

Ghanaian Oil Production

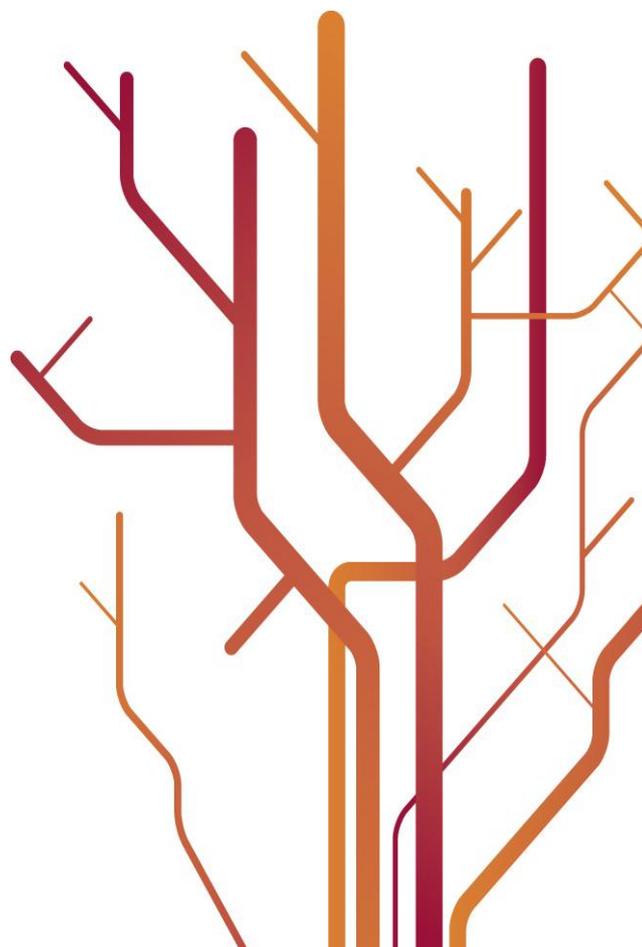
A look at the future prospects for the Ghanaian population,
government and businesses



Harald Holst-Sverresvold

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Abbreviation used in this paper;

Corruption perception index:	CPI
Human development report	HDI
Central Intelligence Agency World Fact Book	CIA
Ghana Poverty Reduction Strategy	CPRS
International Monetary Fund	IMF
United Nations Development Programme	UNDP

Summary

Ghana started their oil production in 2010. I am looking at the prospects for the Ghanaian population into the future, what they may expect. With respect to African experiences with rich natural resources, we have seen several situations where they can get caught up in the resource curse. This have several reasons, and I have tried to look at some key factors and compare these with the current situation in Ghana with respect to aspects as politics, level of corruption, level of inequality, internal conflict in Ghana and the expectations of the people of Ghana. Ghana is a Nation located on the west coast of Africa, bordering to nations like Togo, Burkina Faso and the Ivory Coast. Other nations in this area are Nigeria, Liberia and Sierra Leone, which all has huge problem from the Resource Curse. I have made a simple applied model focusing on inequality and employment due to the strength of the government of Ghana, and the integrity of the producers of the Oil production. Further there is a small interview with a small local population in Ghana. I have looked at reasons for the resource curse, and the advantages Ghana holds compared with those other nations. We can clearly see from this thesis that Ghana has the possibilities of succeeding in their quest for economic growth, and that they have the tools needed, both political, with respect to their infrastructure and also the empiric from other nations struggles with the resource curse.

Prefix

This thesis is the final part of my Master in Economics here at HHT. I have had a growing interest ever since I traveled to Ghana in developing economics, particularly Ghana, the home country of my wife Victoria. I have travelled to this county several times, and we have hopes of moving there for some years with our children.

Oil has been discovered off the south west coast of Ghana, and as of December 2010, the country has initiated commercial exploitation of this resource. In light of this, I would like to explore the possibilities that lie within the exploitation of oil for the common Ghanaian and how it may influence business at a micro economic level. By combining knowledge gained from my Bachelor education, as well as what I have learned so far in my master studies, I adequately feel prepared to write this thesis.

This paper would not have been possible without the support of several key people; I need to thank several persons that have helped me to have a better understanding of the problem, and how to explain it. For my supervisor, Ragnar Torvik, who took it upon himself to be my supervisor even though he is in Trondheim (I am working out of Tromsø). Furthermore, I need to thank my wife, Victoria, and my two children Harald Jr. and Haakon for their patience during this Semester and Master education.

Contents

- Abbreviation used in this paper;..... 1
- Summary 1
- Prefix 2
- Contents..... 3
- 1. Introduction: 4
- 2. Theory 5
 - 2.1 The resource curse..... 5
 - 2.1.1. Natural resources in Africa and the resource curse 7
 - 2.2. Poverty 7
 - 2.3. Inequality..... 7
 - 2.3.1 Horizontal and vertical inequality 9
 - 2.3.2 Responses to vertical and horizontal inequality 10
- 3. Method 12
- 4 Ghana and Africa 13
 - 4.1 Information of Ghana 13
 - 4.1.1. Geography and demography 13
 - 4.1.2. Politics 13
 - 4.1.3. Economy and HDI..... 14
 - 4.1.4. Poverty and inequality in Ghana 16
 - 4.1.5. Ethnicity and religion 16
 - 4.1.6. Employment and industries 17
 - 4.1.7. Natural resources in Ghana 17
 - 4.1.8 Conflicts in Ghana..... 17
 - 4.1.9 The power of the government 18
 - 4.2. Information of Africa 19
 - 4.2.1. Geography and demography. 19
 - 4.2.2. Politics 19
 - 4.2.3. HDI and economy 20
 - 4.2.4. Poverty and inequality..... 20
 - 4.2.5. Ethnicity and religion 20
 - 4.2.6. Natural resources 21
 - 4.2.7. Conflict in Africa 21
 - 4.2.8. Power of Governments 21
- 5. A simple applied model..... 24
- 6. Interviews 33
 - 6.1 The questionnaire: 34
 - 6.2 The reply: 36
- 7. Discussion / debate..... 44
- 8. Conclusion..... 46
- References: 47

1. Introduction:

Ghana started exploiting their oil resources at a commercial level in December 2010. This thesis looks on; "How to make sure that the people of Ghana at all levels benefit from this revenue".

We have seen numerous times that the people of a given country do not stand to gain from the exploitation of their resources. We only have to look at what is going on in; Nigeria, Sierra Leone and Equatorial Guinea, among others to see examples of this. These are countries with abundant natural resources, where the only gains have been to a small "elite" sector of the population whereas the rest of the population gets nothing or only a very small part of the wealth generated from the sale of resources. The fallout from a market being heavily redirected toward resource exploitation might even lead to the general population to being worse off. This is what we call the resource curse.

Ghana has several advantages over the countries mentioned previously. Firstly; compared with just a few years ago, the resource curse was not well known, while now there has been a lot of research on the subject. Ghana has rich gold-resources; they are also thriving in the area of cocoa bean production. Their transport infrastructure is in relatively good condition, and the communication infrastructure is improving. Furthermore, the government in Ghana is working hard to improve government transparency, and tackling corruption, which is at a significantly lower level than in several comparable nations (according to www.Tranparency.com Ghana is the fifth least corrupted nation in Africa).

The business structure in Ghana is somewhat different from that one in the developed world. While the Western business structure is systematic, well organized, involves franchises and huge companies and chains, in Ghana, it is not very organized with lack of systemization and cooperation generally. The Ghanaian industrial model is composed of many small businesses, which are driven by individuals with a few employees, and not very organized nor interconnected.

This leads me to my goal of this thesis:

What effects will new commercial oil drilling have on the Ghanaian Population?

To really understand the problem, there are some central issues that need to be brought to light. The continent of Africa, with all its numerous resources, has ended up in an abysmal state, with more than a few nations, plagued by the resource curse. I have identified some common issues that are cofactors in countries trapped by the resource curse. Some of those are poverty, inequality, conflicts and civil war. I will address the topic of poverty and inequality by developing a theory as well as citing other established theories, before analyzing Ghana and their current state. I will then compare the situation in Ghana against other nations in Africa. I will look at those countries which resemble Ghana in terms of their background and similarities in resources.

Then I will talk about conflict areas in Africa in those nations with natural resources, and look at both previous and ongoing civil wars in Africa and the adverse effects of these and other types of conflicts.

2. Theory

2.1 The resource curse

In many nations around the world it can be seen that despite abundant natural resources there are many nations where the population continues to be deeply impoverished (Wenar, 2007). We have countries that are both with (Norway and Botswana among others) and without (Korea, Taiwan and Singapore among others) natural resources that are growth winners, and we see that there are nations with abundant natural resources that are growth losers. Some of these countries are Nigeria, Angola, Equatorial Guinea and Sierra Leone. These countries are in a situation that we call the resources curse. Despite all of their wealth in natural resources, they have stagnation in growth, they have increasing inequality and much of the countries' population lives in poverty. There are conflicts and civil war, high crime rates and corruption.

There are several reasons which would explain the curses' occurrence, some of which, I will introduce now. According to Ragnar Torvik in "rikdommens paradoks" (2007) there are some distinctive criteria that affect countries' likelihood of being labelled; "resource cursed". Those five items that seems to determine the difference between resource winners and losers are:

- a. Saving of resource based revenue.
- b. Quality of the institutions

- c. Type of resource
- d. Presidency or parliamentary governance
- e. Early versus late industrialization.

Some of these criteria are important for my debate later in the paper, so I shall offer a brief introduction now.

As shown by Matsen and Torvik (2005) it is debateable that there are a correlation between savings rate and the resource curse. A table printed in Torvik (2007) from the above article, shows that 7 out of 9 countries plagued by the resource curse have a negative savings rate, and on the other hand, of those that have escaped the curse; 10 out of 11 countries have a positive rate. However, the last country on the escaped list, can arguably, according to Matsen and Torvik (2005) be put into the group of those that have become trapped by the resource curse.

Further Torvik (2007) states that in nations with strong institutions and that work well, with low levels of corruption, along with governments that are supporting property rights; it is more likely that the entrepreneurs create healthy organizations and companies which better manage resources. Those countries with the strong institutions have a better chance of experiencing growth and prosperity. Unfortunately, there are many nations with institutions in worse conditions, with little respect for property rights, with low barriers against corruption and with a minimal respect for the rule of the law. Many of these nations attract entrepreneurs that are more interested in grabbing money for themselves than building a good industry for production and growth.

As said by Wenar (2007):

“The resource curse results from a failure of institutions: specifically, a failure to enforce property rights. This defect in the system of global commerce allows strongmen and civil warriors to capture for themselves the money that consumers around the world spend on everyday goods” (page 14).

This point is important for the debate and model to come later in the paper.

If we look at the type of resource, it is also a contributing factor. Torvik (2007) states that the type of resource plays a role in whether or not the nation is likely to fall into the resources trap or not. If the resources are none renewable, like oil and minerals, it is more likely to fall into the resource trap.

In the second to last criteria in Torviks paper (2007), it is said that the type of governmental management also has a correlation with the resource trap. There is evidence that tells us that if

a nation has a presidential government, where the president has too much power (e.g. Equatorial Guinea, where the president won the election with 95,76% of the votes), this nation is at a higher risk level than a nation with Parliamentary government.

Lastly, Torvik states that, historically, natural resources were a source of growth and development. This shows that the resource curse is a relatively new phenomenon. In those countries that were industrialized before world war two, natural resources were an important source of economic growth, while for the nations with late industrialization are more likely to experience the resource curse.

