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# **The Curse of Natural Resources and Human Development**

*A New Perspective on Institutions*

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International Relations

Dept. Honors Thesis

Advisor: Prof. Bruce Moon

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**Campbell Prize Submission**

**Abstract:** It is well established that natural resource abundance negatively impacts economic growth. The resource curse literature is dominated by theories explaining this negative economic effect. There is also, however, a negative relationship between resource abundance and human development which receives less attention. To explain this relationship, you must examine the capacity and disposition of a state's institutions to foster human welfare, and how resource abundance affects those aspects of institutions. Detailed case studies on diamond rich countries Sierra Leone and Botswana are presented here to provide greater insight into the relationship between resource abundance, state institutions, and human development.

**Note:** This is a shortened version of my original Honors Thesis for the Department of International Relations, presented for submission to the Donald T. Campbell Social Science Research Prize.

## **I. Introduction**

Each poor country has its own unique set of disadvantages that steer it away from its path to development. However, recent studies have shown that there is a subset of developing countries that seem to have clear advantages, yet remain bogged down by poverty. This group of countries has been plagued with what scholars have come to call the “curse of natural resources.” This is the paradox that developing countries seemingly blessed with abundant natural resources – specifically extractive resources – are cursed with stagnated economic growth and underdevelopment. Abundant natural resources have helped many developed countries reach the level of growth and development that they have today. For example, it cannot be denied that resource abundance contributed much to the development of the United States; the same can be said for Norway. So then, the question is: why were natural resources a blessing for these countries, but seem to be a curse for developing countries today?

Most of the study of this conceptual puzzle is economically based – using economic logic to explain economic outcomes. Today, however, it is clear that the focus of development has shifted toward human welfare and basic human needs. For example, through the United Nations Millennium Development Goals (MDGs) created at the Millennium World Summit in 2000, the world has made a commitment to cooperate in the battle against poverty. The MDGs target areas for improvement such as malnutrition, education, healthcare, gender inequality, environmental sustainability, and global cooperation. These goals serve to improve the quality of life for all citizens of the world and eradicate extreme poverty. The MDGs are indeed all encompassing when considering human development as a whole and how to achieve it. However, for this paper, I focus

on the aspects most crucial and universal to human welfare and basic human needs<sup>1</sup>: poverty, education, and healthcare, incorporating Goals 1, 2, 4, 5, and 6 that include indicators such as the proportion of people whose income is below \$1/day, net enrollment ratio in primary education, literacy rates, child mortality, infant mortality, maternal mortality, proportion of births attended by skilled personnel, HIV prevalence, and prevalence of other diseases such as malaria and tuberculosis.

Therefore it is crucial that we examine the effects of resource abundance on human development in addition to economic development. To do this, a different theoretical framework is necessary, one that is less economics-centric and that places emphasis on institutions. It has been accepted by most scholars that examining institutions is a necessity when studying development. Jameson (2006) declares that “institutionalism has won the development debate.” I plan to exhibit that resource abundance has significant effects on a state’s institutions, specifically on the capacity and the disposition of the state to promote human development. This paper is organized as follows: Section II establishes the macroeconomic effects of resource abundance through the work of Sachs and Warner, which is followed by an overview of the current literature explaining the curse in Section III. Section IV statistically establishes the negative relationship between resource abundance and human development. Section V outlines a theoretical framework for explaining the effect of resource abundance on institutions. Two diamond abundant countries, Sierra Leone and Botswana, and the effect of resource abundance on their institutions, are examined in Section VI. Section VII concludes.

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<sup>1</sup> Moon (1991; p.5) explains: “The needs considered basic are those minimally required to sustain life at a decent material level. Conventionally, these are defined in terms of adequate food, water, health care, shelter and minimum education. Adequacy is defined in a minimum way and measured in terms of observable outcomes rather than in relation to income or consumption of such basic “goods.” Thus, the most common indicators of national achievement of basic needs are life expectancy, infant mortality, and literacy.”

