Natural Resources, Oil and Economic Growth in Sub-Saharan Africa

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10 February 2017

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Abstract. This paper takes a critical look at the natural resource curse in countries in sub-Saharan Africa and it highlights the role of institutionalised authority. The paper first provides a comprehensive literature review of natural resource curse, Dutch disease and the role of oil resources in resource curse. This is follow by the description of the relevant economic factors in sub-Saharan Africa, which is taken as prime example of the region with both important oil and other natural resources and with serious economic growth problems.

Key words: Economic Growth; Natural Resources; Oil; Institutions; Sub-Saharan Africa

JEL classification: C33, O43, Q28, Q33, Q43

[#] This project has received funding from the European Union's Horizon 2020 Research and Innovation Staff Exchange programme under the Marie Sklodowska-Curie grant agreement No 681228.We also acknowledge support from the Czech Science Foundation (grant 16-00027S) and from University of Economic, Prague (institutional support IP100040). Karel Janda acknowledges research support provided during his long-term visits at Australian National University and McGill University. The views expressed in the paper are those of the authors and not necessarily those of our institutions.

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Section 1: INTRODUCTION

Natural resources have taken center stage in economic development issues for quite some time now. Many researchers over the years have cautioned countries against the dangers that this resource poses to the economy. Indeed looking back at the last three or four decades, it can be hastily concluded that countries "blessed" with these resources do not seem to have any significant economic growth advantage over those that have little or none of these major resources. At the center of this unwelcomed phenomenon is the struggle of ownership and management of these resources.

It is very common to hear of rebels and militant groups, fighting with governments and state authorities over ownership and management of these resources. The case of various rebel groups such as The Movement for the Emancipation of Niger Delta (MEND), the Ijaw Youth Council, and the Niger Delta Vigilante all in Nigeria's oil city of Niger Delta is just one example of the emergence of militant groups struggling for ownership and management of natural resources with state authorities. The ownership and management of the diamond resource in Sierra Leone has for a long time been a struggle between the state authority and five major rebel groups (Revolutionary United Front, Armed Forces Revolutionary Council, Civil Defence Forces, Kamajors, and West Side Boys). Governments in sub-Saharan Africa have been accused of massive mismanagement of its natural resources. It is therefore not surprising that, the birth and number of militant groups has a positive relationship with the discovery of natural resources in this sub region. But how does this division or conflict over the management of these resources affect the impact that these resources have on economic growth?

In view of the growing number and strength of rebel groups in sub-Saharan Africa, this paper therefore seeks to analyse the importance of state authority in the management of natural resources and whether these state authorities can change the impact of natural resources on economic growth from negative to a positive one. Indeed there have been a lot of researches done on the natural resource curse and the Dutch Disease syndrome. These researches have been done on specific and

on cross-country basis. What this paper seeks to do is to take a critical look at the natural resource curse in countries in sub-Saharan Africa solely on an intra-sub regional basis and the role of institutionalised authority in all these.

Section 2: LITERATURE REVIEW

THEORETICAL BACKGROUND

Natural resources have been seen by different researchers differently as far as their contribution to the economic growth of countries is concerned. To start with, it is important to know what these researchers say a natural resource is and how do they define them. Lay and Mahmoud (2004) think that, the different forms of capital constitute the wealth of nations and as such, natural resources are just one form of this capital. Matthias Basedau (2005) defines natural resource as raw materials which are "gifts of nature". He therefore concluded that, fertile soil, water, and subsoil assets are all natural resources since their existence was not by human effort.

The natural resource curse is therefore, a term coined by schools of thoughts that hold the view that, natural resource negatively affects economic growth.

The lack of positive effect of these natural resources on economic growth is what is termed the natural resource curse; and also highlighted in this research is the Dutch disease. The Dutch disease is simply explained as the negative impact of resource boom on the entire economy as a result of the shrinkage of other sectors of the economy caused by factors such as increase in imports, currency appreciation and shift in labour from the manufacturing and other sectors to the resource sector.

2.1 The natural resource curse syndrome: world view

Throughout literature, there is still some sense of caution in declaring emphatically that natural resource has negative effects on economic growth. According to Sachs and Warner (1997), to the best of their knowledge, no one has been able to confirm the negative relationship between

resource abundance and economic growth on a worldwide basis, apart from them in their paper. However, from early researches like those of Lijphart (1975), Corden (1984), and Auty (1993), there seem more reasons to be worried than to be happy when talking about the influence of resources on the economic growth of countries. Some of the reasons or mechanisms that can be attributed to the occurrence of the natural resource curse according to Ilmi (2007) are the Dutch disease, corruption and undermined political institutions, rent seeking and conflicts, insufficient economic diversification, overconfidence and loose economic policies, and debt overhang.

According to Sachs and Warner (1997), as far back as seventeenth century, the Netherlands, which was poorer in terms of resources, was outperforming Spain, a country that was getting many resources such as gold and silver from her colonies. The same could be said for resource-poor Japan and Switzerland outperforming Russia, a country with enormous resources in petroleum. A more recent reminder is the case of resource-poor East Asian countries like Taiwan, Hong Kong, Singapore, and Korea, performing better than resource-rich countries like Venezuela, Mexico and Nigeria, for the past 30 years. However, this negative relationship was thought of as a social phenomenon as echoed strongly by the French political Philosopher Jean Bodin, 1576. Beyond the theoretical arguments in support of the resource curse syndrome, Sachs and Warner also proved this on a worldwide basis, arguably for the first time, empirically using data on 95 countries. Using primary-product export as a proxy for natural resources, and primary-exports to GDP as a measure of resource dependence, Sachs and Warner empirically established the negative relationship between natural resource boom and economic growth. This relationship was also found out to be very robust after controlling for many other variables.

It is interesting to note that even before the terms 'Dutch disease' and resource curse came into the known, John Cairnes (1859) had analyzed the impact of the gold discoveries in Australia and its effects on other sectors of the Australian economy in the 1850s. He concluded that the discoveries had a negative effect on other sectors of the Australian economy. This research was later built upon by Corden (1984), Neary and Van Wijnbergen, and Maddock and McLean (1983), which all yielded similar results.

One of the famous and oldest hypotheses to explain this paradox was coined by Raul Prebisch (1950) and Hans Singer (1950) which sought to explain that, this negative relationship between natural resource and economic growth could be as a result of the potential and imminent decline in the terms of trade of primary export commodities at rates that are faster than that of the manufacturing sector. In their theory, they make a claim that the prices of primary exports was bound to decline overtime. This presupposes that, economic growth grounded on natural resources is highly fragile and is more likely to start declining, at a rate faster than it would have been without the natural resources. Is there any way out of this quagmire? Yes. Raul Prebisch prescribed the "Prebisch Hypothesis". This theory simply suggests that, countries with significant natural resource should move from exporting them as primary (raw) materials to adding value to these materials through industrialization. This idea which was widely accepted and promoted by the United Nations Commission for Latin America, according to Sachs and Warner (1995), encouraged resource- rich Latin American countries to embark on protectionists policies by imposing tariff and quota barriers. This policy seems to have rather worsened the situation as shown in Sachs and Warner (1995) cross-country analysis of the impact of this policy.

In a rather more political study to better understand this natural resource paradox, Gelb (1988) opines that, resource-rich countries tend to depend heavily on their resource rent. In advancing the literature on this view, Mancur Olsen (1994) emphasizes that, in a country with heavy dependence on resource rent, there is likely to be many powerful interests groups and lobbyists who illegally feed from revenue received from taxes imposed on natural resources. This encourages corruption and unnecessary bureaucracies at the expense of hard work and innovation. This phenomenon is what Nir Klein (2010) terms "The delayed Modernization and Entrenched Inequality Effects".

One early literature on this matter is Hirschman (1958). In his research, Hirschman sought to explain that, although natural resources have had a negative relationship with economic growth, it is not because natural resources are evil. It is because of what he termed "forward and backward" linkages between primary exports and the other sectors of the economy. In a view strongly supported by Seers (1964) and Baldwin (1966), Hirschman argued that, manufacturing play better role than natural resources in enhancing standard of living since manufacturing promotes better division of labour. This means that, more people get employed and also benefits from the effects

of productive externalities and Matsuyama's learning-by-doing theory in an expanded and active manufacturing sector.

So what should Countries blessed with natural resources do? There has been a popular call for many decades, and now by politicians in many developing countries for their countries to move from exporting raw materials to exporting value-added products. Even this strategy has been empirically proven to be ineffective. Between 1970 and 1980, many of these countries decided to embark on what R.M Auty (1990) termed Resource Based Industrialization (RBI) [1]

It is worth noting that, the picture is not as bleak as has been painted by the researches considered so far. In January 2003, Elissaios Papyrakis and Reyer Gerlagh came out with a research that empirically proved that, when the negative tendencies and policies associated with resource abundance are accounted for, natural resource itself has a positive relationship with economic growth. In doing this, they name investment, openness, terms of trade, corruption, and education as variables that tend to be associated with natural resource abundance. Now when they accounted for these variables, by including these variables as independent variables in the economic growth (dependent) and the natural resource (independent) equation in a cross-country regression, it was found that, natural resource has a positive relationship with economic growth. This implies that, all these years, natural resource has been seen as having a negative impact on growth because it contains those negative phenomena accounted for in Papyrakis and Gerlagh's research.