2.1.1. Natural resources in Africa and the resource curse

2.2. Poverty

Poverty is a state where the people have little or any means of economic resources for survival. The understanding of poverty varies from nation to nation depending on their economic development, among other things. For this thesis, I will use the following definitions of poverty:

- Absolute poverty: A state where the people have a lack of basic needs such as food, shelter and clean water combined with other necessities for survival.
- Relative poverty: In this sense, we can say that relative poverty is different in Ghana than Norway for instance.
- Living on less than the World Bank's poverty line of 1,25 USD in income per day.

According to the World Bank (2008), the poverty threshold (poverty line) is the amount of absolute minimum income that is needed for survival. In 2008 it was adjusted from 1 to \$1,25 a day. I will use this definition in regards to Africa.

2.3. Inequality

The tunnel effect

In a tunnel, with two lanes in the same directions you can see the traffic jam as far as the eyes can see. Then suddenly you feel a bit encouraged by the fact that the line next to you starts to

move, and you feel optimistic and expect that your lane will also start to move along soon. When you are stuck in the lane that hasn't moved, after a while, as you watch the neighboring lanes pass you by, you may begin to become aggressive and depressed. We can extrapolate this anecdotal tale when comparing nations. When only a few start to move along the path towards wealth and prosperity, some become richer and richer, while others are still stuck in the same place, in poverty, the stagnant country will show signs of increased aggression and depression as the inequality increases. In a "tunnel" with low tolerance for inequality, the right lane will start to help the left lane and the tunnel effect will not be as felt to the same degree. If there is a high tolerance for inequality the effects will be less pronounced. (Ray 1998, page 200).

The statement of "economic inequality" suggests that while one person may have the opportunity to gain certain goods and services, the other does not automatically have the same guarantees. People within a country with an equal level of freedom and access opportunities, form the basis for upward mobility (Ray. 1998). When we have inequality, people in the lower "class" are not exploiting their full potential. This also begets inefficiency, and contributes to lower growth for the nation and further increases inequality.

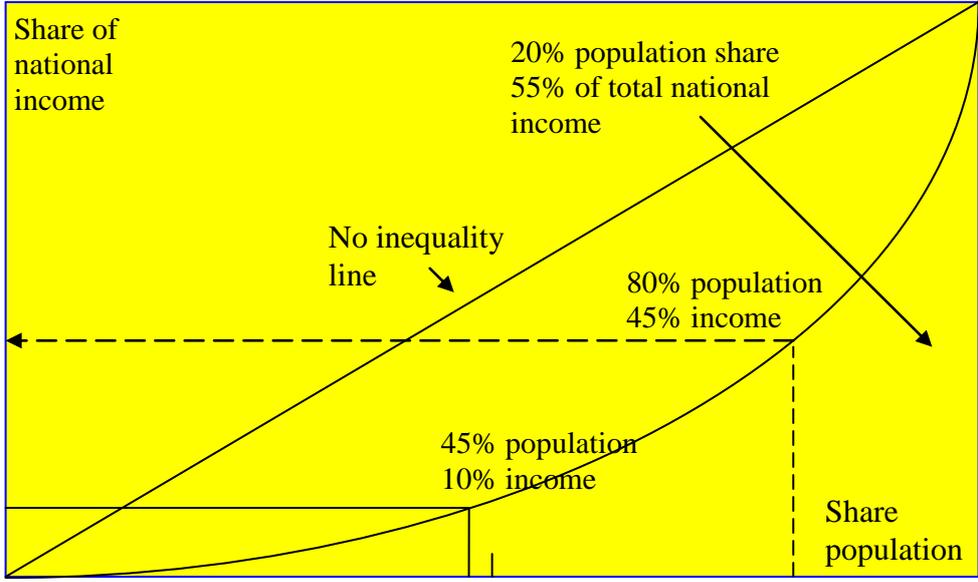
If there is a disproportion in the income level in a country it will be visible, and in some countries more visible than others (Ray, 1998).

Let us look at four principles of measuring inequality. Those four are the Anonymity Principle, the Population principle, the Relative Income principle and The Dalton principle. Easily said, we can say that the Anonymity Principle tells us every person's income, ranging from the poorest to the richest, and it does not matter who has the higher wage. The Population principle states that it does not matter which size the population is, but rather, the inequality within that population.

Relative income principle does not use absolute values, but differentiates the percentages, and The Dalton principle is fundamental and very important for measuring inequality. If regressive transfers lead to one income distribution, it states that we must consider the other distribution more unequal than the latter (Ray. 1998, page 177).

There is a good way to put these four criteria together and to show inequality. The Lorenz Curve puts these principles together to show inequality, and it tells us how much the cumulative income is relative to the cumulative population of the county

A Lorenz Curve of a given income distribution:



There are several ways of measuring inequality, but the one that is widely used is the Gini Coefficient. It is widely used in empirical work, and is solved by the difference between all pairs of income totaling the difference. Formally it is depicted as:

$$G = \frac{1}{2n^2 \mu} \sum_{j=1}^m \sum_{k=1}^m n_j n_k |y_j - y_k|$$

The values range between 0 and 100, where 0 is no inequality and 100 is total inequality. The value indicates the difference between the no inequality line and the curved line, which indicates the inequality in the Lorenz figure above. Gini coefficient will be used in this paper to actively compare inequality between nations.

2.3.1 Horizontal and vertical inequality

We need to look at both “vertical” inequality, which is the inequality between rich and poor, and the horizontal inequality, the differences across regions of a country. If we look at vertical inequality, Michael Ross states that a mineral boom may have an effect on the labor market in two ways. The Dutch disease, where the abrupt rise in natural resource exports typically leads to an appreciation of the exchange rate. This weakens the competitiveness between a nations agriculture and production exports sector compared with other nations. Consequently, this typically leads to an increase in unemployment in those fields and a possible a shift in the composition of the employment structure. If there were no barriers in exchanging the labor

force from one sector to another there would not be, in theory, a change in the vertical inequality. However, there are problems with the labor mobility within a country. Persons in agriculture production might not have the skills and/or education to shift to another field of employment. This can often be combated through government programs, but very often it is not.

A second effect it may have on the labor force, and hence, inequality and poverty, is that the increase in natural resource exploitation may shift workers into governmental jobs, and thus, reduce inequality and poverty.

Michael Ross further states that if the sector of the resource is located onshore, it may influence the geographical distribution of the income. This leads to horizontal inequality. He states that this effect has four factors that influence can come from. Those four are:

1. Initial income of the region. (If the region is relatively poor, it may converge the gap between themselves and the rest of the country, and if the region is relatively rich, it may increase the gap).
2. The difference in growth between the resource and non-resource sector.
3. If there is a link between the resource activity and other economic activities, and how strong this link is.
4. The power of the government to unshackle income from the resource sector.

(Ross, page 245).

2.3.2 Responses to vertical and horizontal inequality

Even though these problems are severe and can be devastating there are adequate counter measures that can be taken to avoid these effects, and I will first look at vertical inequality, and some responses that might reduce the increasing gap.

According to Michael Ross, in the case where research shows that the income from the resources will enhance the gap between the rich and poor, then there are three measures that the government may use. First they may promote productivity and export growth in the agricultural and manufacturing sector. Secondly, they can provide new governmental jobs for those not longer employed in the agricultural and manufacturing sectors. Thirdly, they can adapt to pro-poor governmental programmes to fight corruption and rent seekers. Two good examples which show that these strategies work are the cases of Indonesia and Nigeria. In Indonesia, in the 1960s and 70s, the Indonesian government started with target specified programmes to fight poverty and inequality. These measures include a universal primary education system, price controls on food and kerosene and work projects in the rural areas. In

the meantime, the Nigerian government did nothing of the sort. Furthermore, the Indonesians took measures to help the agricultural production and they devaluated the currency allowing their exports to remain competitive in international market. This prevented the downfall and collapse that the Nigerian agricultural sector experienced. The exchange policy in Indonesia and their proactive approach to export measures, led to sustainable growth in contrast to that of the Nigerian, which experienced a sharply fall in the 1990s. (Bevan et al, 1999, quoted in Michael Ross). The Gini coefficient for Indonesia remained stable while the Nigerian skyrocketed.

Another measure we can use is the “direct distribution plan”. This can be used as a direct payment to the citizens, like an opposite aggressive tax. These types of funds have been used in Alaska, U.S.A and in Alberta, Canada, and are perceived as a success. Advocates state that there are several positive effects to be gained from such a system.

- Equitably oil rents distribution
- Allocating rents in a optimal way, in comparison to the government
- It will reduce corruption, rent seeking and governmental inefficiency because the income, or part of it, is kept away from politicians
- Mechanisms for hedging against price volatility
- Direct transparency into the governments handling of the revenues, and hence, reducing corruption and creating more accountability.
- Improving financial systems.
- Good tool for achieving social goals, if the distribution is conditional for certain practices.

Michael Ross further states that there are reasons for being sceptical for such plans to work in developing countries. A direct plan would only work if the nations adopting the plan have respect for the law, institutional stability and immunity from the pressures of political and rent seeking participants. Some of the reasons why this might be difficult in developing countries can be, but is not limited to:

- Weak institutional strength, and thus, open for corruption and rent seeking.
- Low respect for property rights.
- Low respect for the rule of the law.
- Parallel budgets its own revenues and disbursement, which would complicate fiscal policies.

- Where there is a lack of a well-functioning financial system, and the people have problem managing large amounts of cash.
- Administrative complexity and thus larger incentives for fraudulent and manipulative behaviour.

However, if the direct distribution plan works well, it would indeed have an effect for allocating the revenue equitable, and thus prevent the divergence in inequality.

When it comes to horizontal inequality, Michael Ross states that it is easier to anticipate horizontal inequality than the vertical inequality. He goes on to say that the direct distribution plan, as with vertical inequality, has one mean, but there are also other ways of reducing horizontal inequality. Those measures may include:

- Creating incentives for firms to hire regional workers.
- Creating barriers for workers from other regions to enter and work in the region that have the resources.
- Motivating measures for firms to invest in the development of the region.
- Making all revenues from the resource revenue fully transparent.

3. Method

I approached the analysis by dividing it into three parts.

First, I will present some basic information on Ghana. This information will be very important for the debate at the end of the paper.

Secondly, I am building a simple model to see what happens in a nation when they experienced an increase in Natural resource revenue. First the model will look at just good and bad producers, before exploring the quality of the nation's institutions. Furthermore, I introduce employment in the different sectors and I look at how this will affect the level of inequality in the nation.

Thirdly, I return to the model. I have completed a small interview in Ghana to see what people in Ghana believe is in store for their country in the future when it comes to income, inequality, and living standard.

4 Ghana and Africa

4.1 Information of Ghana

4.1.1. Geography and demography

Ghana is a nation located on the west coast of Africa in the Gulf of Guinea. It is bordered by Togo in the east and Côte d'Ivoire in the west. Other important nations in that area are Nigeria, Sierra Leone and Burkina Faso, the latter of these forms a stretch of the northern bordering as well. Ghana has about 23 million inhabitants, and the vast majority is black Africans, with some small groups of Liberian settlements and some White European immigrants (CIA world fact book). Ghana is divided up in ten regions, Those 10 regions are; Ashanti, Brong-Ahafo, Central, Eastern, Greater Accra, Northern, Upper East, Upper West, Volta and Western region. Ghana's capitol is Accra, with a population of approximately 4 million. Oil has been found off the coast of Western region, and the foreign companies have made the town of Takoradi their base of operations.

