar in terms of their access to resource wealth as well as their political economic and geographic make-ups, Gabon has achieved greater freedom than its counterpart has. In doing so, it has been able to track global trends in development and disassociate itself from much of the continent. This small West African nation therefore provides useful lessons for all upcoming oil producers from the continent.

With the above analysis, this paper serves to demonstrate that the resource curse is a by-product of poor governance only. Moreover, through the establishment of statistical models, it has been able to track the effects of corruption and regime type *exactly*, generating a more holistic understanding of the paradox of plenty. This understanding has important implications.

Freedom House classicisation of many of the upcoming oil producers set to emerge from the continent, for example, is at best Partly Free, with the exceptions of Ghana and Namibia. Many authoritarian governments are therefore looking to the hydrocarbons industry to secure their reign on power through access to immense resource wealth. In this event, the people of Africa face a long road ahead of them where the possibility of missed opportunities, such as with Equatorial Guinea, remains a constant and very real threat. Local and international communities must therefore help to facilitate greater freedom in countries as this remains the only solution to overcoming the all too familiar domino effect in which fuel revenues fail to benefit the masses and counter intuitively result in stagnant human development.

Although this research contributes to the literature by identifying the very mechanisms of the domino effect, future research that turns to examine how different communities may enhance transparency is further required. Moreover, social scientists are encouraged to extend this finding to assess the political economy of oil and human development in all developing regions of the world.

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Appendix

Chapter Two: Oil, Poverty and the Resource Curse

Table 2.1: Countries excluded from the dataset

Country	Reason
Comoros	Island state
Lesotho	Disproportionately small state
Liberia	Data unavailability
Madagascar	Island state
Mauritius	Island state
Mayotte	Island state
Sao tome and Principe	Island state and data unavailability
Seychelles	Island state
Sierra Leone	Date unavailability
Somalia	Data unavailability
Swaziland	Disproportionately small state
Zimbabwe	Data unavailability

Table 2.2: Human Poverty Index (HPI) scores for the dataset. Taken from the Human Development Report of 2009

Country	HPI percentages	Country (cont.)	HPI percentages (cont.)
Algeria	17.5	Mali	54.5
Angola	37.2	Mauritania	36.2
Benin	43.2	Morocco	31.1
Botswana	22.9	Mozambique	46.8
Burkina Faso	51.8	Namibia	17.1
Burundi	36.4	Niger	55.8
Cameroon	30.8	Nigeria	36.2
Central African Republic	42.9	Rwanda	32.9
Chad	53.1	Senegal	41.6
Congo, Republic	24.3	South Africa	25.4
Congo, Dem. Rep	38.0	Sudan	34.0
Cote D'Ivoire	37.4	Tanzania	30.0
Djibouti	25.6	Togo	36.6
Egypt	23.4	Tunisia	15.6
Equatorial Guinea	31.9	Uganda	28.8
Eritrea	33.7	Zambia	35.5
Ethiopia	50.9		

Gabon	17.5
Gambia	40.9
Ghana	28.1
Guinea	50.5
Guinea-Bissau	34.9
Kenya	29.5
Libya	13.4
Malawi	28.3

Table 2.3: $US equivalent of fuel revenues per capita for 2008
(rounded off to the nearest whole number)

Country	Fuel revenues per capita in $US	Country (cont.)	Fuel revenues per capita (cont.)
Algeria	2198	Mali	2
Angola	3667	Mauritania	102
Benin	0	Morocco	27
Botswana	9	Mozambique	13
Burkina Faso	0	Namibia	10
Burundi	0	Niger	1
Cameroon	144	Nigeria	496
Central African Republic	0	Rwanda	0
Chad	31	Senegal	60
Congo, Republic	2215	South Africa	146
Congo, Dem. Rep	4	Sudan	216
Cote D'Ivoire	176	Tanzania	31
Djibouti	16	Togo	0
Egypt	142	Tunisia	324
Equatorial Guinea	20304	Uganda	2
Eritrea	0	Zambia	3
Ethiopia	0		
Gabon	5650		
Gambia	0		
Ghana	2		
Guinea	2		
Guinea-Bissau	0		
Kenya	5		
Libya	6200		
Malawi	0		

Table 2.4 $US equivalent of non fuel revenues per capita for 2008
(rounded off to the nearest whole number)

Country	Non fuel revenues per capita in $US	Country (cont.)	Non fuel revenues per capita (cont.)
Algeria	2188	Mali	686
Angola	1047	Mauritania	788
Benin	771	Morocco	1745
Botswana	6974	Mozambique	427
Burkina Faso	522	Namibia	4139
Burundi	144	Niger	363
Cameroon	1082	Nigeria	873
Central African Republic	458	Rwanda	459
Chad	739	Senegal	1027
Congo, Republic	751	South Africa	5532
Congo, Dem. Rep	178	Sudan	1137
Cote D'Ivoire	959	Tanzania	482
Djibouti	847	Togo	449
Egypt	1786	Tunisia	2743
Equatorial Guinea	7796	Uganda	451
Eritrea	336	Zambia	1131
Ethiopia	317		
Gabon	4387		
Gambia	489		
Ghana	711		
Guinea	385		
Guinea-Bissau	273		
Kenya	778		
Libya	7678		
Malawi	288		