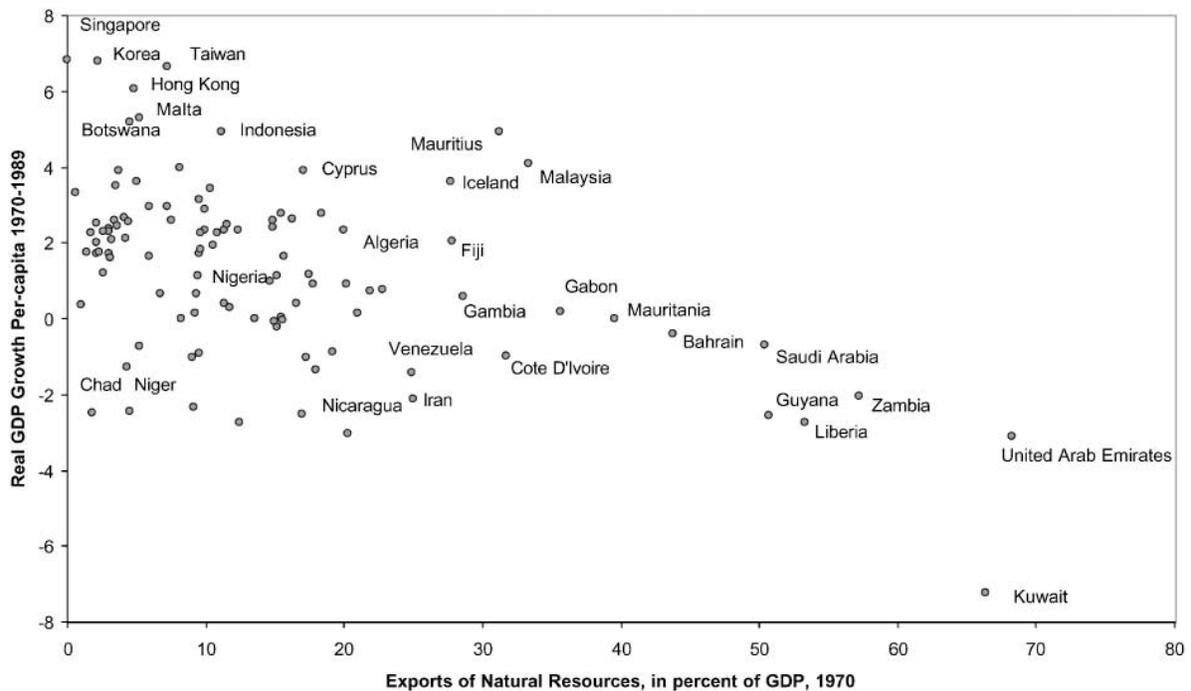
## II: Establishing the Macroeconomic Effects of the Curse

The negative relationship between natural resources and economic growth has been statistically proven by several scholars in recent years. Jeffrey Sachs and Andrew Warner pioneered this theory, producing robust empirical evidence for this relationship in several works during the 1990s.<sup>2</sup> Through statistical regression they test the relationship between GDP growth and the ratio of primary product exports to GDP in 1970 as a measure of resource wealth. Resource wealth is shown to have a significant negative effect on GDP growth over a twenty year period in their data set of 97 developing countries. Their ground-breaking evidence is seen in their graph, Figure 1, below. The strength of this relationship is tested through inclusion of several other variables that effect economic growth, such as trade policy, quality of bureaucracy, terms of trade, and the level of income inequality. After accounting for all of these other factors, natural resource abundance still has a significant negative effect on GDP growth.<sup>3</sup>

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<sup>2</sup> Sachs and Warner (1995, 1997, 2001)

<sup>3</sup> These findings are even more convincing when one takes into account the exclusion of six major oil producing countries that have experienced substantially low growth rates. A significant correlation between resource abundance and slow growth was still produced.



**Figure 1: Resource Abundance vs. Real GDP Growth**  
 Source: Sachs and Warner, 2001<sup>4</sup>

The robustness of their finding has been tested extensively, yet this correlation remains strong. When different measures of “resource wealth” are taken into consideration, the relationship still appears. Sachs and Warner run the same regression while changing only the measure of resource abundance, using measures such as the ratio of primary product exports to GDP, the ratio of primary product exports to total exports, mineral production as a percentage of GDP, or arable land area per capita. With each alternative measure of resource abundance, however, there remains a significant negative correlation between resource wealth and growth. In one of Sachs and Warner’s most recent essays (2001), they test the robustness of their finding even further by showing that it is not, as they call it, a “statistical mirage,” meaning that this relationship appears simply because the natural resource sector is the only surviving sector in countries with slow

<sup>4</sup> Originally shown in Sachs and Warner (1995).

growth. However, after controlling for previous growth rates and the constant variables of geography and climate, natural resources remain a significant negative factor in growth.