Ghana has an urban population 50% of total population (2008) and the annual rate of urbanization was at 3,5 % in the period 2005 – 2010. (CIA)

4.1.2. Politics

Ghana has had a long and turbulent road to democracy. They were a colony of England up until 1957, at which point they achieved their independence. President Kwame Nkrumah came into power immediately following independence. However, the country experienced political turbulence for many years and endured several coups. The first came in 1966, predicated on a period of failed economic policies that lead to economic crisis and coupled with high foreign debts. Another new coup came in 1972, led by Ignatius Kutu Acheampong. Under his rule Ghana succumbed to the same fate of many African nations; run by a kleptocratic government, where corruption and bad governance lead to a further crippling of economies. In 1979 Jerry Rawlings was leading yet another coup and an election was held. Hilla Limann went on to win the election and Rawling stepped down. However, in 1981, Rawling led another coup to stop the rising corruption and this time he stayed in power for the next 20 years. Rawling upheld liberal politics, especially in terms of the economy; however, this led to more positive economic development, surpassing neighboring countries' development. In 1992, the country issued a new constitution, and Rawling won the following

elections in 1992 and 1996. In the election of 2000, he was not considered a legitimate contender for re-election. In stepping down voluntarily, this marked the first peaceful change of government in Ghana. The elections were said to be free and fair, and according to Mats Karlsson (Country Manager at World Bank), the reason for the progress of Ghana's good governance is the people. As he stated in his speech before the World Bank in Accra in 2003;

"I am happy to emphasize this in the Ghanaian context, as the openness that has characterized Ghanaian society for the past decade has led to continuous progress in improved governance"

(http://siteresources.worldbank.org/GHANAEXTN/Resources/mats_speech.pdf).

The following elections have also been relatively free and fair, something unusual in many Sub-Saharan nations. The sitting president is John Atta Mills.

The most common exports are cocoa and gold. In earlier times, the territory now called Ghana was known as the gold coast. However, despite political success they are now facing more and more challenges even though they are one of the richest countries in the region.

4.1.3. Economy and HDI

According to CIA; Ghana has a GDP of 1400 USD per capita. They are medium indebted and are using a substantial amount of their income to pay foreign debts. CIA states that the foreign debt amounts to 55.2% of GDP (2009 EST.)

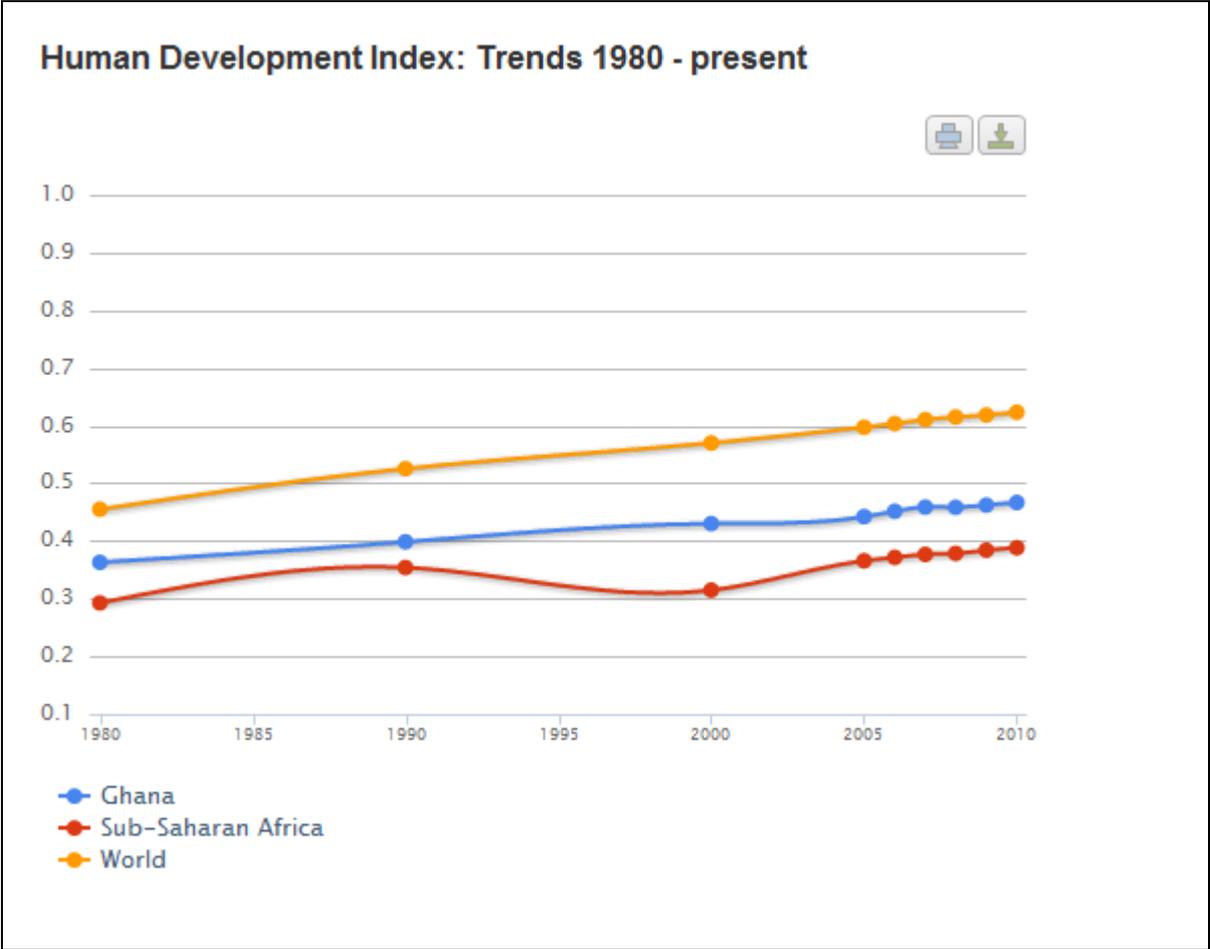
When it comes to corruption in Ghana, it is a problem, just as it is in so many other nations in West Africa and Africa as a whole. However, it is not as bad as in many of its neighboring countries. Ghana is ranked as the 62nd best country in the world in terms of the legitimacy of its government with a score of 4.1 on a scale from 0 – 10 where 0 is highly corrupt and 10 is virtually free of corruption.

(CPI 2010, <http://www.transparency.org/cpi2010/result>)

Ghana currently has a human developing index of 0,467, a rank of 130 out of 162 nations measured in the 2010 report. Below you can see a table that indicates the trends of the development of the HDI from 1980 up until 2010. We can see from that table that Ghana's score lower than the world average, yet, in comparison to other Sub Saharan nations, they are above average. The HDI report is made by the United Nations Development Programme (UNDP) which is part of the United Nations global development network. This organization

strives for change and development of the world's Nations in order to build better lives for the people (<http://www.undp.org/about/>). The Human Developing Report is measures the standard of living in a given country, not only measured by its income, but also in terms of Education, Health, Poverty, Inequality among others. As they put it in their 2010 report; “As a composite measure of health, education and income, the HDI assesses levels and progress using a concept of development much broader than that allowed by income alone” (human developing report 2010, page 13). UNDP started with the annual reports in 1990.

Table of HDI



Source: <http://hdrstats.undp.org/en/countries/profiles/GHA.html>

4.1.4. Poverty and inequality in Ghana

Like so many nations in Africa, Ghana is also struggling with poverty. According to CIA the poverty rate of persons living under the poverty line is 28,5 % and the accumulated income for the 10% with lowest income earn about 2 % of the accumulated wages in Ghana, while the 10% with highest income, earn about 32,8 % of the accumulated income

(<https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>).

According to HDI, the Gini coefficient is 42,8.

Ghana is working with concrete goals to reduce their poverty level and in CPRS we can see five concrete points that has been achieved by the government to reduce the poverty in the country. Those are:

- Ensuring sound economic management for accelerated Growth.
- Increase production and promoting sustainable livelihoods.
- Direct support for human development and the provision of basic services.
- Provide special programs in support of the vulnerable and excluded.
- Ensure good governance and increased capacity of the public sector.

(Ghana Poverty Reduction Strategy 2003 – 2005)

<https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>

Poverty Reduction Strategy Papers (PRSP's) are made by the countries government, and it also involve civil society together and also their developing partners. This include the World Bank and International monetary fund, and it “*describe a country's macroeconomic, structural, and social policies and programs to promote growth and reduce poverty*”

(<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/GHANAEXTN/0,,menuPK:351966~pagePK:141132~piPK:141123~theSitePK:351952,00.html>)

4.1.5. Ethnicity and religion

According to Langer and Ukiwo (2007) Ghana can be into divided in 68 ethnic groups and more than 40 languages. Ghana is a multi religious society and the main religions are; Catholic, Protestant, Pentecostal/Charismatic, Other Christian, Islam and some non-religious or holding traditional African religious believes.

4.1.6. Employment and industries

According to the CIA; the labor force amounts to approximately 10,3 million (2009), the employment by sector is; agriculture with 56%, industry 15% and in services 29% (2005 EST.). The unemployment rate is as about 11% according to CIA.

(<https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>) The major industries in Ghana are mining, lumber, light manufacturing, aluminum melting, food processing, cement and small commercial ship building. Kragelund states in 2004 that there are three types of companies in Ghana which differ in structure.

1. A few large modern companies with focus on the international scene. These are mostly owned by foreigners, local non-Africans or the government.
2. SMEs operating on a small scale and with low efficiency. These companies are mostly owned by Ghanaians, and also by some non-Africans in the local community.
3. Numerous micro enterprises serving small and local markets. These companies are owned by Ghanaian.

(Peter Kragelund et al, 2004 page 326)

4.1.7. Natural resources in Ghana

Ghana as a nation is well endowed with natural resources. It was formally known as the Gold Coast due to their vast reserves of gold. They changed their name to Ghana upon their liberation in 1957 from UK. Furthermore, they are one of the world largest producers of cocoa beans in the world. Ghana also has large-scale agriculture production and exports fruit and vegetables such as, tomatoes, onions, and chilli, in addition to nuts.

The BBC stated on the 15th of December that Ghana has started oil exploitation on a commercial level, and that it has been found vast oil reserves. It is supposedly one of the largest oil a finding in recent years that is estimated to accumulate to almost 3 bn. barrels of oil (<http://www.bbc.co.uk/news/world-africa-11996983>).

4.1.8 Conflicts in Ghana

There are no conflicts in Ghana that are expected to influence the oil production, or to be influenced by the production of oil. However, they have had an ongoing conflict for more than five decades now. I The Upper East region, known as the Bawku Conflict, have had on

on-going conflict for a long time. This conflict is located in the North East, while the oil production will be located in the South West of Ghana.

4.1.9 The power of the government

Before I start debating my findings from the model and interviews, I shall look at how the Ghanaian political system works.

As the frame of the politics is of a presidential representative democratic republic system; the president of Ghana is the head of state and also the head of the government and the multi party system that they use. The government is executing the executive power, while the government and the Parliament have the legislative power, while the judiciary is independent of both executive and legislature power (<http://www.ghananation.com/Government>).

The fourth republic established by the constitution, declares that Ghana should be a multi party system where the people of Ghana have the residing sovereignty intended to prevent coups, dictatorships or one party government. This design is to have a power sharing system at work, learned from the controversies of 1957, 1960, 1969 and 1979. The model has been drawn from the American and British constitutional models. The constitution calls upon a system of checks and balances, including power sharing of the President, the Parliament, a council of state and an independent judiciary.