Table 2.5 Population size for 2008
(in millions)

Country	Population	Country (cont.)	Population (cont.)
Algeria	34.4	Mali	12.7
Angola	18.0	Mauritania	3.2
Benin	8.6	Morocco	31.6
Botswana	1. 9	Mozambique	22.4
Burkina Faso	15.2	Namibia	2.1
Burundi	8. 1	Niger	14.7
Cameroon	19.1	Nigeria	151.2

Central African Republic	4.3	Rwanda	9.8
Chad	10.9	Senegal	12.2
Congo, Republic	3.6	South Africa	48.7
Congo, Dem. Rep	64.3	Sudan	41.3
Cote D'Ivoire	20.6	Tanzania	1.2
Djibouti	0.8	Togo	42.5
Egypt	81.5	Tunisia	10.3
Equatorial Guinea	0.7	Uganda	31.7
Eritrea	4.9	Zambia	12.6
Ethiopia	80.7		
Gabon	1.5		
Gambia	1.7		
Ghana	23.4		
Guinea	9.8		
Guinea-Bissau	1.6		
Kenya	38.8		
Libya	6.3		
Malawi	14.8		

Table 2.6 Coastal dummy coding (1=coastal state)

Country	Dummy code	Country (cont.)	Dummy Code (cont.)
Algeria	1	Mali	0
Angola	1	Mauritania	1
Benin	1	Morocco	1
Botswana	0	Mozambique	1
Burkina Faso	0	Namibia	1
Burundi	0	Niger	0
Cameroon	1	Nigeria	1
Central African Republic	0	Rwanda	0
Chad	0	Senegal	1
Congo, Republic	1	South Africa	1
Congo, Dem. Rep	0	Sudan	1
Cote D'Ivoire	1	Tanzania	1
Djibouti	1	Togo	1
Egypt	1	Tunisia	1
Equatorial Guinea	1	Uganda	0
Eritrea	1	Zambia	0
Ethiopia	0		
Gabon	1		
Gambia	1		

Ghana	1
Guinea	1
Guinea-Bissau	1
Kenya	1
Libya	1
Malawi	0

Table 2.7: Results from the Bivariate Regression Model:
The relationship between fuel revenues per capita and a country's score on the HPI. HPI is the dependent variable

	Coefficient	**Standard Error**
Fuel revenues per capita (logged)	-1.14*	0.34

**p value is <0.05 which is statistically significant*

R – Squared: 0.22

Table 2.8: Results from the Multivariate Regression Model:
The relationship between fuel revenues per capita and a country's score on the HPI controlling for non-fuel revenues per capita, coastal states and the size of a country's population. HPI is the dependent variable.

	Coefficient	**Standard Error**
Fuel revenues per capita (logged)	0.04	0.45
Non fuel revenues per capita (logged)	-5.73*	1.92
Coastal dummy	-6.14	3.4
Population (logged)	0.59	1.05

**p value is <0.05 which is statistically significant*

R – Squared: 0.43

Table 3.1: Corruption scores for the dataset taken from the World Bank in 2008 (*The original Control of Corruption index provided by the World Bank has been reversed so that higher numbers correspond with higher levels of corruption*)

Country	Corruption Score	Country (cont.)	Corruption Score
Algeria	0.49	Mali	0.69
Angola	1.34	Mauritania	0.66
Benin	0.65	Morocco	0.23
Botswana	-0.86	Mozambique	0.41
Burkina Faso	0.44	Namibia	-0.23
Burundi	1.12	Niger	0.66
Cameroon	0.92	Nigeria	1.07
Central African Republic	0.82	Rwanda	-0.13
Chad	1.39	Senegal	0.53
Congo, Republic	1.22	South Africa	-0.1
Congo, Dem. Rep	1.42	Sudan	1.24
Cote D'Ivoire	1.16	Tanzania	0.42
Djibouti	0.26	Togo	1.08
Egypt	0.41	Tunisia	-0.02
Equatorial Guinea	1.58	Uganda	0.87
Eritrea	0.33	Zambia	0.51
Ethiopia	0.71		
Gabon	0.92		
Gambia	0.56		
Ghana	-0.06		
Guinea	1.23		
Guinea-Bissau	1.12		
Kenya	1.11		
Libya	1.1		
Malawi	0.47		

Table 3.2 Results from the Multivariate Regression Model with Corruption included

The relationship between fuel revenues per capita and poverty with corruption included as an intervening variable.