Sachs and Warner's work on the existence of the resource curse is accepted by many others working in this field. Bulte, Damania, and Deacon (2005); Ding and Field (2005); Hodler (2006); Mehlum, Moene, and Torvik (2006); Olsson (2004); Papyrakis and Gerlagh (2004); Pegg (2005); Ross (1999); and Stijns (2006) all cite Sachs and Warner to establish the existence of the curse in their own works. However, it is important to note that Sachs and Warner's work only proves that natural resources hinder *macroeconomic* growth. Natural resource abundance has a significant negative effect on *human* development as well, but there has been significantly less work done to explain why this relationship exists. The negative effect of resource abundance on human welfare has been examined, however the explanations for why and how this relationship appears are much less well-developed than the explanations for poor economic development. The goal of this paper is to contribute to the progression of this aspect of the resource curse theory.

### **III: Current Theory Explaining the Resource Curse**

Although this is a relatively new issue, there exists a fairly well-developed literature concerning the curse of natural resources that is expanding all the time. There exists a major division in the literature over the ultimate negative impact of the curse. Economists focus on the negative effects on GDP growth (Ding and Field, 2005; Hodler, 2006; Isham *et al*, 2005; Mehlum *et al*, 2006; Sachs and Warner, 1995, 1997, 2001), while political scientists tend to emphasize the negative effect on human welfare (Bulte *et al*, 2005; Ross, April 2003; Stijns, 2006). However, economists have been much more active in this field, emphasizing the economic effects of the resource curse and leaving the effects on human welfare to be less understood.

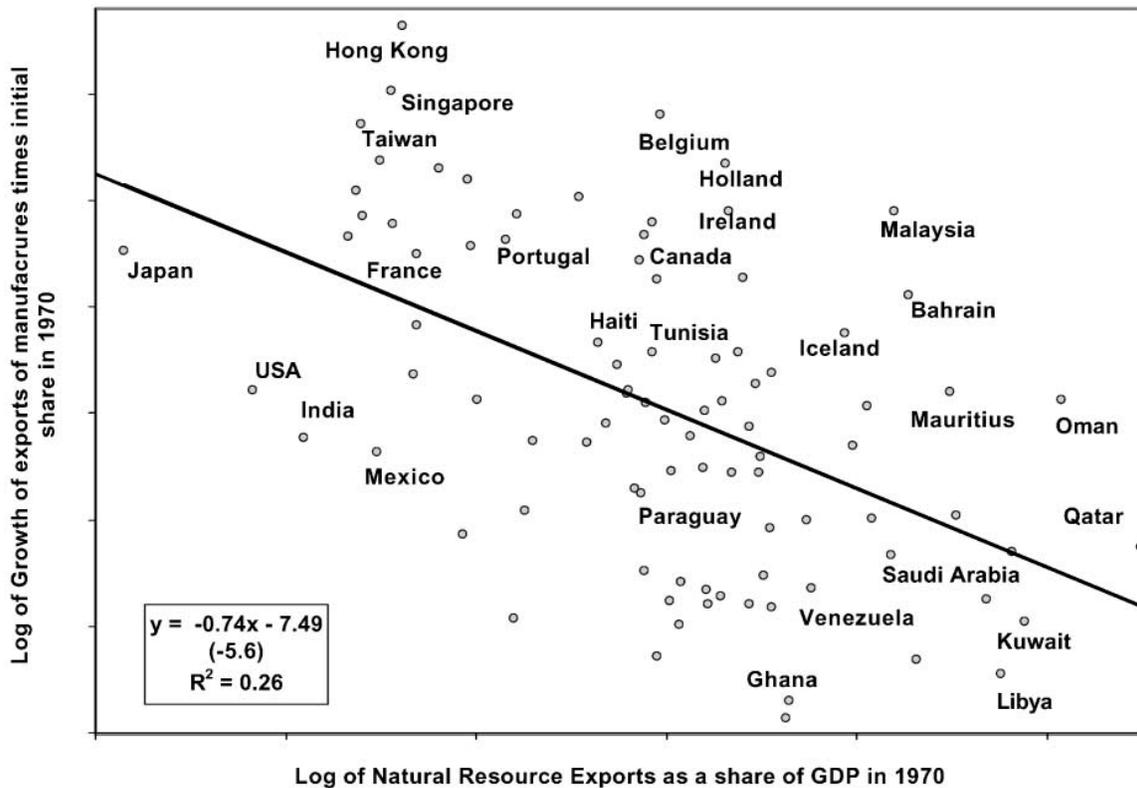
Before going into a more detailed analysis of the literature on the curse, it is important to note several issues surrounding the definition of “natural resource abundance” that should be kept in mind. There are some scholars that contend that it is not natural resource abundance that matters, but the intensity with which natural resources dominate an economy. Ding and Field (2005) make this distinction by defining resource abundance as the total natural resource capital per capita and resource dependence as natural resource capital per total capital. However, most scholars seem to assume that abundance and dependence come hand in hand.