Legislative branch

The Parliament has the Legislative functions in their hands and the Parliament consists of 320 members plus the speaker. For a law to be approved it requires an assent of the president, whom also have the right to veto all bills with some few exceptions. The members of the Parliament are usually voted inn by adult's suffrage for a period of four years each time. This may however, be extended up to 12 months in wartime. Elections are held for both the parliamentary and presidential seat at the same time around the 7th of December. In Ghana they have developed into a two party system, and it is very difficult for anyone outside these two parties to achieve electoral success. The executive and legislative are independent of one another.

Judicial branch

As stated earlier, the power of the judiciary are independent of the two other branches of government. The judiciary's hierarchy, the supreme court of judiciary, is made up of the Supreme Court of Ghana, the Court of Appeal, and the High Court of justice, regional tribunals and lower courts in which the Parliament establish. They have the jurisdictions of all civil and criminal matters (<http://www.ghananation.com/Government>).

4.2. Information of Africa

4.2.1. Geography and demography.

Africa is a big continent stretching from Iles des Chiens, in Tunisia, which is the most Northern point ($37^{\circ}32'N$) down to Cape Agulhas in South Africa which is the most southern location ($34^{\circ}51'15''S$). The continent spread from east to west stretches from Rodrigues in Mauritius ($63^{\circ}30'E$) in east to Santo Antao, Cape Verde ($25^{\circ}25'W$). This account for 30,3 million square kilometres, and in comparison, Europe is about 10,4 million square kilometres. Africa contains of large plains and plateaus, they have huge deserts and rainforests. They have some of the world's largest rivers and lakes. The most rainfalls are over the equator, where you also have the largest rainforests.

The population of Africa is estimated to be above 1 billion, (as of 2009), and the most populated nation in Africa is Nigeria, located on the west coast of Africa. Several nations in Africa have a population growth of more than 3 %, and most of the nations have a growth of more than 2%.

If we look at the HDI, we can see that several of the nations in Africa are among the least developed countries in the world, and particularly in the Sub Saharan nations, they face huge challenges.

4.2.2. Politics

In Africa there are many nations with different ruling systems. According to Torvik (2010) immediately post-independence, Sub Saharan nations set up either a presidential or parliamentary constitution, however, the parliamentary outnumbered the presidential constitutions four to one. Out of 27 nations, 21 had a parliamentary constitution. Yet, since then, many of the nations have switched from parliamentary to presidential constitution.

Presently, only 3 out of the 21 nations still uphold parliamentary constitutions. None of the presidential nations has moved the other direction from presidential to parliamentary constitution.

4.2.3. HDI and economy

The African continent consists of more than 60 nations, and out of these, 14 of them have the 14 poorest score on the 2010 HDI report. Zimbabwe has the lowest score with 0,14 on a scale from 0 to 1. The Gini coefficient as of 2006 was at +50 according to CIA. Today, I will assume it is much higher. If we look at table one from earlier in this paper, we can see that the HDI for Sub Sahara Africa is far lower than the world average (table of HDI).

4.2.4. Poverty and inequality

There are many nations with huge challenges when it comes to poverty and inequality. In many nations, more than 50% of its population lives below the poverty line and some of the world's highest Gini coefficient, such as Namibia, with 70, Sierra Leone with 62,9 and Botswana with 63. Many nations where it would be natural to have high Gini, it has been hard to find adequate values of the Gini Coefficient. Nations like Nigeria and Equatorial Guinea are two of these nations.

4.2.5. Ethnicity and religion

In Africa there are numerous languages, ethnic groups and religions. Some of the most widely languages spoken in Africa include; English, French and Swahili. Many nations have an incalculable number of local languages. According to <http://www.mapsofworld.com/nigeria/culture/>, Nigeria have more than 520 languages alone, and according to www.state.gov more than 250 ethnic groups (<http://www.state.gov/r/pa/ei/bgn/2836.htm>).

Regions include Islam, Christianity, and Hinduism to mention a few, in addition, many different local traditional African religions are practiced.

4.2.6. Natural resources

As a continent, Africa is very rich in resources. They have vast resources of oil, diamonds, gold and other minerals. Furthermore, they have a huge agricultural sector and meat production, among other small scale farming.

4.2.7. Conflict in Africa

Of conflicts in Africa, there are many we can mention, but here I will focus on those nations with Natural resource reservoirs. Many conflicts have erupted due to natural resource revenue disputes, such as in Nigeria, Sierra Leone and Angola among others. In Nigeria, the local indigenous population in the Niger Delta felt that they did not get share of the wealth generated from oil exportation. According to Leif Wenar (2007), the poverty level in Nigeria raised from 19 % of the population lived under the poverty line before they started exploitation oil, and after 30 years of oil production and while they had developed to be the largest oil producing nation in Africa, the number of their population living under the poverty line had risen to almost 70%. In Sierra Leone, Wenar states that in the 1980's the corrupt regime of Sierra Leone lost control over armed groups controlling the diamond fields of the nation. A small group of rebels took control of the nation's diamond fields, and the nation embarked on a long and vicious civil war, leaving more than 50000 people dead and 1/3 of its population was displaced. Now, the HDI for Sierra Leone is among the lowest with 178 measured in the 2010 HDI report. In Angola, the resource revenue went to both sides of the conflict. The government army used income from oil for arms, while the rebels used income from diamonds to finance their side of the war (Wenar, Leif, 2007). The Angolan war has been going on for several decades and has its roots in an ethnic conflict that has been going around since the beginning of the 60s.

4.2.8. Power of Governments

The problem lies in the quality of the institutions in some of the Sub- Saharan nations where they have large revenues generated from exploitation of their Natural Resources, but not the ethics or knowhow to manage the wealth. In Equatorial Guinea, the leaders took control over their huge oil income, and transferred huge amounts of money to their private accounts (Wenar 2007). Despite having one of the world's highest GDP per capita, up to 70% of its population lives below the poverty line. As mentioned before, while introducing Michael Ross, Nigeria's government neglected the vast majority of its citizens while a small group of

people got extremely wealthy. Nigeria has been struggling with a high level of corruption and bad governance for many years the fallout being a crime rates. According to the Transparency International Corruption Perception Report of 2010, Nigeria has a Corruption level of 2,4 on a scale from 0 to 10, where 10 represent no corruption. As a comparison; Equatorial Guinea and Angola got a value of 1,9, while Zimbabwe received a score of 2,4.

On the other hand we have nations like Botswana that have done well for themselves and seem to have escaped the resource curse by instilling good governance and respecting the property rights of its citizens. According to the Corruption Perception Report, their level of corruption is 5,8, according to HDI they are ranked 98 with the score of 0,633.

5. A simple applied model

θ is the quality of the institutions, and ϕ is the share of entrepreneurs in production while $1 - \phi$ is the share of entrepreneurs engaged in rent seeking. The notation r^p is the amount of natural resources for entrepreneurs engaged in production and r^s is the amount available for the rent seekers. A state with no availability for personal exploitation of the resource gives $\theta = 1$ and with no constraint for politicians to transfer the property rights to themselves has the value of 0.

The productive entrepreneurs, later called producers, have an income of y . Thus;

$$y = a\phi + c \text{ where } a > 0 \quad 1$$

This implicates that one producer's income increases when the number of producers increases. Intuitive this can be assumed because the demand increases if there are more producers. Furthermore, the more producers we have, the more taxpayers there are to fund the government, or so it could be assumed. These taxes can lead to a better infrastructure that would benefit the single producers. Transportation would be easier and cheaper.

Communication infrastructure could also increase its standard; which is important for boosting communications leading to increased efficiency of the producer.

The amount of entrepreneurs is normalized to one, so if the number of producers increases, then the number of seekers decreases. This would lead to a better allocation of income, and it may also lead to a decrease of corruption. These things will all lead to an increase of the producer's income.

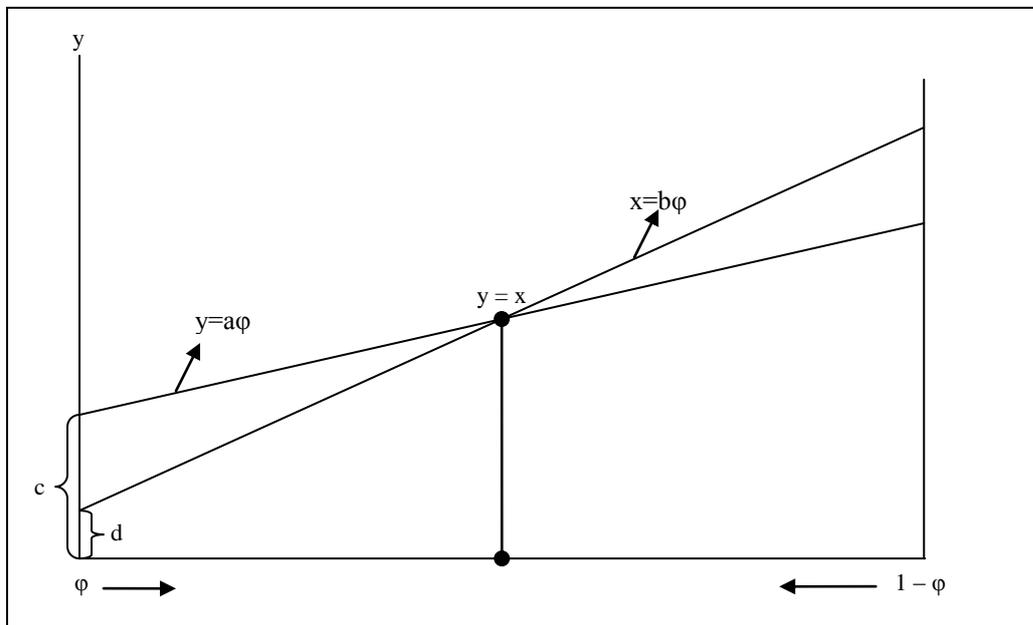
The entrepreneurs involved in rent seeking, later called seekers, have the income of x , thus;

$$x = b\phi + d \text{ where } b > 0 \quad 2$$

The more producers engaged in production means, the fewer political entrepreneurs thus more income for the political entrepreneurs remaining. There would be fewer seekers competing over income, thus, there would be a higher income intake with a the reduced number of seekers.

I am using these equations combined to reach equilibrium is shown in the figure below. I have two assumptions; that $a < b$ and $c > d$. The horizontal line shows the allocation point of the

entrepreneurs. From the left side we have the amount of producers, while from the right side we have the amount of seekers. c and d are constants and denote respective producers and seekers. Furthermore, $x = y$ is the equilibrium of the model.



This implicates that there is a positive number of producers and seekers. So I can say that

$$x = y \tag{3}$$

In equilibrium, we have that $x = y$. Thus;

$$a\varphi + c = b\varphi + d$$

Now, if I solve this for φ , I get:

$$b\varphi - a\varphi = c - d \Rightarrow \varphi(b - a) = c - d$$

$$\varphi = \frac{c - d}{b - a} > 0 \tag{4}$$

We know that $a < b$ and $c < d$, therefore, we can say that the number of producers is larger than 0.