Jeffrey Frankel (2010) empirically tested the natural resource channels to show the negative relationship they have with economic growth. He used 6 variables as the main channels of the resource curse. These are world commodity prices in the long term, volatility, crowding out of manufacturing, civil war, poor institutions, and the Dutch disease.

[1] RBI was defined by Auty (1990) as the further processing of natural resources such as minerals, oil, and timber as an economic development strategy to "accelerate economic growth, promote healthy structural change, and speed spatial decentralization"

2.2 The paradox of plenty: the case of sub Sahara Africa

Africa's stagnant growth has been blamed on two main reasons as put by Carmignani and Chowdhury (2010). These are the resource curse and Africa's lack of key growth drivers such as effective human capital, Openness to international trade, and public infrastructure. As discussed from the literature on the worldwide perspective of the resource curse, it can be seen that, these two sets of factors are not mutually exclusive. However, for the purpose of this paper, we shall concentrate more on the first cause: the natural resource curse syndrome.

So from the above discussed literature, it is not true that the resource curse is only endemic in Africa and not anywhere else as Carmignani and Chowdhury (2010) suggest in their paper "Why are natural resources a curse in Africa, but not elsewhere?" It is however of special interest to delve into the reasons why and how Carmignani and Chowdhury think there is a resource curse in SSA and not elsewhere. Carmignani and Chowdhury argue that, the resource curse in SSA is not because of the type of the primary products they are endowed and trade with, but rather the negative interaction between the resources and their institutions. In doing this, a standard growth regression is done where two models are formed. One is checking the effects of natural resource on SSA economies and the second model checking the effects of natural resource on the rest of the world. After regression, it is found out that, for the first model, the relationship between economic growth and natural resource is negative, but the second model proved a positive relationship between the resource and the rest of the world. The reason for the negative relationship in SSA's model was found out to be mainly due to the negative effects of fuels and base metals resources in SSA. Other variables such as the method of production, over dependence of SSA countries on their natural resources, and their institutions were all among the reasons for these negative effects of resources on their economic growth. The conclusion that can be drawn from this is that, the natural resource in itself is not the curse. It is the mismanagement of the resource and the conditions that come with it which leads to its adverse effects on economic growth. This conclusion is in line with earlier ones drawn by Hirschman (1958), Seers (1964), Baldwin (1966), Humphreys (2005), Brunnschweiler and Bulte (2009), and Schollaert and Van de gaer (2009).
Ndikumana and Abderrahim (2010) attempted to ascertain the reason for the existence of this natural resource curse in Africa. They tried finding out if this occurrence is as a result of these

countries' lack of capacity to get the adequate tax from the natural resource sector or their inability to expand their revenue base beyond the natural resource sector to the non-resource revenue avenues. They argue that countries with abundant resources in SSA have failed to make their resources count mainly because of two critical factors. First, they argue that, even though many SSA countries are endowed with abundant natural resources, these countries have failed to generate the actual revenue they deserve because of their inability to harness these resources. This view is further explained in what Nir (2009) terms the Hotelling Theorem[2] . The second point they raised is that, even for the countries that have been able to harness these resources, they are unable to diversify their sources of revenue by raising revenue from the non-resource sectors and have thus become solely and overly reliant on the revenue from the natural resources. They empirically tested this using 1980-2007 data on a total of 81 countries mainly from Africa, and a few from the Middle East, Latin America, and Asia to enable them compare the results of the African countries against those from other continents. They analyzed the tax per GDP ratio between resource-rich countries and resource-poor ones. It was found out that, these two groups of countries were at par with each other in terms of this ratio. This implies that, the countries with abundance of resources could not raise more revenue from taxation than those without resources. The explanation for this occurrence is that, the countries with resources get their revenue from the resource sector without getting much from the non-resource sector. This is why they are at par with the resource-poor countries that get their revenue from non-resource sectors. So with the "natural" hazards that come with natural resources, resource-poor countries are bound to growth faster and better than resource-rich ones.

However, Ibi (2011) disagrees that the resource curse in SSA is independent of the type of the resource. She argues that, the resource curse is dependent on the type and variety of the resources; arguing that countries with a smaller range of resources are likely to be more corrupt than those with a wider variety. Those with wider variety of resources are likely to practice a more inclusive and cooperative system of governance so as to have access and benefits of these resources that might have scattered at different parts of their country. Ibi also categorized the causes of this

[2] Hotelling Theorem is defined by Nir K. (2009) as extracting a non-renewable resource in an optimal way

natural resource curse into 2 groups. The first is economical, caused by the Dutch disease, which will be dealt with later in this paper. The second, she claims is institutional problems. Ibi argues that the colonial system of governance in African countries is one of the major reasons behind the weak institutional infrastructure in the region. She claims that, the colonialism of Africa along ethnic and geographical lines left the continent heavily divided after the independence of most African countries. Even within the same colonized country, more attention was paid to where the colonial masters lived, which are the areas endowed with the resources. This is the reason behind the sharp contrast in the different standards of living among people in the same country. A living example is the case of post-apartheid South Africa. This also explains the high number of cases of a few influential elites against the majority poor situation in most African countries. Advancing this argument, McFerson (2009) highlights the case of Equatorial Guinea; a country with just over one million in population, gets US$ 7billion a year from oil export and yet, 60% of its population lives below the absolute poverty line of US$ 1 a day. McFerson points out that, in a country that ranks as one of the lowest in the Human Development Index vis-à-vis their GNP per capita, three out of every five households have no access to electricity or water. Amidst this life threatening conditions lives the country's rich elite, who are the owners of the companies that run the oil industry and can boast of millions of dollars stacked in foreign bank accounts. McFerson also points out countries like Nigeria, Gabon, and Congo who boast of resources ranging from Diamonds, gold, copper, and coltan, and yet rank among the highest countries on the corruption perception index by Transparency International.

SSA indeed seems to be the epitome of the resource curse syndrome. It is not all doom and gloom for the region. One practical example that the resources themselves are not the problem, and that it is the management of it that is the problem is the case of Botswana. Botswana is a country that has a lot of resources and is also heavily dependent on resources. According to McFerson (2009), 80% of Botswana's exports come from primary resources (diamonds and other minerals). However, with good governance and good resource management policies, Botswana boasts of a very sound economy; unlike the other SSA countries wallowing in abject poverty and conflict despite their resources.

2.3 Fuelling the Dutch disease

Is the oil resource really part of this resource curse syndrome? Is it a minimizer or a multiplier?

There are many schools of thoughts that believe that, the oil resource is indeed part of the broader natural resource curse syndrome. What I have not come across yet, and which I seek to do in this research, is to check the magnitude of the oil curse in the broader natural resource curse syndrome. That is to see if the inclusion of the oil resource minimizes the negative relationship between natural resource and economic growth or if it maximizes this negative relationship. Before that is done in this paper, it is worthy of note looking at what other researchers think has been the role of the oil resource in this whole natural resource curse phenomenon. The Dutch disease is seen as one of the channels of the natural curse susceptibility, according to Nir Klein (2010) and Jeffrey Frankel (2010).

Karl (1997) in responding to allegations that this whole Dutch disease 'noise' is a myth posed a classical leading question on this matter by re-echoeing Stuart Mill's classic question "how can the repeated occurrence of similar patterns across different countries be explained?" In her book, "the paradox of plenty", Karl sought to find out the behavior of the economic growth rates in petro-states. She used Venezuela, a founding member of OPEC, as her main case study. She also compared her conclusions with outcomes from oil-rich countries like Nigeria and Algeria. It is based on these results that she draws her conclusion that, oil money destroys states, rather than builds them. In other words, the oil resource is negatively related to economic growth.

The oil resource and its accompanying boom is not a curse per se. However, it is evidenced from research that, the oil boom creates a big problem for the manufacturing sector. This is because of the shift in focus, profit, capital and labour from the manufacturing to the oil sector (which is a tradable resource sector). The consequence of this has been well documented in the previous phase of this paper. This view was echoed strongly again by Ismail (2010) where he found out that, permanent increases in the oil sector result in the shrinkage of the manufacturing sector, increase in price of labour to capital, and many more. He used data from 1977 to 2004 on a wide range of countries, mostly oil-exporting countries to arrive at this conclusion.

In an earlier work done by Gelb (1988), where he empirically tested for the Dutch disease in many countries, the outcome was that there was no Dutch disease in the manufacturing sector. This is

one of the few studies to have comprehensively proved the non-existence of the Dutch disease empirically. Many current researchers argue against this evidence stating that, Gelb's study in 1972 took place when the economy of countries at that time was smaller and less opened to international trade. However, it is not only Gelb who could not find evidence of the Dutch disease. Although they found a positive relationship between volatility of the oil price and real exchange rate in oil-exporting countries, Spatafora and Warner (1995), could not find the Dutch disease evidence. In the study by Sala-i-Martin and Subramanian (2003), they even found out that, in addition to the non-existence of the Dutch disease in Nigeria, the exchange rate is not sensitive to changes in oil price.