One should also make note of the distinction between agricultural resources and mineral/extractive resources. Most scholars focus on fuel and mineral resources (or “point resources” as Bulte *et al* describe them) because they bring about most of the effects associated with the curse. Agricultural resources have not been found to have the same negative impact on development. Sala-i-Martin and Subramanian (2003) find in their statistical analyses that when you separate natural resources into oil/minerals and food/agriculture the negative relationship between oil/minerals and economic growth becomes even more significant, and the results for food and agricultural resources are generally insignificant. Bulte *et al* have similar findings when examining the relationship between resource abundance and human development. Their diffuse (food and agricultural) indicator often switches signs and is insignificant, while their point resource indicator is consistently negative and significant. This is due to the very different nature of the two types of resources: “oil and minerals give rise to massive rents in a way that food and agricultural resources do not” (Sala-i-Martin and Subramanian, 2003). Additionally, extractive resources are often capital intensive, while agricultural resources are labor and land intensive; therefore the dynamics of each sector and their effects are quite different.

In addition to the division over the ultimate impact of resource abundance, there are of course different economic and political explanations that exist. Most of the economic reasoning is

centered on the Dutch Disease model, which has a crowding-out sort of logic – emphasized by Sachs and Warner. Essentially the argument is that high export-levels from the resource sector will cause the exchange rate to appreciate, which leads to the reallocation of inputs. The natural resource sector then attracts most of the inputs, pulling them away from other sectors, like manufacturing. This underdevelops those non-resource sectors and the country misses out on export-led growth. Pegg (2005) summarizes this logic quite succinctly: “The basic causal argument here is that natural resource booms → rising exchange rates → rising costs for other sectors → uncompetitive agricultural and manufacturing sectors → poor economic performance.” Sachs and Warner exhibit this effect on the manufacturing sector by comparing resource abundance to growth of manufactures in Figure 2 below. This graph shows a distinct negative relationship between the level of natural resource exports and the growth of the manufacturing sector.

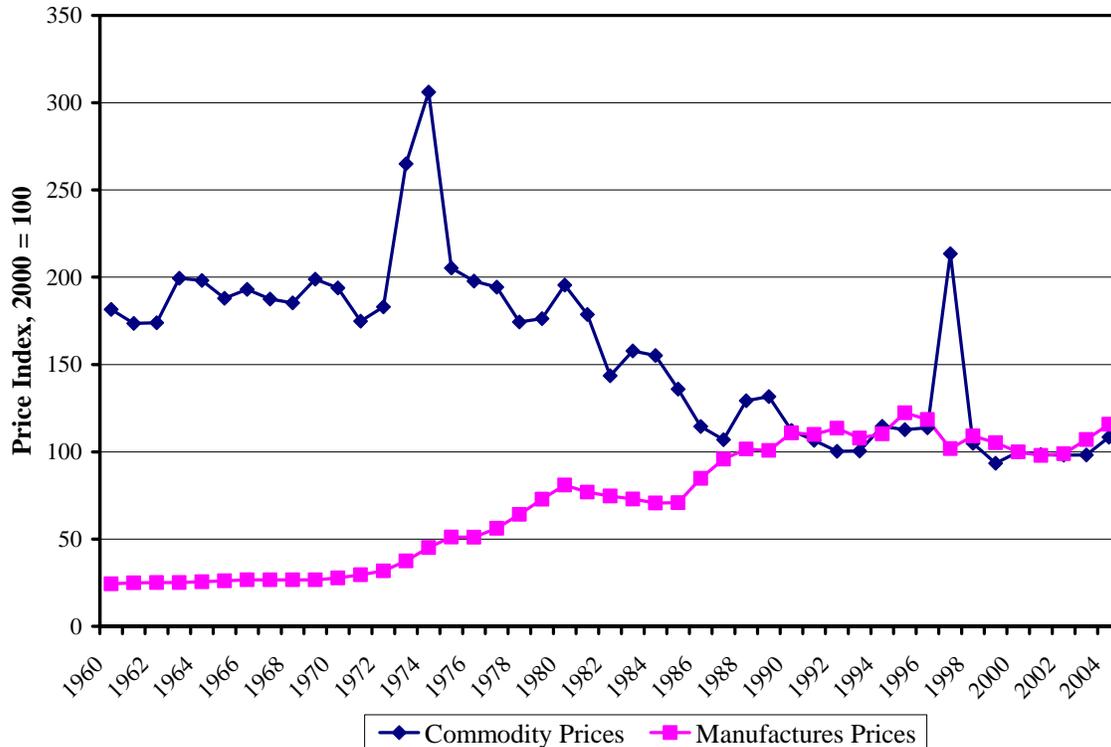
Related to this idea is the explanation that there are poor economic linkages between the resource sector and non-resource sectors. The lack of integration among sectors prevents multiplier effects from appearing, resulting in low growth and development of non-resource sectors. Backward and forward linkages do not develop as they would with manufacturing production, that “leads to a more complex division of labor and hence to a higher standard of living” (Sachs and Warner, 1997).