Income in equilibrium:

Income is denoted by Y and to find this, I will use 1 and 2 in 3. Note that 4 in combination with 3 indicate that aggregated income in any equilibrium is given by. Like this:

$$Y = x = y \tag{5}$$

And when inserted with 4 into 5 we get:

$$Y = y = a \frac{c-d}{b-a} + c \quad \text{And then put this on a common fracture:}$$

$$Y = \frac{ac - ad + c(b-a)}{b-a}$$

$$Y = \frac{a(c-d) + c(b-a)}{b-a} \Rightarrow Y = \frac{cb - ad}{b-a}$$

To find the effect that a, b, c and d have on income, we differentiates Y with respect to the one we wish to examine.

With respect to a, we get:

$$\frac{\partial Y}{\partial a} = \frac{-d(b-a) - (-1)(cb - ad)}{(b-a)^2} = \frac{-d}{(b-a)} + \frac{(cb - ad)}{(b-a)^2}$$

$$\frac{\partial Y}{\partial a} = \frac{b(c-d) + 2ad}{(b-a)^2} > 0 \quad 6$$

With respect to b, we get:

$$\frac{\partial Y}{\partial b} = \frac{c(b-a) - (1)(cb - ad)}{(b-a)^2} = \frac{c}{(b-a)} - \frac{(cb - ad)}{(b-a)^2}$$

$$\frac{\partial Y}{\partial b} = \frac{-a(c-d)}{(b-a)^2} < 0 \quad 7$$

With respect to c, we get:

$$\frac{\partial Y}{\partial c} = \frac{b(b-a) - (0)(cb - ad)}{(b-a)^2} = \frac{b}{(b-a)} \quad 8$$

With respect to d, we get:

$$\frac{\partial Y}{\partial d} = \frac{a(b-a) - (0)(cb - ad)}{(b-a)^2} = \frac{-a}{(b-a)} \quad 9$$

It is easy see to from 8 and 9 which impact it has on the income Y. In number 8, we see that there is a positive effect if for some reason the producers get more and higher constant fraction on the income. We can see the opposite effect from number 9 if they are the one(s) with a higher constant, Y will decrease. This can also be seen in the figure above d.

Now, it is time to introduce natural resources into the model. Natural resources are denoted by r, and r^p is for producer's share of the resources and r^s represents seekers share of the resources. The quality of the institutions (θ) tells us whether producers or seekers get the rights to the resources. Hence, the stronger institutions are, the more of the resources falls on

the hands of the producers. With bad institutions, $\theta = 0$, then the resources will be given to the rent-seeker, hence if $r = r^s$;

$$y = a\varphi + c \text{ where } a > 0$$

$$x = b\varphi + d + r^s \text{ where } b > 0 \tag{10}$$

From $x = y$ and solve for φ :

$$a\varphi + c = b\varphi + d + r^s$$

$$b\varphi - a\varphi = c - d - r^s \Rightarrow \varphi(b - a) = c - d - r^s$$

$$\varphi = \frac{c - d - r^s}{b - a} > 0 \tag{11}$$

And in equilibrium we have that $Y = y = x$, and thus with 11 inserted in 10:

$$Y = b \frac{c - d - r^s}{b - a} + d + r^s = \frac{bc - bd - br^s + db - da + r^s b - r^s a}{a - b}$$

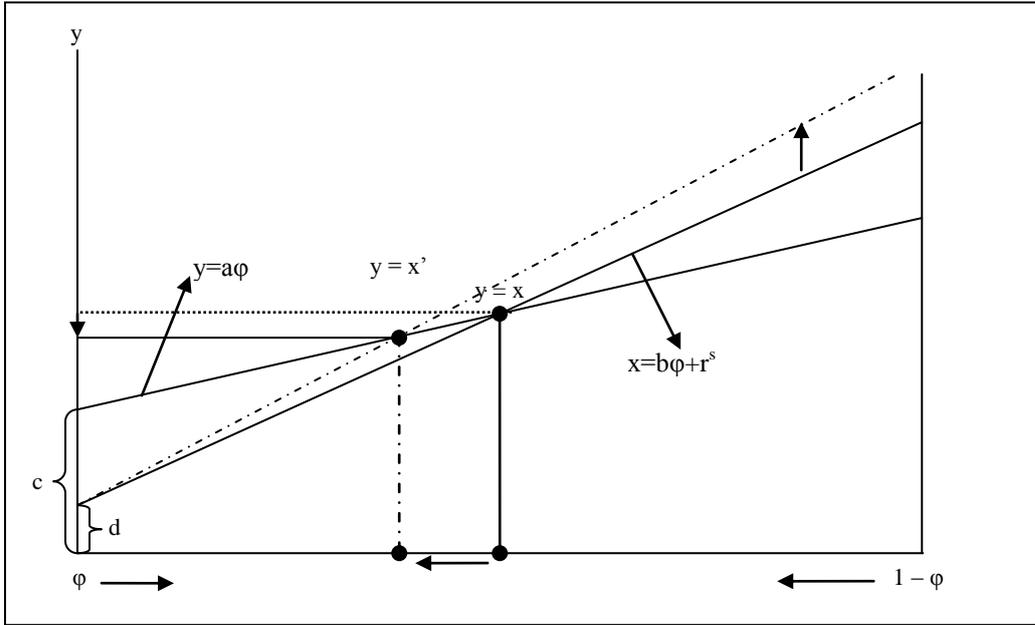
$$Y = \frac{bc - da - ar^s}{b - a}$$

To find the effect the $r = r^s$ is found by differentiate Y with respect to r^s .

$$\frac{\partial Y}{\partial r^s} = \frac{-a}{b - a} - \frac{bc - da - ar^s}{(b - a)^2} \bullet 0$$

$$\frac{\partial Y}{\partial r^s} = \frac{-a}{b - a} < 0$$

We can clearly see that if we have bad governance and little control over politicians, this will have a negative effect on Y . This is rather easy to show in a figure:



If we have that $r = r^p$ then,

$$y = a\varphi + c + r^p \text{ where } a > 0$$

12

The more control on over political power (i.e. less power for politicians), then more of the resource is available for the producers, and r denotes the total amount of natural resources.

And from $x = y$ we again solve for φ :

$$a\varphi + c + r^p = b\varphi + d$$

$$b\varphi - a\varphi = c + r^p - d \Rightarrow \varphi(b - a) = c + r^p - d$$

$$\varphi = \frac{c + r^p - d}{b - a}$$

13

And with 13 inserted in 12

$$Y = a \frac{c + r^p - d}{b - a} + d + r^p = \frac{ac - ad + ar^p + cb - ca + r^p b - r^p a}{a - b}$$

14

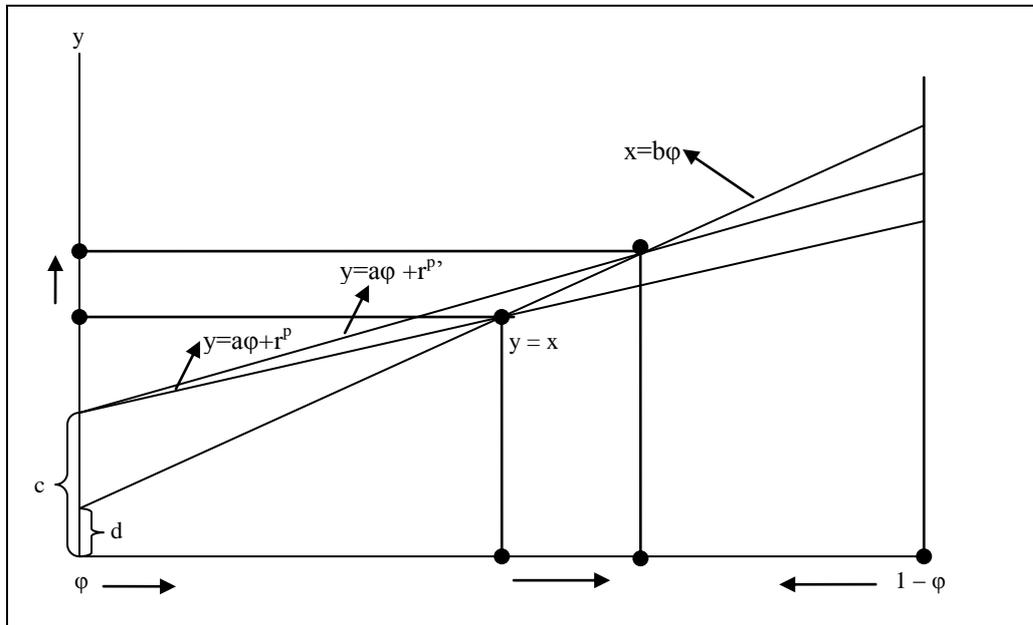
$$Y = \frac{cb - ad + r^p b}{b - a}$$

And I differentiate with respect to r^p .

$$\frac{\partial Y}{\partial r^p} = \frac{b}{b-a} - \frac{cb - da + br^p}{(b-a)^2} \bullet 0$$

15

$$\frac{\partial Y}{\partial r^p} = \frac{b}{b-a} > 0$$



Now, that we wish to look at the effect that this resource output has on the general population, the poverty level and inequality within a nation, it is time to expand the model to also involve employment.

Let's say that the number of entrepreneurs is equal to the number of producers. We are introducing w , what is the income for those that are not able to get a job within the producing companies? Those employed by these companies get the salary of $w(1+f)$. If $f > 0$, then the income for those within the producers have a higher income than those that are self-employed. The total amount of workers has been normalized to 1. Numbers of workers employed in production is equal to the number of producers and self-employed workers are equal to numbers of seekers.

This gives us the following equations:

When good institutions:

$$y = \phi(a + w(1 + f)) + c + r^p \text{ where } a > 0 \text{ and } 0 < f < 1$$

16

And with bad institutions:

$$x = b\varphi + (1 - \varphi)w + d + r^s \text{ where } b > 0 \text{ and } 0 < f < 1 \quad 17$$

I further that $b > a + w$ and $b > a + w(1+f)$.

As earlier in paper, in equilibrium $y=x$ and thus, total income can be expressed as:

$$Y = y + w(1+f)\varphi + w(1-\varphi)$$

$$Y = y + w + wf\varphi \quad 18$$

If we look at a situation where all the resources are distributed to the seekers, and to do this we insert 10 for y and 11 for φ into 18, and we get:

$$Y = b\left(\frac{c-d-r^s}{b-a}\right) + d + r^s + w + wf\left(\frac{c-d-r^s}{b-a}\right)$$

$$Y = \frac{b(c-d-r^s) + d + r^s(b-a) + w(b-a) + fw(c-d-r^s)}{b-a}$$

Now, I am interested to find the effect on Y when we have bad institutions and if all the resources go to the seekers. I the differentiate y with respect to r^s .

$$\frac{\partial Y}{\partial r^s} = \frac{-a - fw}{b-a} < 0 \quad 19$$

We see here that the effect we have if all resources goes to the seekers, the result is we have a negative change of Y . Here we have an additional negative effect with the fragment fw .

When the institutions are strong, and all the resources go to the producers then we have:

$$Y = a\left(\frac{c-d+r^p}{b-a}\right) + c + r^p + w + wf\left(\frac{c-d+r^p}{b-a}\right)$$

$$Y = \frac{(c-d+r^p) + c + r^p(b-a) + w(b-a) + fw(c-d+r^p)}{b-a}$$

And we differentiate with respect to r^p

$$\frac{\partial Y}{\partial r^p} = \frac{b + fw}{b-a} > 0 \quad 20$$

This result tells us that the derivation is larger than zero, and thus, it has a positive outcome on Y , and we can also see that we have an extra effect compared to the model without employment. This can be seen with the fragment fw .