With many studies empirically proofing the non-existence of the Dutch disease, one may wonder if indeed the Dutch disease does exist or it is impediments to accurate data that is causing these results. Ismail (2010) thinks otherwise. Using the oil windfall as an exogenous variable in a Heckscher-Ohlin model, he proved that, indeed the Dutch disease exists and it even has a greater effect on labour-intensive economies. It is worth noting that, Kareem Ismail is not the first to hold this view. Early researchers like Enders and Herberg (1983), Gregory (1976), Snape (1977), and McKinnon (1976) all hold the view that indeed the Dutch disease is a reality and not a myth. Many other researchers like Levy (1978), Attiga (1981), Katouzian (1978) all concluded that, indeed the oil resource was causing negative impacts on other sectors of the economy and thereby causing the economy as a whole to deteriorate rather than improve.

After many studies established that, exporting the oil resource and other natural resources do not have any significant positive effect on economic growth, most countries thought of going industrial. Indeed the option of oil-rich SSA countries going industrial had been a very popular and political debate for decades. It is still a topical issue today in my home country Ghana. But could refining the oil resource or adding value to it cause a shift from its negative impact to a positive impact on the economy? Evidence proves otherwise.

In another comprehensive work ever done on the natural resource paradox and the Dutch disease, Auty (1990) finds out that, countries that embarked on Resource Based Industrialization (RBI) to

enhance their economy did not succeed. He uses data on eight oil exporting countries[3] and finds out that, using RBI as a major economic tool to enhance growth was not successful. Even in cases where this strategy must be pursued at all course, it must be implemented within a broader development strategy.

2.4 The Dutch disease in Sub Saharan Africa: The oil impact

We have yet to come across a comprehensive intra-SSA analysis and comparisons between the economies dependent on oil and those that do not in the SSA region. Gary and Karl (2003) under the auspices of the Catholic Relief Services (CRS) came out with a research that again threw the lights on Africa's oil and its impact on lives in Africa. Narrowing on specific countries, they opine that Nigeria has received well in excess of USD 300 billion in oil revenue in the last two decades but still had a per capita income below USD 1 a day.

Section 3: Overview of Factors Associated with Natural Resources, Oil and Growth in sub-Saharan African Economies

This section seeks to throw more light on some key factors that make up most economies in the sub-Saharan Africa sub region. Most economies in this sub region have been struggling to keep pace with their counter parts from other sub regions. Being blessed with many resources, most citizens in this sub region cannot fathom why they have endured such terrible economic growth rates. Many factors have been given out by people, mostly politicians, as the reason for sub-Saharan Africa's poor economic performance over the years. Some of these factors include but are

[3] Venezuela, Trinidad and Tobago, Nigeria, Cameroon, Bahrain, Indonesia, Malaysia, and Saudi Arabia

not limited to unstable political atmosphere, excessive imports, uncontrolled population growth rates, relatively low level of education by citizens, among others. This research therefore used most of these factors as variables in the standard economic growth model used in the methodology chapter. However, this chapter shall discuss some of these factors, and look at their implication on natural resources and economic growth.

3.1 Polity

Polity, which shall be the same as polity2 in this paper, generally refers to institutionalised authority. This authority means the central or state authority in a jurisdiction.

Background

Polity has become the most widely accepted variable which represents the study of regime change and regime authority (Marshall et al, 2013). The word polity, has been defined by Webster's New World College Dictionary as a 'political or governmental organization; a society or institution with an organized government; state; body politic'. In a more simplified way, Eckstein and Gurr (1975) see polity as representing all 'authority patterns', which they claim are 'equivalents of state organizations'. The authority being referred to in this context and throughout this paper shall be the state authority. Any non-state identity organization or body that uses force or threat to challenge the state's central power and authority is not catered for in the definition of polity in this paper. For example, in situations where countries like Sudan (now split into Sudan and South Sudan), Bosnia, Columbia, and Cyprus had and still have more than one polity within the same country. In these cases, only the features of the state's polity are considered. However, for the state's inability to prevent fragmentation and multiple authorities, or restore single authority within its jurisdiction, the polity of that state is considered as a 'state failure'. There are also situations where extreme pluralism leads to factionalism and separatist groups and regions within the state authority. This situation is classified as 'integration failure' to capture the limitation on the state's political authority. The difference between fragmentation and factionalism is very important in the analysis of this variable. With fragmentation, separatists groups operate outside and against the state political system. For factionalism, the separatist groups operate within the state's political authority but undermine the cohesion therein. The Center for Systemic Peace and Societal-Systems

Research Inc which is in charge of the polity project has come out with many versions of the variable polity. The polity being used in this paper falls under the most current version polity IV. About the accuracy and reliability of this dataset, the polity variable has been revisited and rechecked several times to ensure the accuracy of the coding and the recording of historical events (McLaughlin et al, 1998).

In the context of this paper, the polity variable which represents the state authority, is a measure of transitions in the quality of institutional authority such as 'elections, boycotts, acts of legislation, or transfers of executive power' (Marshall et al, 2013). In short, the specific variable (polity2) which will be used from the polity IV project, shall be a proxy for institutional authority and the quality in its transitions.

Polity2 is made up of two main components; institutionalised democracy and institutionalised autocracy (authoritarian regime).

Institutionalised Democracy

Democracy in this context is one that is made up of three main concepts (Center for Systemic Peace, 2013);

(i) Availability and accessibility to institutions and procedures through which citizens can make known their alternative rulers and policies.
(ii) The existence of institutionalised limitations on the extent to which executive power can be exercised.
(iii) The provision of guaranteed civil liberties to citizens in the course of their private lives and in their participation in political activities. This third concept is however not coded in the polity data to be used in this paper

All other types and examples of plural democracy such as rule of law and freedom of the press, fall under the above mentioned categories.

Institutionalised Autocracy

This refers to a political system or a form of state authority which 'suppresses competitive political participation', high level of non-consultative directives, appointment of leaders from among a few political elite, and an almost non-existent limitation on the exercise of executive power.

Polity2 is therefore, the result of subtracting institutionalised autocracy from institutionalised democracy. This means that, a positive value for this variable at anytime of a country means that country is democratic. The higher the positive value, the more democratic that country is at that point in time. A negative value for polity2 means that country is autocratic at that particular point in time. The higher the negative value, the more autocratic that country is at that point in time.

Polity and Economic Growth

In the absence of institutionalised authority is political instability. Political instability has been found to have a negative impact on economic growth. Countries with stable political environment serve a more attractive destination for investors than countries which have very volatile political situations. According to Alesina et al (1996), the economic growth of countries with higher propensity of government collapse or collapse of state authority is significantly lower than those countries with lower propensity of this occurrence. This conclusion was arrived at using data from 1950 to 1982 on a sample of 113 countries. There have been many other empirical findings to prove that, institutionalised authority is better for economic growth than a situation where there are many different groups fighting to control the state and its resources. Barro (1991) empirically found out that the occurrence of violent revolutions, assassinations, and other political unrests have significant negative effect on economic growth. Furthermore, Kormendi and McGuire (1989) found out that, there is a positive relationship between the extent of political rights and economic growth. This is simply to say that, the more the freedom and political rights of citizens in a country, the higher the rate of economic growth in that country. Polity, and as matter of fact institutionalised authority is therefore, an important factor as far as economic growth is concerned.

Polity and Natural Resources

As discussed in earlier sections and subtopics, natural resources have turned out to have negative, positive, and sometimes no effect on economic growth. At the heart of this research is the scrutiny

of the role of polity in an economy, especially those with natural resources and whether polity can alter the relationship between natural resources and economic growth; albeit in the case of sub-Saharan Africa. Can the type of governance or institutional framework within which a jurisdiction that has been blessed with natural resources operates affect the quantity, the value, and the sustainability of the resources and their contributions to economic growth? This is what this subtopic seeks to find from available literature and empirical works. Constitution represents a major pillar of institutionalised democracy. One major feature of a constitution is its ability to clearly define the roles and limitations of executive power, and to guarantee the liberty of citizens. This paper will attempt using Tilly's proposed triangular management paradigms for sustainability (Tilly, 1992), to analyse the impact of leadership styles on the value, economic contribution, and sustainability of natural resources. This triangular management paradigms consist of three main factors; Conservation, Rationalisation, and social or community. The Rationalisation concept concentrates more on the economic performance of the resource. The Conservation principle focuses on the importance of natural resource conservation, especially the nonrenewable ones. The Social or Community concept pays more attention to the welfare and the equitable distribution of the natural resource revenue to society. Tilly arranged these three concepts in a triangular form. He then concluded that the best public policies are those that there are closer to the middle of the triangle; these policies are the ones that have good combination of the three principles used in the triangular paradigm. The understanding from this triangular management paradigm is that, policies can affect how sustainable, economical, and society-friendly natural resources can be utilized.