**Figure 2: Resource Abundance vs. Growth of Manufactures**

Source: Sachs and Warner, 2001

Another major economic analysis attributes slow growth to the instability of commodity markets. Primary products tend to have unstable prices that fluctuate dramatically. This volatility creates uncertainty which discourages investment in that industry and prevents the government from having a stable budget and planning for the future. Not only are commodity prices volatile but they are actually declining over time. When you consider the inelasticity of demand for many commodities, these falling real prices practically eliminate a state's chances for sustained growth. Conversely, price trends in manufactures are stable and steadily increasing. Figure 3 below shows these trends in commodity and manufactures prices overtime.



**Figure 3: Trends in Manufactures Prices vs. Commodity Prices**

Source: UNCTAD

It is then easy to see why resource dependent countries, that - as seen in Figure 2 - have low growth in the manufacturing sector, have experienced such slow GDP growth.

A frequently cited political explanation – though perhaps more properly classified as social than political - is that the curse appears in developing countries that experience high levels of ethnic fractionalization. The windfall revenues from the resource sector intensify tensions among rival groups as they fight for a controlling position in the resource sector. Ron (2005) explains, using simple utility maximization logic, that “when the perceived economic opportunities from violence outweigh the perceived risks, armed revolt is more likely.” The group that controls the resource revenues has the most power economically and politically, which allows them to suppress the other groups. It is the fighting over this power that creates the instability that slows productivity and economic growth and in many cases brings on civil war. Hodler (2006) finds that in more

homogenous countries resource abundance can have a positive effect on income, but as ethnic diversity increases, the effect on income becomes increasingly negative. He points to a heightened insecurity of property rights from the intense fighting among ethnic groups to explain poor economic performance.

However, the major politically based explanations of the resource curse are usually centered around the effect of, and on, institutions. In recent years the link between institutions and development has been increasingly emphasized by scholars, but there still seems to be little consensus on how institutions effect development other than agreeing that they do in fact have an effect. Jutting's review for the OECD Development Centre (2003) highlights the difficulties encountered by scholars in analyzing institutions because there are so many direct and indirect ways that institutions can effect development outcomes and so many exogenous and endogenous factors that effect the formation and actions of those institutions. These factors can include exogenous institutions (which are factors such as social norms that are embedded in society and unaffected by development outcomes), incentives/disincentives, the distribution of power, and human actors. In order to have a complete examination of the impact of institutions on development, all of these factors need to be taken into account.

With respect to the resource curse, the most frequently cited political explanation is the deterioration of the quality of institutions through changes in incentives and disincentives and the distribution of power – an argument commonly know as the “rentier state” analysis. A “rentier state” in the context of the resource curse is one that receives most of its revenues from natural resource rents (in lieu of income tax revenue, for example). With less revenue coming from the public, the government will be held less accountable for its expenditure decisions by the public as it has less incentive to create mechanisms for accountability and transparency. This increases the distribution of power in favor of the state and away from the people. A lower level of

accountability will encourage corrupt activities and lead to inefficient allocation of resources and slow economic growth (Sala-i-Martin and Subramanian, 2003). Auty (2006) compares high rents that provide “incentives to capture and redistribute wealth, because that confers immediate personal and political benefits” to low rents which he explains encourage “wealth *creation* [which ] is a long term process, whose benefits may accrue to others.” The rentier state has no need to invest to create new wealth or to adopt macroeconomic policies that would encourage growth of other sectors in the future (potentially bringing in government revenues) because it already receives its revenues from the resource sector. Therefore its expenditures can be more focused on personal and political gain.