Inequality

Now, we have seen the effect when the institutional quality comes into play, when we look at the total income from the natural resources revenue. Now, I can use this to see how the inequality will move with respect to resources. I will define inequality as:

$$\beta = \frac{\text{profit}}{\text{wage}} = \frac{y}{w(1+f\varphi)} \quad 21$$

This equation says that the inequality is the difference between the income y and the income of the workers employed in the different companies, the producers and the seekers. The larger this fraction is, the bigger the inequality.

Now I wish to find the effect the resources have on inequality. I need to differentiate β with respect to resources. I will look at the effect it will have when we have low strength of the institutions and then differentiate with respect to r^s .

$$\beta_{r^s} = \frac{y}{w(1+f\varphi_{r^s})} \quad 22$$

And where

$$y = \frac{bc - da - ar^s}{b - a} \quad 23$$

In this respect whereas we have a situation where the institutions are weak, and all the resources go to the seekers, we will have: Note; I have inserted 11 and 23 into 22:

$$\beta_{r^s} = \frac{\frac{bc - da - ar^s}{b - a}}{w \left(1 + f \frac{c - d - r^s}{b - a} \right)}$$

$$\beta = \frac{bc - da - ar^s}{w(b - a + f(c - d - r^s))} \quad 24$$

Thus, with the following derivation of 24 with respect to r^s ;

$$\frac{\partial \beta}{\partial r^s} = \frac{-a(w(b - a + f(c - d - r^s))) + wf(bc - da - ar^s)}{(w(b - a + f(c - d - r^s)))^2}$$

$$\frac{\partial \beta}{\partial r^s} = \frac{w(-ab + a^2 -afc +afd + afr^s + fbc - fda - far^s)}{(w(b-a + f(c-d-r^s)))^2}$$

Which lead me to:

$$\frac{\partial \beta}{\partial r^s} = \frac{w(-ab + a^2 -afc + fbc)}{(w(b-a + f(c-d-r^s)))^2} \Rightarrow \frac{w(-a(b-a) + fc(b-a))}{(w(b-a + f(c-d-r^s)))^2} \quad 25$$

I know that the denominator is positive and that w in the numerator is constant and positive.

For further analysis at this stage, I chose to take them out of the equation, so from 25, the

result is that 25 are larger than 0 if:

$$\begin{aligned} -a(b-a) + fc(b-a) &> 0 \\ -a + fc &> 0 \end{aligned} \quad 26$$

With these result, the derivation tells me that in the case of bad institutions, we will have a case where the inequality will increase if:

f is large, c are large and if a is small.

If we have a situation where the institutions are strong,

$$\beta_{r^p} = \frac{y}{w(1 + f\varphi_{r^p})} \quad 27$$

$$y = \frac{bc - da + br^p}{b - a} \quad 28$$

To find the change in inequality, I will insert 13 and 28 into 27, and then I get:

$$\beta_{r^p} = \frac{\frac{bc - da + br^p}{b - a}}{w\left(1 + f\frac{c - d + r^p}{b - a}\right)}$$

$$\beta = \frac{bc - da + br^p}{w(b - a + f(c - d + r^p))} \quad 29$$

After the derivation of 29 with respect to r^p:

$$\frac{\partial \beta}{\partial r^p} = \frac{b(w(b - a + f(c - d + r^p))) - wf(bc - da + br^p)}{(w(b - a + f(c - d + r^p)))^2}$$

$$\frac{\partial \beta}{\partial r^p} = \frac{bw(b-a+f(c-d+r^p))-wf(bc-da+br^p)}{(w(b-a+f(c-d+r^p)))^2}$$

$$\frac{\partial \beta}{\partial r^p} = \frac{w(b^2-ba+abc-fbd+fbr^p-fbc+fda-fbr^p)}{(w(b-a+f(c-d+r^p)))^2}$$

$$\frac{\partial \beta}{\partial r^p} = \frac{w(b^2-ba-fbd+fda)}{(w(b-a+f(c-d+r^p)))^2} \Rightarrow \frac{w(b(b-a)-fd(b-a))}{(w(b-a+f(c-d+r^p)))^2} \quad 30$$

Now with the same argument as with 25, I can tell that 30 are larger than 0 if:

$$b(b-a)-fd(b-a) > 0 \quad 31$$

$$b-fd > 0$$

It is clear that in the case of good institutions then the inequality will increase if: f is small, d is small and if b is large.

If we compare 25 and 30, we can see that f moves in opposite directions on its effect on inequality depending whether the institutions are good or bad. In the case of bad institutions, the inequality is increasing with large f and it reduces when we have large f and good institutions.

There are good reasons and it is naturally to assume that there is a large gap between the level of income between formal and informal employment in nations with bad institutions. This leads to a situation where resource based income leads to both lower income and it a wider level of income inequality. In nations with good institutions on the other hand, we can assume that the level of resource based income leads to a higher level of income and it will lead to a decrease in the level of income inequality.

6. Interviews

I have chosen to include an interview to support the model and theory. The main object with these interviews are to see what the Ghanaian people believe about their future, how they look at some of the major challenges that may occur in developing nations due to increased income

from natural resources, such as the development of poverty, the increase or decrease that may be associated with inequality and I also want to see what they think of their government.

As we have seen in the model above, the strength of the institutions are a key factor in how the nation will respond to increased income, and the interview might produce an indicator about what to expect in Ghana. I will use these interviews to support my findings for the debate in the next chapter.

6.1 The questionnaire:

As presented in Ghana:

Hello, my name is Harald Holst-Sverresvold from Norway, my research work is to assess how natural resource revenue can influence the micro economic level of Ghana.

This questionnaire is designed to gather information for academic purposes and to assist the researcher to collect data or information on the above topic to enable him write the final project as a pre - requisite for the Award of master's degree in economics from the University of Tromso.

I humbly plead with you to help by responding to the following items in this questionnaire. Your responses will be highly appreciated and will be treated with utmost privacy and confidentiality.

PLEASE TICK WHERE APPLICABLE

1. Sex

a. Male b. Female

2. Age

a. 20-29 b. 30-39 c. 40-49 d. 50 and above

3. Marital status

- a. Married b. Single c. Divorced

4. Qualification

- a. Post graduate b. Degree c. Diploma d. SHS

Any other, specify

.....

5. level of income

- a. below \$750 b. \$750 - \$1000 c. \$1000 - \$1500 d. \$1500 - \$2000
- b. e. \$2000 – \$3000 f. \$3000 and above

6. Are you aware of the Ghanaian oil production

- a. Yes b. No

7. How do you think this will affect you income level?

- a. Better b. Worsen c. The same

8. How do you see the governments transparency

- a. Very transparent b. Somewhat transparent c. Not too transparent
- d. Not transparent at all

9. Will it be better or worse due to Oil revenues?

- a. Better b. Worsen c. The same

10. Will oil revenues widen or lower the inequality gap?

- a. Widen b. lower c. The same

11. Who do you believe will have most to gain due to Oil revenues and why?

- a. The poorest
- b. The little less poor
- c. The little less rich
- d. The richest
- e. Foreigners

12. In few words, how do you see Ghana in the future due to Oil revenues?

13. What are the expectations of Ghanaians

6.2 The reply:

In total, 21 persons replied, and the answers were quite interesting. First of all, almost all of them believe that the government is somewhat transparent, and they believe that they have a good government. Furthermore, all of them believe that it is either the rich or the foreigners that will benefit from the resource, while none of them believe that anyone but the richest people will receive any benefits from the revenues from oil. Some actually compared oil exploration with gold mining in Ghana, alluding to the notion that this never helped the locals in the area, by stating that “they are so poor” in that area. Several of the subjects also had concerns about the inequality and predicted that this will widen, while others believed that inequality will continue at the same level as today. Very few believed that the oil industry will reduce the inequality.

The most interesting answers uncovered in the questionnaire were in response to the last two questions. Here we see that there are various expectations of what the future will hold. One respondent actually mentioned that maybe they should forget that they even have oil, perhaps fearing what happens in Nigeria. While one of the subjects stated that “we will be one of the richest oil nations”. Several of the subjects stated that; they have worries or concerns about

the future, and they states that they are, and I quote, “Very high but cautious” in regards to the last question.

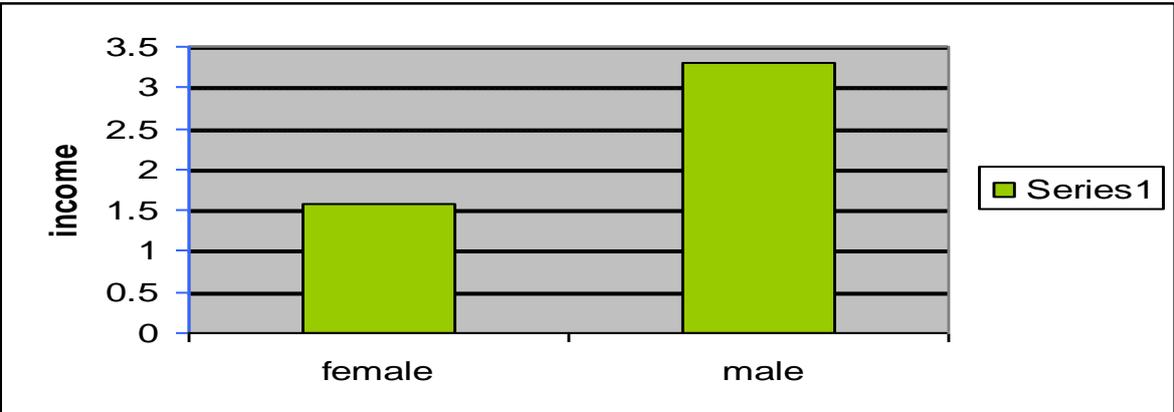
Price level and cost of living in Ghana was a point of concern that was illuminated based on the replies to the last question. In Accra, the capitol, and in the town of Takoradi, the region capitol of where the oil is found, there were particular concerns as to whether prices would increase. One stated that “Indigenous Ghanaians can’t pay for food anymore”. This statement tells me that there is an abnormal increase in prices (either real or perceived), not only in land and property in the areas of where the rich and the foreigners do their buying and selling but in other places as well. It surprised me to hear that prices increases have been felt in the local markets where the locals do their selling and buying as well.

Some interesting facts from the interviews:

Some of my findings from the interviews; will be shown is some tables below. The first table shows the difference in income for male workers and female workers. Here we can see that the male’s average income is higher than female’s average income.