3.2 External Debt

Genesis of External Debt

Globally, the issue of external debt became more pronounced during the 1982 global debt crisis. However, even before this crisis, the world had already experienced two major economic shocks which arguably led to the 1982 debt crisis. These were the oil price shocks of 1973 and 1979 which led to high current accounts deficits in many developing countries, especially those without oil,

because of the sharp increase in prices of petroleum products. Since the oil-producing countries made much money in what became as 'petro dollars', the international commercial market became so liquid that banks were willing to lend huge sums of money recklessly. The major causes of the 1982 debt crisis have been succinctly summarized by Iyoha (1999) as:

(i) Excessive borrowing by developing countries and indiscriminate lending by international commercial banks in the 1970s
(ii) The collapse of commodity prices, especially petroleum, in the 980s
(iii) And the sudden increase in the international lending rates in 1982.

Since no sub region is an island on its own, Sub-Saharan Africa being part of the global economy was not spared the harsh consequence of this crisis. So it is obvious that, the issue of external debt is not new on the African continent. From the early days of independence to this modern day, African countries have been borrowing heavily from the international community. Many researchers such as Lancaster (1991), Danso (1990), Greene (1989) have done extensive work on the negative implications in which Africa countries could find themselves with their high level of external debts. As far back as 1989, the then UN general secretary Javier Perez de Cuellar stated that the debt burden of Africa 'has become one of the most important factors constraining recovery and development in the continent', according to a World Bank report (1989).

Going through the table below, the external debt to exports of goods and services ratio of the entire Sub-Saharan Africa has increased from 91% in 1970 to 265.7% in 1994. Meaning that, whiles external debt was increasing within this period, exports of goods and services were declining. Also, the reduction in foreign reserves, coupled with increasing imports of goods and services has led to the reduction of the international reserves to imports of goods and services ratio from 2.5 months in 1970 to 1.7 months by the end of 1989. This can only bet the result of falling commodity prices coupled with increase in imported goods in the sub region.

Table 1: sub-Saharan Africa: Debt Indicators, 1970 to 1994

Year	EDT/XGS (%)	DOD/XGS (%)	EDT/GNP (%)	DOD/GNP (%)	TDS/XGS (%)	RES/MGS (months)	RES (US$m)
1970	91.0	63.2	20.5	14.3	5.4	2.5	2,028
1971	105.8	73.5	24.2	16.8	6.2	2.2	1,899
1972	113.0	76.2	20.0	13.5	7.0	2.3	2,139
1973	106.9	70.0	22.6	14.8	8.8	2.5	3,027
1974	77.6	50.4	23.8	15.5	4.5	4.7	8,167
1975	93.7	61.6	24.3	16.0	5.8	3.4	7,908
1976	98.1	64.7	24.5	16.2	5.8	3.1	7,696
1977	98.6	64.3	25.6	16.7	4.8	2.4	7,475
1978	138.4	92.4	28.9	19.3	7.1	1.6	5,407
1979	129.8	85.2	30.7	20.2	7.1	3.0	10,215
1980	119.7	78.6	30.6	20.1	7.8	3.4	22,249
1981	143.4	108.4	28.7	21.7	10.3	1.7	7,870
1982	199.7	152.9	32.0	24.5	15.0	1.4	5,335
1983	259.2	197.2	42.2	32.1	20.3	1.5	4,713

1984	203.3	155.7	47.9	36.7	18.3	1.5	5,127
1985	227.9	173.3	55.1	41.9	21.3	1.7	6,519
1986	223.7	183.2	56.2	46.0	22.0	1.8	7,075
1987	244.1	199.7	64.3	52.6	18.4	1.9	8,090
1988	242.9	198.9	67.2	55.2	20.7	1.5	10,378
1989	237.7	195.4	69.1	56.8	17.9	1.7	12,129
1990	225.7	183.9	70.8	57.7	17.8	2.0	15,597
1991	239.4	195.8	70.6	57.7	16.4	2.3	18,054
1992	235.6	188.7	69.8	55.9	15.7	1.8	14,280
1993	251.9	195.2	73.2	56.7	14.9	1.9	15,310
1994	265.7	206.4	78.7	61.1	14.0	2.1	20,107

EDT = total external debt stock
XGS = exports of goods and services
DOD = total debt outstanding and disbursed
GNP = gross national product
TDS = total debt service
RES = international reserves
MGS = imports of goods and services

Source: Iyoha (1999); World Bank, World Debt tables (various issues)

The impact of external debt on economic growth in countries in Sub-Saharan Africa is not lacking at all. Many theories have been compounded on the relationship between external debt and economic growth. In summarizing his research on 'The impact of External Debt on Economic Growth in Sub-Saharan Africa', Fosu (1996) came to the conclusion that, the relationship between external debt and economic growth is non-monotonic; implying that this relationship is positive at lower levels of investment. However, above a threshold of GDI/GDP of 16%, this relationship becomes negative. This means that, some and preferably a lower rate of external debt is good for an economy. However, beyond a certain level, like the extravagant external borrowing of successive governments in Sub-Saharan African countries can only but negatively impact on economic growth. It is interesting to note that, at a time that the world is striving towards self-sustainability, most African leaders rejoice for being able to get loans from international partners and bodies like the International Monetary Fund (IMF) and the World Bank. According to these leaders, being given these loans is a sign of confidence in their economies. Amidst the increasing debt levels is decreasing economic growth rates. Fosu (1996) reports that from the 1970s to the

early 1990s, Botswana seems to be the only Sub-Saharan Africa country to record GDP growth rate of over 10%. The rest of the countries such as Malawi, Mauritius, Lesotho, Ghana, Liberia and Zambia are either growing at a reduced rate of 5% or stagnated at 1%. Examining the role of external debts in all these proved that indeed the external debt variable is significant and negative in this analysis. The external debt hypothesis can be grouped into two. The first one as espoused by Corden (1988), Sachs (1989), and Krugman (1988) is the 'Debt Overhang Hypothesis (DOH)'. This hypothesis states that high indebtedness is a disincentive for savings and investments since the debts will act as tax on future outputs. In short, these high levels of external debts being accumulated by governments in Sub-Saharan Africa will discourage investors and potential investors from investing in their economy since the investors believe they would have to pay for these debts later in future through taxes. The second hypothesis, whose advocates are Hoffman and Reisen (1991), is the 'Liquidity Constraint Hypothesis (LCH)'. This hypothesis states that the demand to service debt reduces funds available for investment. This implies that, a government who has many interests on debts and principal payments on debts to make will have to cut its investment funds to meet those obligations since failure to service these debts as and when they are due will result in further financial and legal costs.

According to World Bank data, Sub-Saharan Africa's total external debt stocks stood at US$84.049 in 1980. However, by 1995, it had risen to US$223.298. This same period also experienced sharp decline in primary commodity prices. This seems the obvious reason why according to Iyoha (1999), the eternal debt to export ratio (which is measured as the ratio of debts outstanding and debts disbursed to export of goods and services) of Sub-Saharan African countries rose from 78.6% in 1980 to 173.3% in 1985. This ratio according to him almost doubled again between 1985 and 1991, where it increased from the 173.3% in 1985 to 329.4% in 1991. This worsening trend led to a situation where 27 African countries were in payment arrears as at 1986. Consequently, 23 Sub-Saharan African countries through the Paris Club had to renegotiate their bilateral debts. The knock on effect of these unpleasant economic occurrences from the 1980s, a decade popularly referred to as the 'lost decade' for Africa, was the classification of 33 Sub-Saharan African countries as Heavily Indebted Poor Countries (HIPC) in the early 1990s (World Bank, 1996).

Table 2:Debt Distress Indicators, 1989 to 1995

Year	Actual Debt service (TDS paid)	Scheduled Debt service (TDS due)	Ratio of actual to scheduled DS
1989	12,860	20,551	62.7
1990	14,999	25,618	58.5
1991	13,376	20,999	63.7
1992	12,843	21,191	60.6
1993	11,710	21,225	55.2
1994	11,212	21,776	51.5
1995	12,207	20,154	60.6
Average	12,746.7	21,644.9	58.9

TDS= Total Debt Service DS= Debt Service

Source: Iyoha (1999); World Bank (1996)

External Debts and Natural resources

It is interesting to note that, these decreasing growth rates and increasing external debts levels became evident at a time that majority of Sub-Saharan African countries were exporting a lot of their natural resource and also getting rents from these resources as well. It is common knowledge that natural resources serve as attractive collaterals to obtain loans especially from the international market. Therefore, it comes as no surprise that, at a time where it became evident enough that countries in this region were well endowed with natural resources, their governments decided to go on a borrowing spree, mostly not for developments but to fund elections and other profligate expenditures.

Increase in external debt for Sub-Saharan African countries can also be linked to the overall deteriorating economic situation in the sub region which can be attributed to the persistent falling of prices for primary commodities (natural resource exports).

Iyoha (1999) opines that, Africa has the highest external debt to GDP ratio; and that many countries in Africa spend more than half of their export earnings on servicing foreign debts. This is one of the major reasons why capital flow from Africa is higher than new capital inflow to the region.