Related to this logic, though separate from an economic analysis of the resource curse, is the argument that these encouraged corrupt activities have anti-democratic effects. Bratton and Chang (2006) emphasize that “the emergence of democracy depends importantly on a state whose capacity and legitimacy derive from a rule of law.” Bulte *et al* (2005) establish that resource abundance has a negative effect on the rule of law in that country, which in turn decreases the level of human development. Kaufmann *et al* (2003) measure rule of law with indicators that measure the “extent to which agents have confidence in and abide by the rules of society.” This effect comes from the corruption, simply defined as public resources being used for private benefit, promoted by the deteriorating accountability from rentier effects. If natural resource abundance promotes corruption, and presumably lowers the level of rule of law, then the level of democracy will deteriorate; and, it has been widely accepted that high levels of democracy correlate with higher levels of development than other forms of government (Moon and Dixon, 1985; Frey and Al-Roumi, 1999).

Interestingly, in recent years, most of the analysis of the resource curse as explained through institutions has been performed by economists. However, the orthodox view of state institutions tends to be very narrow – often defined as “good” or “bad” for growth. “Good” institutions

according to economists are ones that promote entrepreneurial activity, have open trade policies, and often have little government intervention. Conversely, “bad” institutions have closed protectionist trade policies and large governments. Mehlum *et al* (2006) make this “good- bad” distinction as “producer-friendly institutions” and “grabber-friendly institutions” where producer-friendly institutions “attract entrepreneurs into production” and grabber-friendly institutions attract “scarce entrepreneurial resources out of production and into unproductive activities.” De Rato (2006) defines “good institutions” as ones that accept principles such as allowing private actors to be the dominant economic actors, ensuring a stable macroeconomic environment, and enforcing openness to international trade. These are certainly not frivolous things to consider when examining institutions, but are in no way the only factors that should be considered. Sachs and Warner (1997) also promote openness as an appropriate trade policy for resource abundant countries, stating “it would be a mistake to conclude that countries should subsidize or protect non-resource based as a strategy for growth....there are simpler and more basic policies that can be followed to raise national growth rates, especially open trade.” Not only is this binary view narrow in its singular goal of efficient economic growth through orthodox economics, but it is also narrow in that it prescribes a “one-size-fits-all” model that ignores the complexities of existing conditions and of the institutions themselves. A different set of institutions can be more appropriate for the development of one state than another. Particularly in special cases such as natural resource abundant states – a set of institutions that work for very diverse economies will most likely not be very compatible with resource dominated economies. For example, open trade policies can certainly promote economic growth in already diversified economies. However, in single sector dominated economies, like resource abundant ones, a completely free market economy may actually intensify the dependence on that sector rather than promote diversification. Institutions with policies that promote the diversification of the economy and the development of other industries are

more suitable for these cases. “There are no bags of policy tricks that work regardless of context,” (Shapiro and Taylor, 1990). “‘Local knowledge’ should become part of any development process and should take precedence over the imposition of some blueprint from development” (Jameson, 2006 citing Rodrik, 2000). In addition to this difference in simply economic conditions, policies that facilitate economic growth are not necessarily the same ones that could promote human welfare. Jameson (2006) criticizes this “institutions for markets” mentality emphasizing that “the human dimensions of development must always be kept in the forefront, and policies that sacrifice the welfare of some for some future benefit, for example the increase in inequality necessary to allow markets to function widely, should be resisted.”

This overview of current literature certainly highlights the need for a more in depth analysis of the effect of resource abundance on human development. To do this a more comprehensive perspective of institutions – how they are affected by resource abundance and how they effect human development – is also necessary. At the conclusion of his literature review, Ross (1999) makes a similar observation: “We still know little, however, about the politics of the resource curse – why resource-exporting governments respond perversely or ineffectively to these and other hardships.” Economically based explanation offer little to directly explain poor human welfare performance. The study of state institutions, which are the only entities that can directly foster human development, is the important next step in the literature of the resource curse.

#### **IV. Establishing the Human Welfare effects of the Curse**

In this section I will establish that a negative relationship exists between natural resource abundance and performance in human development, as embodied in the MDGs, through statistical analysis. Focusing mainly on measures of education and health that indicate the level of basic human needs, I try to improve upon previous analyses of this relationship. Bulte *et al's* 2005 study

produces a negative correlation between resource abundance and a country's performance in the Human Development Index (HDI) – which includes measures of life expectancy, literacy rates, enrollment levels, and GDP per capita. Their analysis included indicators for HDI in 2001, GDP per capita in 1970 (IGDPea70), investment price in 1970 (IPIP70), percent of the population that is English speaking (EnglFr), percent of the population that is European language speaking (EurFr), and resource abundance (ExpPctFM). Their results are seen below in Column 1.