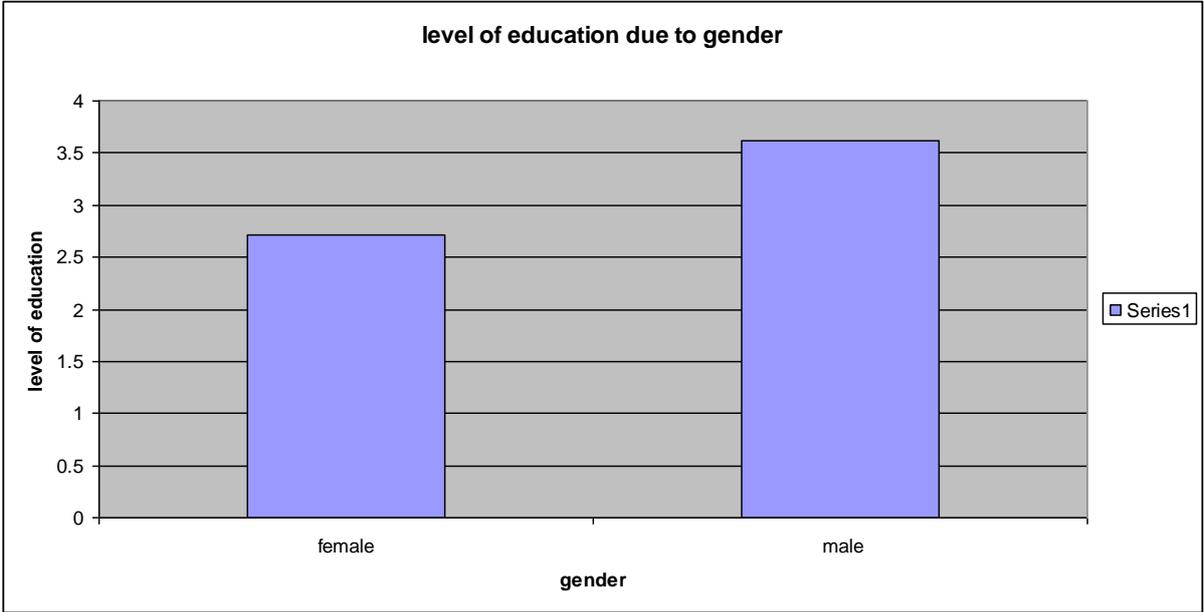
Income is ranked from below \$750 per month up to above \$3000 per month, and in total six values of differentiation.

Table 1



The fact that there is a difference in income is not surprising, neither is the fact that males have a higher level of education either, as shown in table 2. Education is measured in four categories, with ranks from no education up to post-graduate.

Table 2



This is coherent when compared with the HDI, where they state that the female male ratio for secondary education is 48 %. This means that more than twice as many men get to do secondary education compared to females.

Table 3

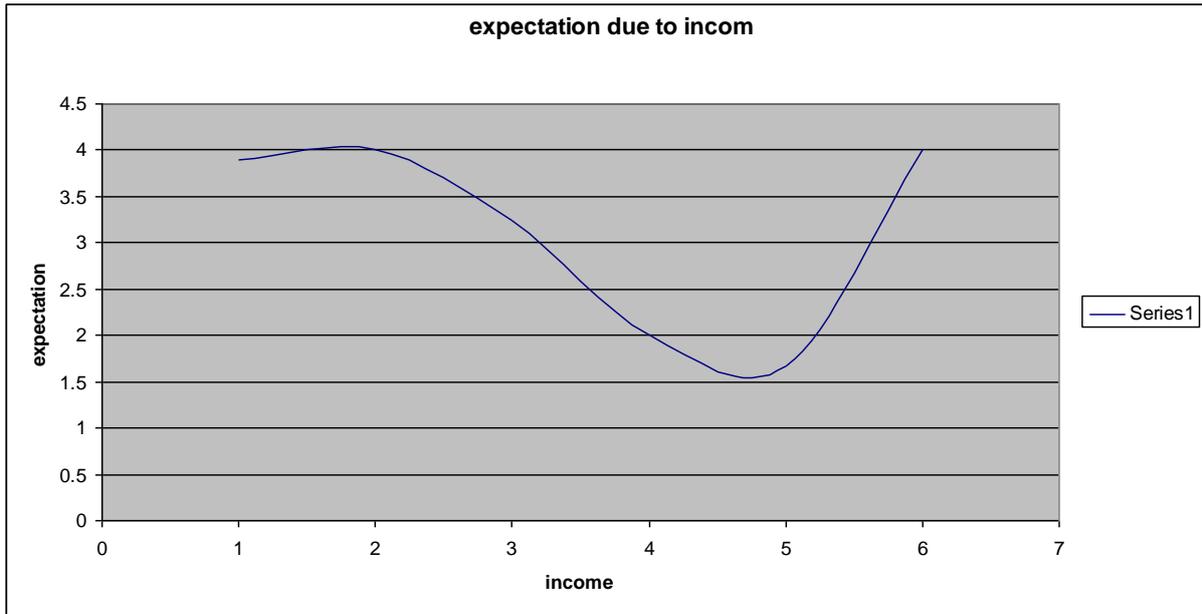


Table three tells us that the higher level of income, the lower one's expectations for the nation's future prospects are, except in the case of people with highest level of income. They believe that the nation's wellbeing will improve as a result of the increased income from natural resources.

Figure 4

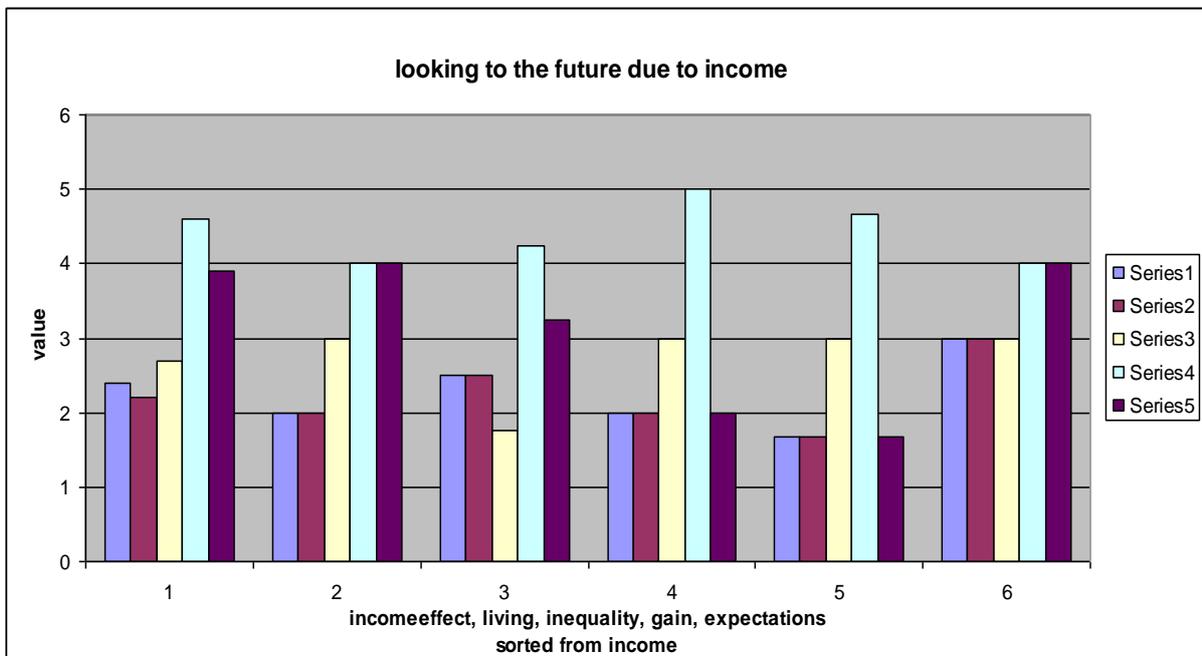


Figure 4 tell us how people believe the nation will develop into the future. I have put these together so that we can see the different effects are with regard to their current income. The

factors used are, from left to right, income effect (series 1), living standard (series 2), inequality (series 3), “the gaining party” (series 4) and expectations for the future (series 5). Values on the x-axis are the level of current income of those who participated in the interview.

First I will look at the series 1 through 5.

Series 1, Income effect:

The values of this series is as follows,

- 1 = less income,
- 2 = same income and
- 3 = higher income In the future.

Here we see that those with higher income (level 6) are those with the highest level of belief that their income will get better as a result of increased income from oil. Furthermore, we also can see that the second and third highest level of current income are those with least belief that this will have a positive effect of their income together with the second lowest level of current income. The poorest and those in level 3 are somewhat more positive about future income possibilities.

Series 2, Living standard:

The values of this series ranks as follows,

- 1 = lower living standard in the future,
- 2 = same living standard in the future,
- 3 = better living standard in the future.

Here we see that there are very similar results like those we had with the income effect. We can see that those in the highest level of income are those that believe that their living standard will increase the most. Level 1 and 3 believe that their living standard will improve some, but not as much as those in level 6. Those in current income level 2 and 4 believe that their living standard will be the same, while those with second highest income believe that their living standard will reduce form their current living standard.

Series 3, Inequality:

Here the values are:

- 1 = widen gap,
- 2 = same level of inequality,

3 = less inequality.

Most people in this survey states that they believe the inequality gap will reduce as a result of the increased level of income due to oil. The only exception is those in level 3. They have a more pessimistic expectation and believe the gap will increase

Series 4, “the gaining party”, who will gain the most from the increased income:

This gave an interesting result. Here the values are

1 = the poorest,

2 = the little less poor,

3 = the little less rich,

4 = the richest and

5 = the foreigners.

Here they all believe that it is either the rich or foreigners that are the ones that will have the most to gain. The income level of 6 all believed that the richest in Ghana will be those that gain the most. So did those in level 2, the second poorest. Those in level 4 all believed that the foreigners will gain more, while the other had a combination of those two beliefs.

Series 5, the future expectation for Ghanaians:

The respondents did not answer in a better or worse context, but the vales set for this part is made after an evaluation I have undertaken on my part. The levels from the evaluation then became as follows:

1 = Bad expectation for the future,

2 = little worse than now,

3 = little better than now and

4 = much better than now.

Again we see that the poorest and richest are the one with the highest hopes, and have the most positive approach towards the future. We see that those in level 5, whom by the way, also believe that more foreigners will gain than Ghanaians (series 4), believe that it will get worse in Ghana.

The figure below tells us that among my respondents in this survey, that those with low income and those with the highest income are the most positive in regards to the future of Ghana for Ghanaians. It is interesting to see that those with the 2nd highest income are in general more pessimistic than other income groups with regards to the reason for these results is not something that this survey can answer.