External Debts, Natural Resources and Economic Growth

Iyoha (1999) asserts that, external debt is retarding the growth and socioeconomic development of countries in Sub-Saharan Africa. One major vehicle through which this occurs is import strangulation; a situation arising from heavy debt servicing amidst inadequate foreign exchange earnings which is caused by falling prices of primary exports. Import strangulation if not addressed quickly can easily lead to import shortages. When this happens, and debt overhang also continues, it leads to reduction in investment. Low investment then leads to low output and current accounts deficit. The high level of debts will impede economic growth of Sub-Saharan African countries, most of whom are already bedeviled with low income, low savings, and low investment. It will therefore be very difficult, if not impossible, for these countries to make any substantial improvement in their economic growth as long as they use majority of their resources to meet debt obligations (Iyoha, 1996). This is why in comparison to other sub regions and the world at large, the real GDP per capita for Sub-Saharan Africa has been the worst between 1991 and 1993, and one of the worst, between 1981 and 1994.

Table 3: Real GDP per capita, 1981 to 1995

	Annual averages			
	1981-90	1991-93	1994	1995
World total	1.2	-0.4	1.2	1.4
Developed countries	2.2	0.7	2.4	1.8
Developing countries	1.2	2.6	2.7	3.2
East Asia	6.3	7.2	7.6	8.0
China	8.2	11.0	10.5	9.2
South Asia	3.1	1.1	2.7	3.6
Sub-Saharan Africa	-0.9	-2.3	-0.7	1.1
Latin America & Caribbean	-0.5	1.3	2.0	-0.7
Middle East & North	-3.0	0.7	-2.2	0.1

Source: ILO, *World Employment 1996.*

Programmes implemented to halt the increasing external debt stocks

Starting from the 1980s under the auspices of the World Bank, Sub-Saharan African countries were encouraged to undertake Structural Adjustment Programmes (SAPs) to curb the escalating increase in their external debt stocks. These programmes were meant to stabilize the situation in the short term and then ensure sustainable economic growth in the long term.

3.3 Life Expectancy

Life Expectancy and Economic Growth

Life expectancy has for many decades now become an important indicator in measuring economic growth of countries. Barlow and Vissandjee (1999) are of the opinion that, life expectancy is a major tool in assessing human health, social welfare, and society development. Anderson (2005) even goes further to suggest that life expectancy is an indispensible factor in economic welfare calculus.

According to the World Bank Development Education Tools, life expectancy has increased globally by an average of 4 months since 1970; infant mortality has fallen to 54 out of every 1000 live births in 1998 from 80 per 1000 in 1980; and life expectancy for women is higher by 5 to 8

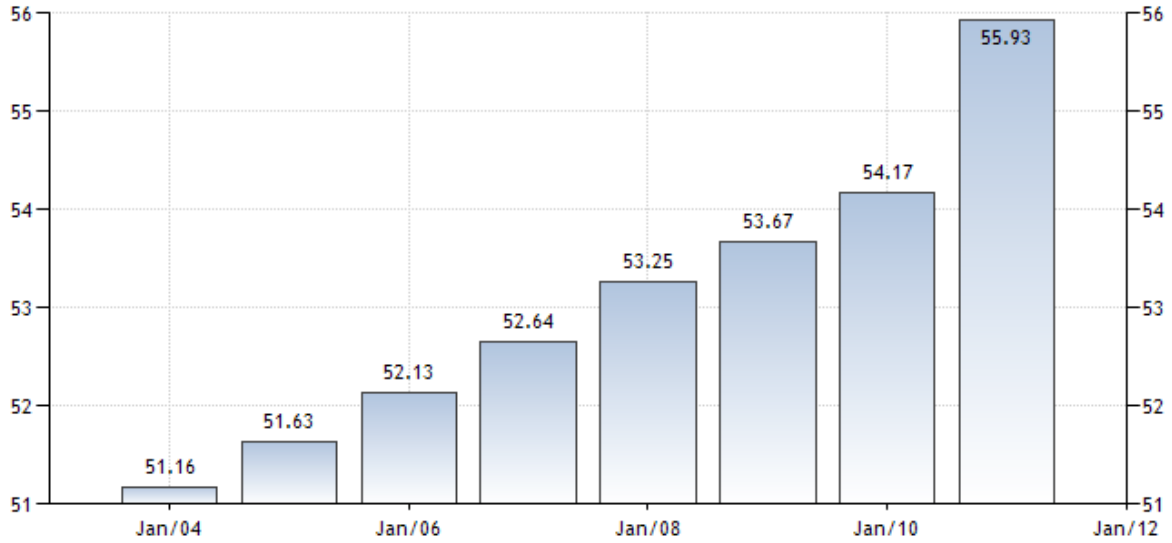
years than men in countries with high life expectancy rates and about 0 to 3 years more than men in countries with lower life expectancy levels.

The effect of life expectancy on economic growth has become a modern day topical issue. As the world is becoming increasingly concerned about the contributions of the various age group brackets to GDP, there has been growing scrutiny on which age bracket dominates the world population and its implications on economic growth. Kunze (2013) found out that, the steady increase in life expectancy is the reason behind movement in the global age structure. He opines that, the number of people who are 60 years and above is estimated to get to 1 billion in 2020 and 2 billion by 2050. The United Nations in one of its reports in 2009 also estimated that, the number of people aged 80 and above will increase from the existing 1% to 4% by 2050. The huge economic burden associated with these estimates is what gives cause for worry. If the percentage of the aged keeps increasing, it will lead to a reduction in productivity and an extra burden on governments and society as these aged people must be catered for by the working class in the other age group brackets.

There seems to be no theoretical or empirical consensus on the relationship between life expectancy and economic growth. While some researchers have found this relationship to be positive, others have found it to be different; negative, linear and nonlinear.

Life expectancy statistics in sub-Saharan Africa is nothing to write home about. The 2006 Human Development Index (HDI) by the United Nations Development Programme (UNDP) shows that life expectancy in sub-Saharan Africa has become lower than it was thirty (30) years ago. However, it has started increasing steadily since the turn of the new millennium as depicted by the graph below.

Figure 1: United Nations' Human Development Index, 2006



Source: http://www.tradingeconomics.com; World Bank Indicators

Boucekkine et al (2007) asserts that increase in life expectancy normally comes with increase in economic growth; starting from as low as 37 years in Sierra Leone to as high as 77 years in Costa Rica, the World Bank, in one of its studies in 1998 showed that, life expectancy has a positive relationship with per capita income. The implication of this assertion is that, countries with higher life expectancy tend to have higher economic growth rates. Conversely, countries with higher economic growth tend to have higher life expectancy. The opposite is truth for countries with lower economic growth rates and lower life expectancy as well. This linear relationship has been strongly opposed, both theoretically and empirically. Many findings have found this relationship to be very far from being linear. Kelley and Schmidt (1995) insist that, the relationship between life expectancy and economic growth is nonlinear. Further studies in this area also claim that this relationship is non-monotonic.

The relationship between life expectancy and economic growth has also been empirically found as concave for high life expectancy levels and convex for low values. Does long life enhance

economic growth? Does long live impeded economic growth? Different answers have been put forward to this single question. What is clear is that, this relationship is significantly affected by age-mortality. Therefore, the relationship between life expectancy and economic growth could well be determined by which age bracket live longest and which ones live the shortest. People at different ages have different preferences for savings. Middle age people are more likely to be enthused about investment and productivity, than very young or very old people. Therefore, depending on what age bracket the mortality rate is high the most, the relationship between life expectancy and economic growth could be different. This means that, when the mortality rate is lower among the middle age group, there could be more investment and productivity since this is the age bracket that are usually at the peak the effective human capital tower. A higher life expectancy in this circumstance will lead to an improvement in economic growth.

Life expectancy could as well come down to the level of mortality. Whiles lower mortality has been found to be associated with increase in productivity which in turn leads to increase in per capita income, lower mortality could also lead to an increase in population size. In the case of the later, the high population size is more likely to cause lower GDP per capita. Hence, a higher life expectancy in this case will lead to lower economic growth.

Even in situations where life expectancy has been proven to have a positive relationship with economic growth, it turns out to have a negative relationship with income per capita. This is because of the positive relationship between life expectancy and population growth. Higher life expectancy leads to higher population growth, which then leads to lower income per capita.

Some schools of thought on the effect of life expectancy on economic growth have it that, this relationship is solely based on demographic dynamics. Cervellati and Sunde (2009) assert that, transitions in demography come as a result of changes in population dynamics. The vehicle for this cycle is the interaction between changes in fertility and changes in mortality. Hence, reduction in mortality should be followed by reduction in fertility as well.

Theories pointing out a negative relationship between life expectancy and economic growth are not scarce at all. Over the years, many have argued that, a higher life expectancy has negative effect on economic growth. The reason given by this school of thought is best put by Tabata

(2005)-‘if life expectancy is sufficiently large, increasing health costs reduce savings and thus growth’. It is no secret that, expenditure, especially on health care, is higher among older people than on younger people. This confirms the fact that, the longer or older people live, and the higher the number of older people, the higher the expenditure by both government and individuals on health care. This expenditure will consequently reduce savings and investment. The impact of this situation on economic growth is a negative one.