	<u>1</u> <u>HDI</u>		<u>2</u> <u>GDPInd</u>		<u>3</u> <u>EdInd</u>		<u>4</u> <u>LifeInd</u>	
	<b>Coefficient</b>	<b>t</b>	<b>Coefficient</b>	<b>t</b>	<b>Coefficient</b>	<b>t</b>	<b>Coefficient</b>	<b>t</b>
<b>IGDPea70</b>	0.155	(14.87)	0.180	(16.83)	0.130	(7.76)	0.154	(9.34)
<b>IPIP70</b>	-0.129	-(6.03)	-0.107	-(5.11)	-0.143	-(6.06)	-0.136	-(4.06)
<b>EnglFr</b>	-0.023	-(0.91)	-0.002	-(0.05)	-0.002	-(0.07)	-0.066	-(1.94)
<b>EurFr</b>	0.026	(1.33)	-0.032	-(1.33)	0.053	(2.20)	0.056	(2.19)
<b>ExpPct FM</b>	-0.001	-(2.38)	-0.001	-(3.04)	-0.001	-(1.06)	-0.001	-(1.52)
<b>Constant</b>	-0.541	-(5.72)	-0.776	-(8.13)	-0.285	-(1.86)	-0.561	-(3.85)
	N = 90		N = 90		N = 90		N = 90	
	R-squared = 0.86		R-squared = 0.85		R-squared = 0.72		R-squared = 0.73	

**Table 1: Results with original data from Bulte *et al* (2005)**

After replicating their analysis, I tested the strength of this relationship with several different specifications and country samples. It has been established that natural resource abundance has a strong negative effect on GDP growth and because my goal is to emphasize the impact on human development, not economic, I want to ensure that their findings were not driven by inclusion of GDP per capita in HDI.<sup>5</sup> Using all of their original data, the regression showed that most of the effect on HDI from resource abundance is driven by the negative effect on GDP per capita (see Column 2). A negative (but not significant) relationship did appear with respect to the other aspects of HDI - namely education (literacy and enrollment) and life expectancy (see Columns 3 and 4).

<sup>5</sup> Anand and Ravallion (1993) also make note the causal complications involved with the inclusion of GDP per capita in HDI to measure development.

Next, I substituted their natural resource data – fuel and mineral exports as a percentage of total exports in 1970 – with more recent data from 2000 that also includes mineral resources such as diamonds, which were not included in their data but have been known to produce significant resource curse effects. Using this updated data as a dummy variable (and omitting the language indicators which overall were not significant and in the end only reduced the number of cases) increased the number of country cases to 114. Running the same regressions with the more recent resource data, the effect of resource abundance on HDI became even more significant and is no longer only driven by GDP per capita, producing significant effects on both the education and life expectancy aspects of HDI.

	<u>1</u> <u>HDI</u>		<u>2</u> <u>GDPInd</u>		<u>3</u> <u>EdInd</u>		<u>4</u> <u>LifeInd</u>	
	<b>Coefficient</b>	<b>t</b>	<b>Coefficient</b>	<b>t</b>	<b>Coefficient</b>	<b>t</b>	<b>Coefficient</b>	<b>t</b>
<b>IGDPea70</b>	0.149	(14.67)	0.160	(15.41)	0.130	(8.55)	0.155	(10.22)
<b>lpip70</b>	-0.122	-(6.46)	-0.099	-(5.47)	-0.138	-(5.87)	-0.129	-(4.19)
<b>NRD</b>	-0.085	-(4.66)	-0.070	-(3.36)	-0.075	-(2.51)	-0.109	-(3.86)
<b>Constant</b>	-0.477	-(5.19)	-0.607	-(6.54)	-0.256	-(1.87)	-0.559	-(4.07)
	N = 114		N = 114		N = 114		N = 114	
	<b>R-squared = 0.83</b>		<b>R-squared = 0.83</b>		<b>R-squared = 0.67</b>		<b>R-squared = 0.67</b>	

**Table 2: Results with updated data**

This result does not seem to show that natural resource countries will *under*-perform in education and life expectancy measures with respect to what is expected at their GDP per capita. Significant under-performance however was observed for infant and child mortality measures, with resource abundance measures showing negative and significant t-values of -3.05 and -2.66 respectively.<sup>6</sup> It is clear from these results that natural resource abundance has a significant negative effect on measures of human development.