Figure 5

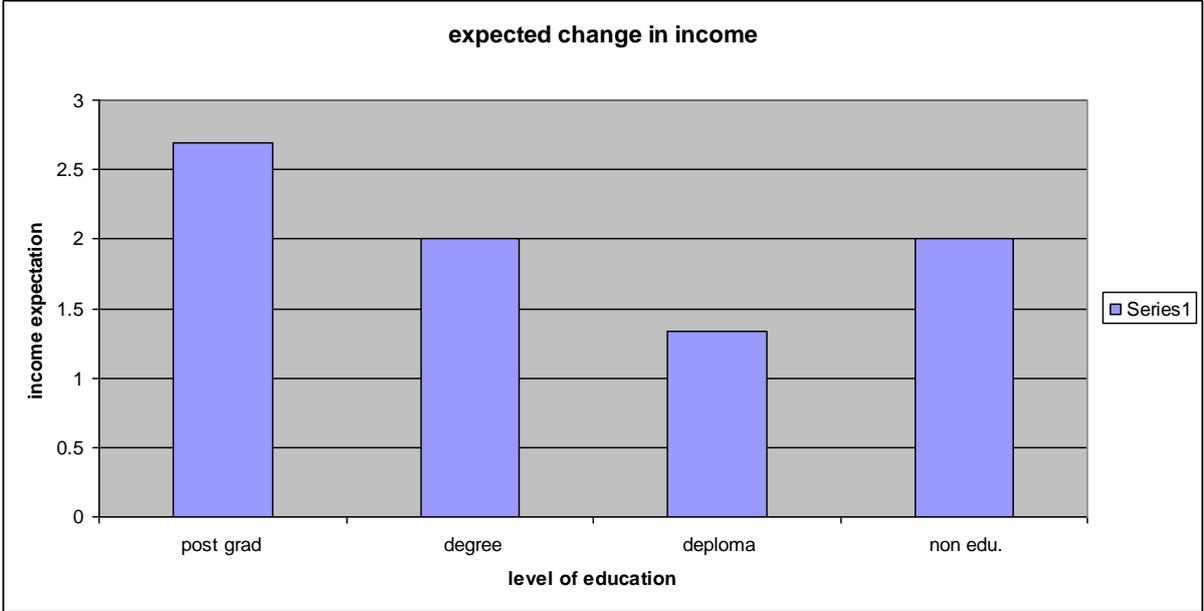
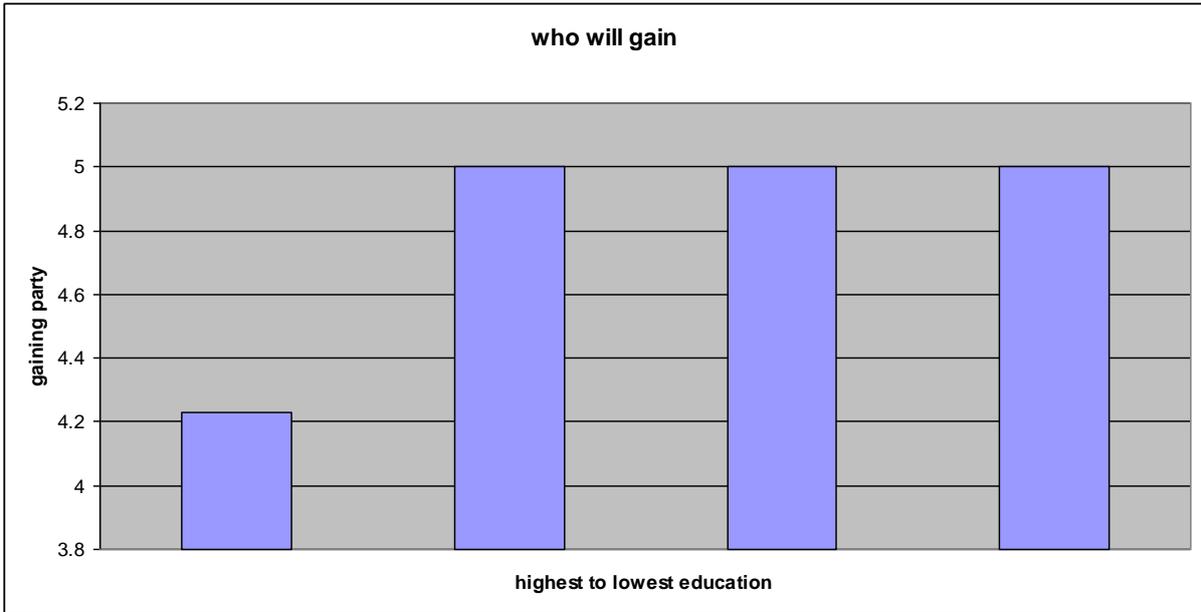


Figure 5. The expected change of income in regards to the level of education.

Here I have one column for post-graduates, one for degree holders, one for those with diplomas and one for those with no education at all, to tells us how that those with different levels of education perceive the future and their expectations on how their level of income will change for as a result of the increased income from natural resources. Here we can also see that there is a trend that the higher the education, the higher the expectation of the development of their own salary. Furthermore, we can see that those with the lowest education believe that the income change will be for the better.

Figure 6



This figure is very interesting. It states that everyone of those with lowest level of education believe that the foreigners are the ones that will gain from the increased income from natural resources, while those with the highest level of education believe that it is those that are already is rich in Ghana that will benefit the most.

Figure 7

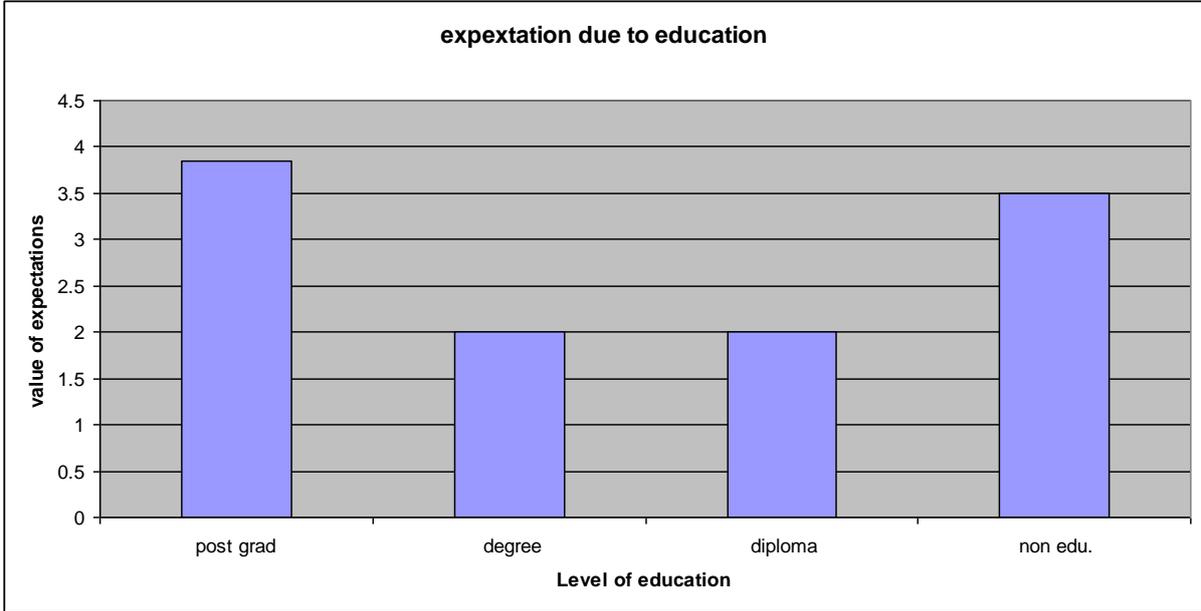


Figure 7 shows us the relationship between level of education and their expectations for Ghana in the future. Here we see, if we compare figure 7 with figure 4, that the ones with a high level of education against those with a low level of education have higher hope for the future than those in between. If we look at Figure 4, we can see that those with lowest and highest level of income are the ones that have the highest hopes for the future.

7. Discussion / debate

We have looked at a simple model for nations in developing countries that receive increased income by exploiting natural resources combined with an interview with people in Ghana, about the commercialization of natural resources. I will use this information, coupled with theory and the information I have gathered from Ghana and Africa to debate the future of Ghana.

Both Leif Wenar and Ragnar Torvik stated the importance of institutional quality to avoid the resource curse. Furthermore, we saw in the model that institutional quality plays a role in both private and aggregated income. We have seen that many African nations are struggling are bad institutions, and nations like Equatorial Guinea and Nigeria have neglected the property rights of their citizens and despite the resource wealth, the majority of the population lives in poverty or at the least, a low standard of living.

In the interviews, we saw that those interviewed, had good feelings towards the Ghanaian government and they stated that the government has good transparency. While Nigeria, Sierra Leone and Equatorial Guinea had a corruption level, according to CPI, between 2,4 and 1,9, Ghana's level in the same report is about 4,1 and they are ranked as number 62 out of 178 nations surveyed in the report.

According to Michael Ross, natural resources may lead to increased inequality. This is also shown in the model, where I argue that nations with bad institutions will have an increase in inequality. During the interviews, we saw that most of the individuals interviewed worried that inequality would increase. Michael Ross states in his paper that if inequality increases this could lead to internal conflicts, the likes of which have been witnessed in Sierra Leone and Nigeria. If we take a look at the Tunnel Effect from chapter 2, and compare with the Nigerian case, we can easily see why inequality may have increased alongside increased revenues from natural resources simply by looking to the government, which proved self-ignorant or at the least, willing to turn a blind eye towards corruption and inequality.

Torvik (2007) argues that the type of government plays a role in the relative successful or failure in terms of managing resources and new wealth. In 2010 he argued that out of the 21 nations with parliamentary constitutions at the time of gaining independence, only 3 remain.

Those three are Botswana, South Africa and Mauritius, and interestingly enough those three nations are all among the 5 nations with the least corruption according to CPI, namely ranked as first, second and fifth place in the ranking. Ghana is one of those nations that changed from parliamentary to presidential. According to Torvik, the president in a presidential constitution has more power than the leader in a parliamentary constitution. We have seen what can happen when a nation like Equatorial Guinea has a president with too much power. However, the Ghanaian system was developed and adopted from the American and United Kingdom's system to ensure power sharing. The Parliament has the legislative functions in their hands and the Parliament consists of 320 members plus the speaker. For a law to be approved it needs the consent of the president, whom also has the right to veto all bills with few exceptions, e.g. in times of war/- or conflict.

If the Government neglects to countermeasure negative effects that may erupt due to natural resource outtake, such as described by Michael Ross, quoted earlier in this paper, in the case of Nigeria. There poverty and inequality skyrocketed when the government did nothing to protect the most vulnerable people in society by introducing measures which would lead to sustainable growth for the entire nation, not just the wealthy stakeholders. They did nothing to promote growth and production in agriculture or local production. Ghana has concrete plans to promote and give incentives to stimulate continuous economic growth and sustainable. Another objective is to improving the average person's standard of living and access to services with government-funded programmes to support vulnerable and previously excluded (GPRS). These plans correspond well with recommendations made by Michael Ross to fight back increasing inequality.

In nations like Angola, where there have been ongoing conflicts for centuries, resources can fuel the conflict and the result can devastate a nation.

In Ghana they have their own conflict in the northern border town Bawku. However, this should not pose a threat for Ghana as a whole because of the fact that it is a small border-town in the north, and the conflict is a localized and somewhat insular. In other nations, like Nigeria, we have seen that conflicts may occur due to differences in income, and who get the income from the natural resources. In the town of Takoradi, where the companies that are stationing themselves in Ghana for the production of oil, it may pose a problem if the government doesn't adopt plans to protect those not involved in the extraction of oil. If there

are no incentives to promote production in a fair, yet competitive way, good opportunities for international exportation which could lead to long-term growth could be squandered or revenues mismanaged. If this sector is not protected, there may be a situation like the tunnel syndrome, which may lead to grievances among the Ghanaian left behind in the slow lane, where only a select few and the foreigners are in the fast lane and moving forward with wealth and happiness, while the majority of Ghanaians are left behind.

We saw that Michael Ross compared Indonesia and Nigeria, where Nigeria did nothing and Indonesia took several measures to fight negative effects from the resource income. These differences led to continuous growth in Indonesia and an unprecedented fall in the Nigerian living-standard, growth, equality and poverty.

8. Conclusion

There is evidence to support that Ghana has the tools needed to avoid the resource gap. The Ghanaian population as a whole could benefit from the increased oil revenues in the years to come. Several issues threaten the success of this proxy and if left unchecked might lay the groundwork for the resource curse to take root, which we have discussed above. However, if Ghana can manage to stay on course it should be able to avoid the curse that has befallen so many of its neighbours.

- Ghana has a good working government with power sharing, and a multi-party system. The government is exercising the executive power, while the government and the Parliament have the legislative power, while the judiciary is independent of both executive and legislature power.
- They are relatively industrialized and the infrastructure is under progress.
- Ghana has a clear plan on how to fight poverty, corruption and inequality through several measures such as, but not limited to, financial incentives of various kinds and transparency of government.

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