In all these contrasting opinions and findings on the various effects of life expectancy on economic growth, few similarities run through all the findings; that the channel through which life expectancy affects economic growth is a key determinant on the nature of its relationship with growth. Kunze (2013) attempted explaining these channels. He summarized them in four main points. Firstly, life expectancy increases physical capital accumulation by raising the savings rate. One of the key factors of production is the human capital. Therefore, the higher the number of human beings and the longer they stay alive, the better it is for production and for economic growth. Secondly, life expectancy reduces the level of investment into children’s education as consumption on old age related expenditures such as health increases. For example, in a situation where there are people of school going age living with many aged people, the income must now be distributed between expenditure on the health care of the aged, and the educational needs of the younger ones. This implies that, the level of investment that would have been seen in education will adversely be affected by the expenditure on the older folks’ health care. The third channel is that, life expectancy reduces bequests handed down from parents to their children. One is only entitled to the properties of the testator (the person who made the will) if the testator dies or upon a fulfillment of some antecedents. Thus the longer people live, the lower the rate of bequests that will be handed to their next of kins. This leads to a reduction in the accumulation of physical capital, and hence a negative effect on economic growth. Finally, life expectancy reduces public expenditure on awareness creation for revenue generating policies like taxation and its adjustments. The older people live, the more they get used to most of these policies. Therefore, implementing and enforcing these policies do not cost governments much money since most of the populace would have heard these awareness campaigns several times.

The Relationship Between Life Expectancy and Natural Resource

Natural resources in general (such as arable land, fuels, air, and water) have significant effect on the quality and longevity of lives. Access to these resources could go a long way to determine how long a person lives and how quality those years could be without diseases.

Resources (specifically those being referred to in this paper) are nonrenewable resources with finite quantities and durations. Therefore, if more people stay alive to also depend on these same natural resources, there is no doubt that the pressure on these finite resources will increase. When the number of people dependent on a resource keeps increasing without a corresponding increase in the resource, the impact of the resource will keep reducing and might ultimately go into extinction. As the saying goes, 'the fewer the merrier'.

3.4 Population Growth

Population Growth and Economic Growth

Whether population growth causes economic growth, or economic growth causes population growth, one thing is for sure; these two factors hugely affect each other. Findings from works done by Kelley and Schmidt (1995) show that, the relationship between population growth and economic development is much stronger in developing countries than in the developed countries. However, they stopped short of confirming the nature of the relationship. In their analysis, it was only the poorest of the developing countries that showed a negative relationship between population growth and economic growth. Most Sub-Saharan African countries are developing ones. Therefore, any conclusion on this relationship for developing countries applies to sub-Saharan African countries very well. Cincotta and Engelman (1997) assert that, developing countries are better off with slower rate of population growth. While the debate on what type of relationship exists between these two factors is still ongoing, theories on this relationship have been grouped into two main categories; the Pessimistic theories and the optimistic theories (Bishai, 2006). Under the pessimistic theories, there are about three schools of thoughts. The first is the Orthodox view. This view believes that, there is a negative relationship between population growth

and economic growth. To explain this view further, since natural resources (like oil, ores, metals, and the other nonrenewable ones) is finite, an increase in population growth lead to more pressure on these resources. As population continues to grow without a corresponding growth in the natural resources, demand will exceed supply and this will cause a fall in economic growth. The second assertion under the pessimistic group is Malthusian theory. This theory has it that, population increases exponentially. However, resources such as food increase arithmetically. The implication of this is that, the population increase will consume any surplus in the economy, and further leads to shortages. The effect of this on economic growth is a negative one. The third, latest and final view under the pessimistic theories is the NeoMalthusian theory, propounded by Coale-Hoover in 1958. According to this theory, the sudden increase in population between 1940 and 1960 in some developing countries had a negative impact on their economic growth. Around this period, funds that would have been used for investment which could have yielded short and medium terms gains for the economy were used on health, school, and other social expenditure. This means that, productivity fell and this slowed down economic growth.

The second group of theories on the relationship between population growth and economic growth are the optimistic theories. According to these theories, population growth has a positive effect on economic growth. This view which has been championed by Boserup (1990) and Simon (1990) believes that, human beings have the capability to solve the environmental constraints that impede development. Therefore, the more the people, the higher the probability of getting solutions to a country's economic woes.

It is interesting to note that, three International Population Conferences have failed to produce a consensus on the effect of population growth on the economy. In the population conference in 1974, the view was that, economic development was the best contraceptive to curb the escalating increase in population growth. The conclusion from this conference was that, underdevelopment was a major cause of population growth. The population conference in Mexico in 1984 contradicted the conclusion from the previous conference in 1984. This time, the conclusion was that, population growth is a neutral factor in economic growth. The 1994 population conference in Cairo held the view that, population growth actually promotes economic development. The rationale behind this assertion is that, human right is a core pillar in sustainable economic

development. Since increase in human rights leads to population development, the overall effect of this on the economy is a positive one. The outcome of these conferences however falls under the two Revisionist theories. Revisionist Theory-1 believes decrease in development causes increase in population growth. The second revisionist theory asserts that there is no relationship between population growth and economic growth.

In answering a self-posed rhetorical question, 'how many people can Earth support?', Bishai (2006) holds the view that, there is trade off between the number and quality of life that the Earth can support.

Population Growth and Natural Resources

Population growth has negative effect on natural resources; both the renewable and non-renewable (Cincotta and Engelman, 1997). Natural resources are vulnerable to human activities. How sustainable most natural resources are depend on how they are explored and utilized by the population. It has been speculated that, most factors that are behind increase in population growth have adverse effects on natural resources. Using a simple scenario of supply and demand, more people are more likely to demand and use more resources than fewer people. Therefore, assuming two countries have the same quantity of a particular natural resource, the country with the higher population and faster population growth rate is more likely to exert more pressure on its natural resources than the country with the lower population and population growth rate. However, comparing the impact of population growth on renewable and nonrenewable natural resources, (Cincotta and Engelman, 1997) found out that, the effect is much stronger on renewable resources than on nonrenewable resources. This is because both governments and the markets are able to adjust the prices, promotes conservation, and make use of various substitutes to nonrenewable resources to meet the prevailing demand.

3.5 Fuel exports

Africa unearthed the oil resource as far back as some centuries ago according to the KPMG's document titled 'Oil and gas in Africa; Africa's reserves, potential and prospects'. However, as

pinpointed by Karl (2004), the role of oil in everyday and economic activities was not as significant in the late 19th and 20th century like today. In those early days, economies and exports were not dominated by oil. For example, according to World Bank data, in 1962, Nigeria had fuel exports being 10.3% of all merchandise exports. However, in 2006, Nigeria's fuel export was as high as 98.2% of total merchandise exports. This just reflects how countries rely on the fuel resource now. Curiously, accompanying this increasing dependency is increasing poverty rates. In the case of Nigeria, the percentage of its population living below the poverty line of $1 per day has increased from 27% in 1908 to 66% in 1996 (Karl, 2004).

3.6 Imports

Imports have been used by many analysts as a proxy for trade openness of an economy. The issue of imports is even more significant for sub-Saharan Africa which is mainly made up of import economies. Discussions on imports have dominated sub-Saharan Africa economies on a wider scale in recent times. This is as a result of the heated debate among the ECOWAS countries, which is a major block in the sub-Sahara sub region, on whether to sign on to the European Partnership Agreement (EPA). Many economic analysts in the sub region have blamed the poor performance of their currencies against the major international currencies like the United States dollar, the Great Britain pounds, and the Euro, on the trade imbalance between imports and exports from the sub region.

Many researchers are of the view that, countries that export more grows faster than those who export less. What is lacking is a consensus on the relationship between imports ad economic growth. While some hold the view that openness of an economy to international trade through imports is good for economic growth, others are of the view that, imports put pressure on domestic currencies and this consequently affects economic growth negatively.

3.7 Public Expenditure on Education

One of the major reasons for public expenditure is because of sustainable economic growth. Public expenditure on education forms major part of government expenditure in sub-Saharan Africa.

Theories in endogenous growth assert that, human capital is a key element in ensuring economic growth. It is very hard to find any literature that opposes the importance of public spending on education. However, there are many instances where the empirical prove for this assertion has been missing. In view of these, many researches have been conducted to bark this theory with empirical proofs.

Researches on country basis for both developing and developed countries have empirically proven that, indeed public expenditure on education has a positive and significant relationship with economic growth. Ogujuiba and Adenyi (2005) empirically proved that, public expenditure on education in Nigeria has a significant and positive relationship with the economic growth of the country. Aziz et al (2008) proved this for Pakistan, whiles Chandra (2010) also had a similar conclusion for India. Even for developed countries like the United States of America (USA), Jorgenson and Fraumeni (1992) empirically tested and proved that, public spending on education in the USA has significantly positive relationship with economic growth.

Section 4: Conclusions

This paper seeks to examine the widely held view that, natural resources have negative impact on economic growth. It subsequently examined and concurred with the school of thought that, countries with more natural resources tend to grow slower than resource-poor countries. At the center of this research is the role institutionalised authority can play in the natural resource curse syndrome. Institutionalised authority tends out to have a significant effect on economic growth. When this is interacted with natural resources, it reduces the negative impact of natural resource on economic growth. In some cases, institutionalised authority completely changes the impact of natural resource on economic growth from negative to positive; implying that, with institutionalised authority, natural resource can be a blessing, instead of a curse, in the sub-Saharan Africa sub region.