Part 1: The HPI is the dependent variable

	Coefficient	Standard Error
Corruption*	6.09	3.16

Fuel revenues per capita (logged)	-0.46	0.51
Non fuel revenues per capita (logged)	-3.31	2.23
Coastal dummy	-6.48	3.29
Population (logged)	0.56	1.02

**p value is <0.05 which is statistically significant*

R – Squared: 0.48

Part 2: Corruption is the dependent variable

	Coefficient	**Standard Error**
Fuel revenues per capita (logged)	0.08*	0.02
Non fuel revenues per capita (logged)	-0.4*	0.1
Coastal dummy	0.06	0.17
Population (logged)	0.01	0.05

**p value is <0.05 which is statistically significant*

R – Squared: 0.36

Chapter Four: Democratic and non Democratic Oil Producers

Table 4.1 Categorization of regime types across the data set
(0=Not Free; 1=Free)

Country	Dummy code	Country (cont.)	Dummy Code (cont.)
Algeria	0	Mali	1
Angola	0	Mauritania	1
Benin	1	Morocco	1
Botswana	1	Mozambique	1
Burkina Faso	1	Namibia	1
Burundi	1	Niger	1
Cameroon	0	Nigeria	1
Central African Republic	1	Rwanda	0
Chad	0	Senegal	1
Congo, Republic	0	South Africa	1
Congo, Dem. Rep	0	Sudan	0
Cote D'Ivoire	0	Tanzania	1
Djibouti	1	Togo	1
Egypt	0	Tunisia	0
Equatorial Guinea	0	Uganda	1
Eritrea	0	Zambia	1
Ethiopia	1		
Gabon	1		
Gambia	1		
Ghana	1		
Guinea	0		
Guinea-Bissau	1		
Kenya	1		
Libya	0		
Malawi	1		

Table 4.2 Results from the Multivariate Regression Model with Regime Type included

The different relationships between fuel revenues per capita, corruption and and poverty when regimes types are considered. Regime type is included as an interaction variable

Part 1: The HPI is the dependent variable

	Coefficient	Standard Error
Corruption	7.83*	0.03
Fuel revenues per capita (logged)	-0.69	0.71

Freedom = True	5.01	4.75
Non fuel revenues per capita (logged)	-2.8	2.35
Coastal dummy	-6.63	3.41
Population size (logged)	0.71	1.04
Fuel revenues per capita: Freedom = True	0.46	0.73

**p value is <0.05 which is statistically significant*

R – Squared: 0.50

Part 2: Corruption is the dependent variable

	Coefficient	**Standard Error**
Fuel revenues per capita (logged)	0.11*	0.03
Freedom = True	-0.61*	0.20
Non fuel revenues per capita (logged)	-0.39*	0.09
Coastal dummy	0.10	0.16
Population (logged)	-0.01	0.05
Fuel revenues per capita: Freedom = True	-0.08*	0.03

**p value is <0.05 which is statistically significant*

R – Squared: 0.51

Table 4.3: Results from simulating differences in Fuel Revenues per Capita on Corruption for Democracies

Part 1.1: Low fuel revenues per capita

	Values
Fuel revenues per capita (logged)	-14.68
Freedom = True	1.00
Non fuel revenues per capita (logged)	6.79
Coastal dummy	0.71
Population (logged)	16.20
Fuel revenues per capita: Freedom = True	-14.68

Part 2: High fuel revenues per capita

	Values
Fuel revenues per capita (logged)	3.00
Freedom = True	1.00

Non fuel revenues per capita (logged)	6.79
Coastal dummy	0.71
Population (logged)	16.20
Fuel revenues per capita: Freedom = True	3.00

Part 3: Expected Values

	Values
Mean	0.25
Standard deviation	0.26
97.5 percent confidence interval	0.76

Part 4: First Difference in Expected Values

	Values
Mean	0.51
Standard deviation	0.49
97.5 percent confidence interval	1.48

Table 4.4 Results from simulating differences in Fuel Revenues per Capita on Corruption for Non-Democracies

Part 1: Low fuel revenues per capita

	Values
Fuel revenues per capita (logged)	-14.68
Freedom = True	0.00
Non fuel revenues per capita (logged)	6.79
Coastal dummy	0.71
Population (logged)	16.20
Fuel revenues per capita: Freedom = True	0.00

Part 2: High fuel revenues per capita

	Values

Fuel revenues per capita (logged)	3.00
Freedom = True	0.00
Non fuel revenues per capita (logged)	6.79
Coastal dummy	0.71
Population (logged)	16.20
Fuel revenues per capita: Freedom = True	0.00

Part 3: Expected values

	Values
Mean	-0.38
Standard deviation	0.34
97.5 percent confidence interval	0.27

Part 4: First difference in expected values

	Values
Mean	2.02
Standard deviation	0.50
97.5 percent confidence interval	2.96