In an era where countries in sub-Saharan Africa are experiencing power struggle between the state and destructive oppositions, and rebels in some cases, there is the need to know what impact the mere establishment of a central authority vested in the state can do to the economic

fortunes in the sub region. The arguments most of these rebels have used is that, the state has failed to make good use of the numerous natural resources in the sub region. Various groups are springing up with the aim of gaining access and control over natural resources in their localities. This paper is in no way making a case for corruption and inefficiencies in state authorities in sub-Saharan Africa. Contrary, the paper is of the view that, if there is a body or group that should stand up and be counted as far as the fight against corruption and mismanagement is concerned, it is the state or central authority that is better positioned to do that. State authority can indeed make all the difference in making natural resources have positive impact on economic growth. It is this light that this research seeks to throw more light on how useful the state can be in ensuring sustainable economic growth through a united way of resource ownership and the best ways of managing these resources.

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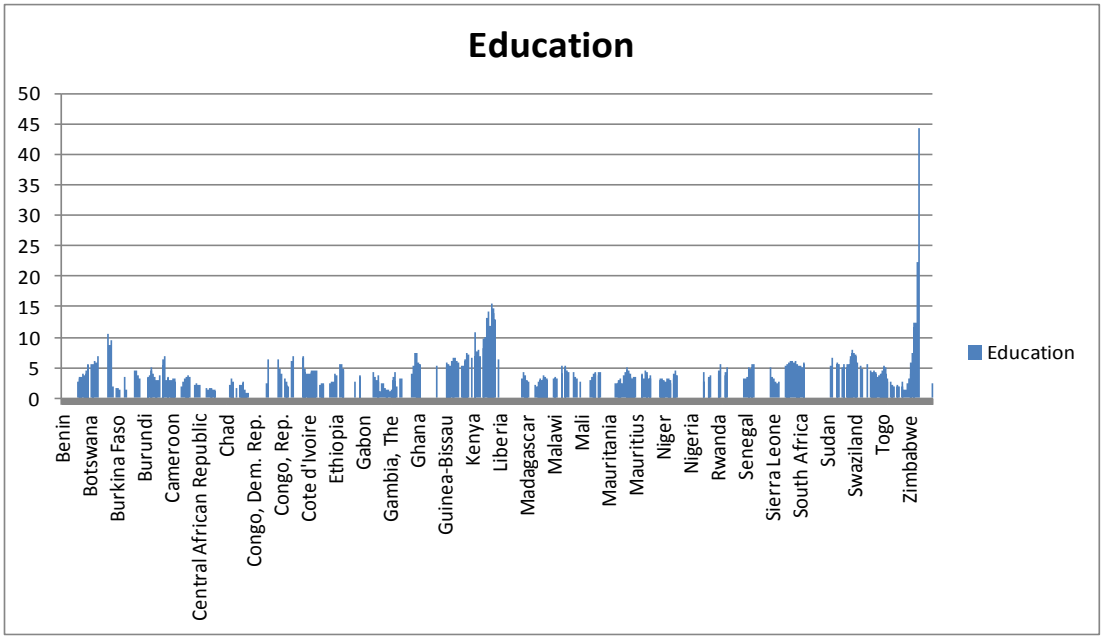
Appendix

Figure 1: Public Expenditure on Education by Countries



Source: World Bank Development Indicator

Figure 2a: Imports (from 1980 to 2010) by Country

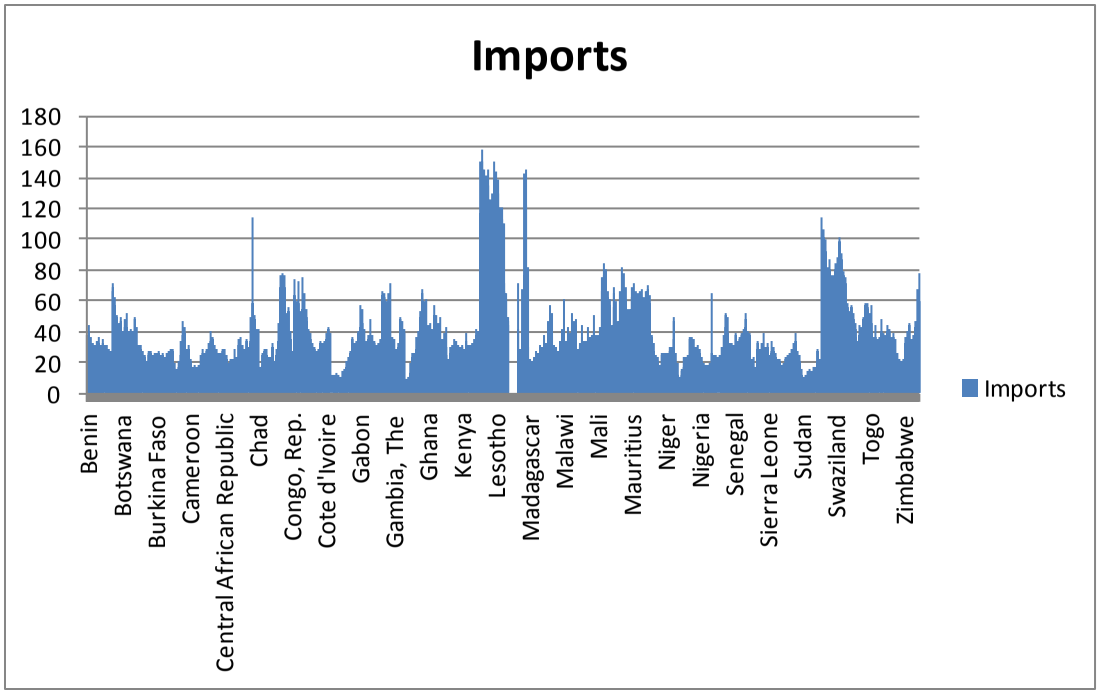


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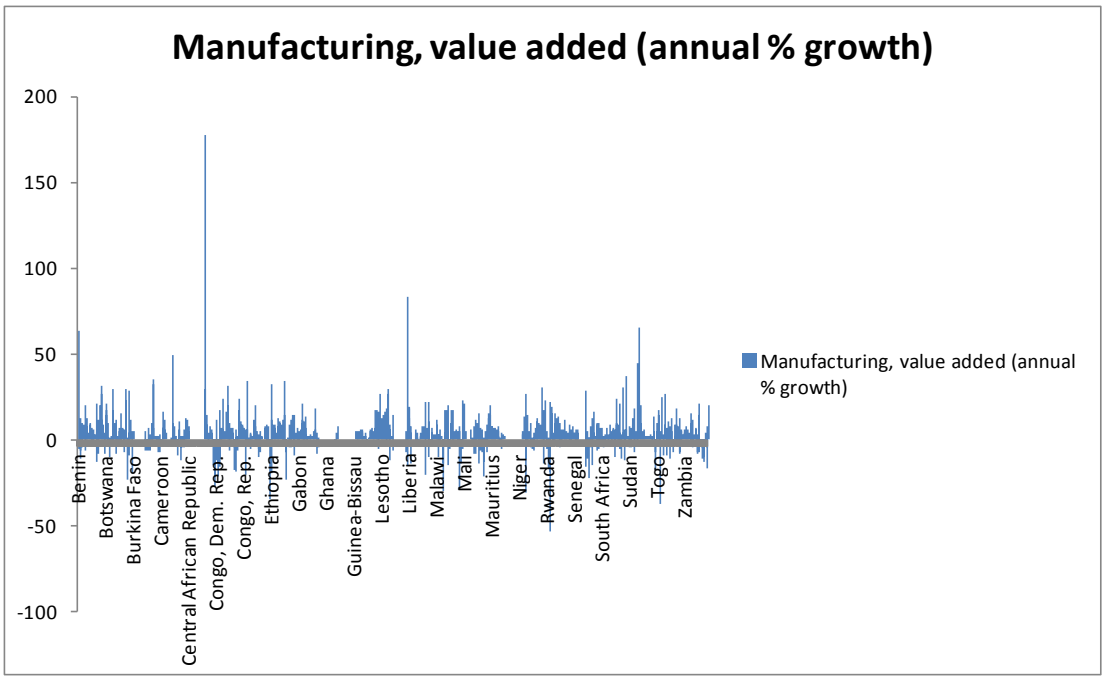
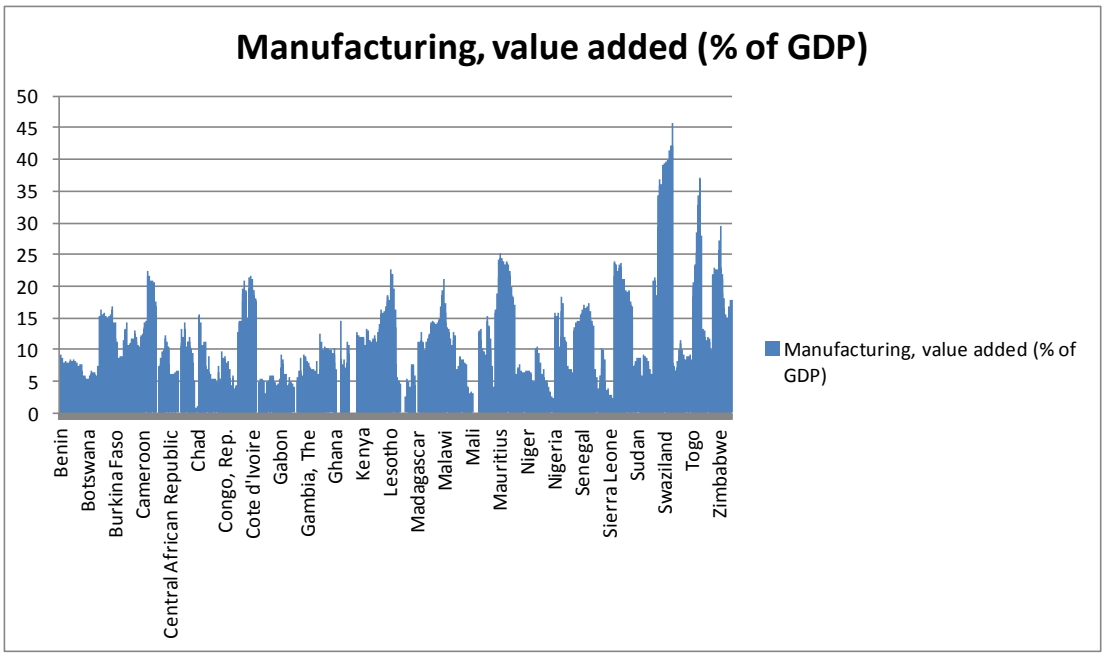
Figure 2b: Imports (from 1980 to 2010) by Country



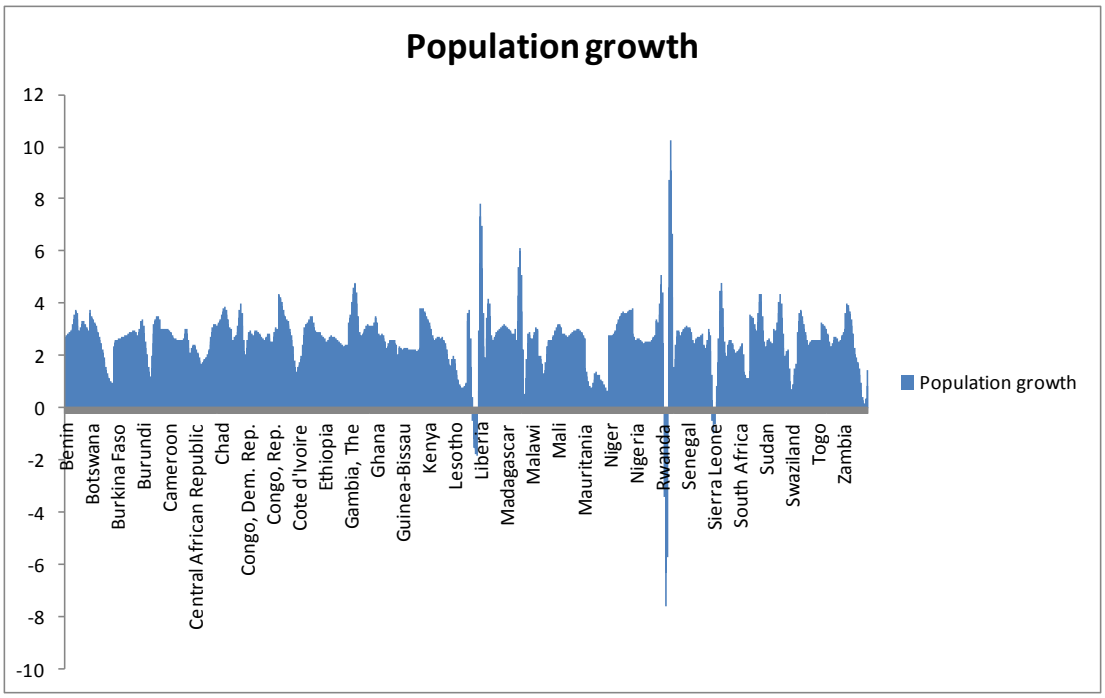
Source: World Bank Development Indicator

Figure 3: Manufacturing (from 1980 to 2010) by Country



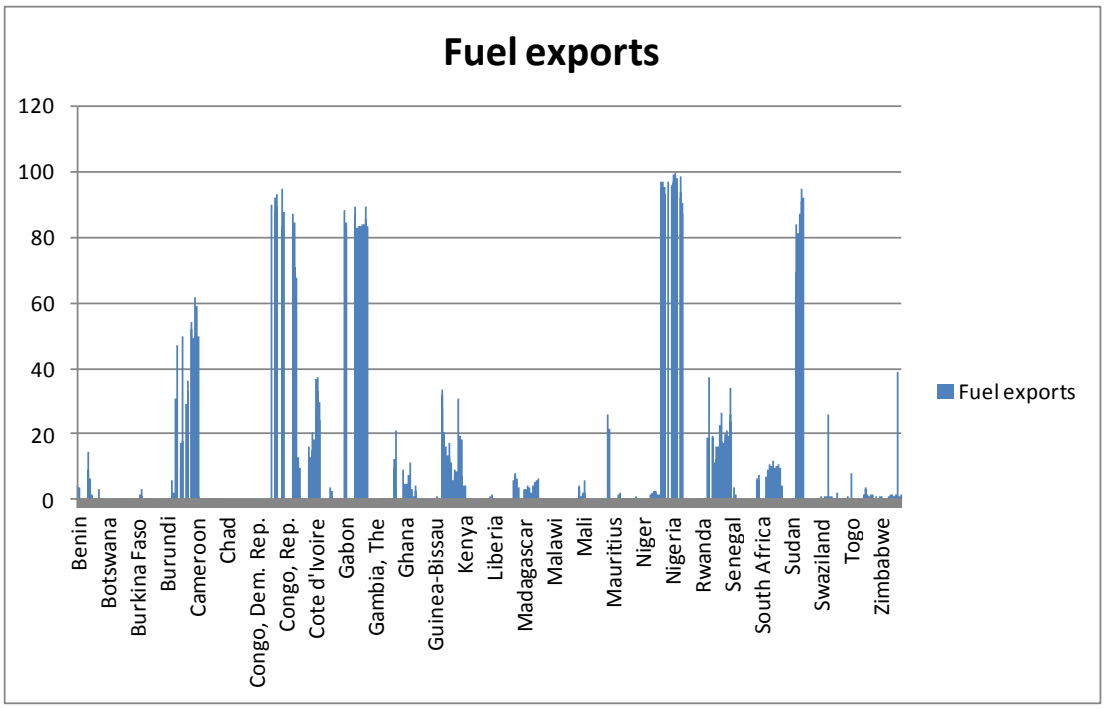
Source: World Bank Development Indicator

Figure 4: Population Growth (from 1980 to 2010) by Country



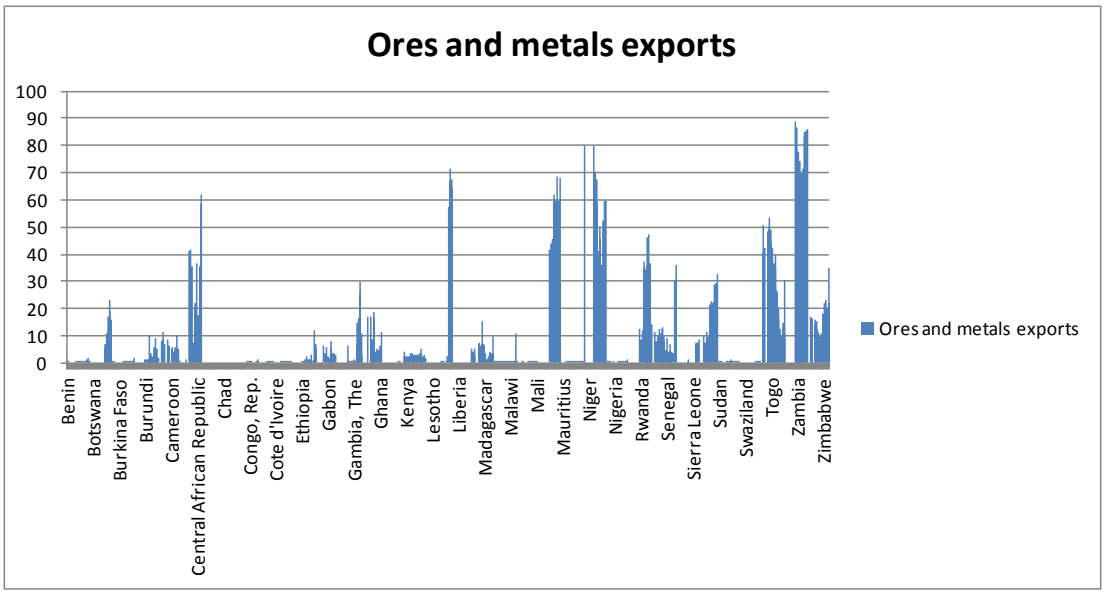
Source: World Bank Development Indicator

Figure 5: Fuel Exports (from 1980 to 2010) by Country



Source: World Bank Development Indicator

Figure 6: Ores and Metal Exports (from 1980 to 2010) by Country



Source: World Bank Development Indicator