<sup>6</sup> These indicators were added to include more aspects of the MDGs to determine their performance with respect to those goals.

## **V. Theoretical Hypothesis – The Effect of Resource Abundance on State Institutions**

The current literature mostly offers explanations only applicable to poor economic growth outcomes. Explanations using Dutch Disease logic have long dominated the literature, yet nowhere in the Dutch Disease analysis is there anything that can directly explain the negative effect on human welfare that was established in the previous section. At best orthodox economists could say that ‘poor economic performance’ decreases the per capita income and therefore standard of living, but this is a very indirect way to explain low human development. Economic growth can only improve human welfare if the increased income is put towards an increase in the provision of public services like education and healthcare (Anand and Ravallion, 1993). State institutions are the only entities that can directly promote human welfare, and “since few theorists expect other institutions to either provide basic human needs directly or create the preconditions necessary for their provision, a strong state is seen as a *necessary* condition for satisfaction of needs” (Moon and Dixon, 1985). For example, you cannot expect private actors to ensure that basic human needs are met. Public goods are not economically profitable for a private actor to provide. It is the responsibility of state institutions to provide for those needs. Therefore, to explain the negative relationship between human welfare performance and resource abundance statistically established in the previous section, you must examine the effect of resource abundance on the state’s institutions.

This must be a broader, more comprehensive sense of institutions that goes deeper than the narrow economic view, including analysis of factors and indicators such as rule of law, government effectiveness, corruption, level of democracy, and exogenous factors like social norms and the state of previously existing institutions, not just economic policies. Moon in a later work (1991) expands on his emphasis of the necessity of a strong state: “even though a strong and competent state is usually seen as a *necessary* condition for needs satisfaction, we must seek a theoretical defense of

the proposition that states actually *will* act in the way they are *capable* of acting.” (emphasis his). *To effectively promote human development a state must have the institutional capacity and disposition to do so.* Resource abundance has a significant impact on both the capacity and disposition of state institutions directly and indirectly through the above listed factors; therefore to explain poor human welfare performance, you must look to those two characteristics of institutions.

Natural resource abundance has potential to both negatively and positively affect a state’s capacity to promote human welfare. If the state is unable to secure a large stake in the resource sector, its capacity will decrease significantly. Without the revenue from the resource sector economic, political and social conditions can deteriorate rapidly. Snyder states that

“if rulers are able to forge institutions of extraction that give them control of revenue generated by lootable resources, these resources can actually contribute to the maintenance of order by providing the income with which to govern. In contrast, the breakdown or absence of such institutions can produce instability in two ways: first, by causing a fiscal crisis that renders the state vulnerable to collapse, and second, by making it easier for rebels to organize” (2006, 946-947)

Without the increased fiscal capacity from control of resource rents, the overall capacity of the state can decrease even further due to a lower level of rule of law. If all of the revenues from the resource sector fall into the hands of private actors, or the private bank accounts of the governing elite, the distribution of power shifts away from the state, tremendously decreasing its capacity to maintain order. Often a state’s capacity is also measured by its competence in implementing effective policies. However, it seems clear that with a decreased ability to preserve order and stability, the implementation of effective policies, particularly ones focusing on social welfare, will also be a difficult challenge. Bulte *et al* (2005) provide support for this relationship, showing that resource abundance deteriorates the level of rule of law and government effectiveness.

While this potential for disorder is a large concern for resource abundant states, in a majority of cases resource abundance will actually increase the capacity of states. In most cases the public

sector in resource abundant countries is able to maintain a large stake in the resource industry which is seen in Table 3. As described above, the state has several compelling reasons to protect its stake in the resource sector including revenue needs, maintenance of order, prevention – or at least mitigation of – black market activities (with more lootable resources, like diamonds), and simply rent-seeking on the part of the government. Essentially, the state is motivated to control these significant revenues because if they are not in control, somebody else is, giving them the resources to challenge the state’s authority.

Revenues flowing from the resource sector are very important to the capacity of state institutions. Typically, high levels of taxes and royalties from the resource sector constitute a large percentage of total government revenues. It is clear from Table 3 below that in most of the major resource abundant countries in Africa and the Middle East, revenue from the resource sector is an integral part of fiscal revenues. There is an augmentation of the institutional capacity and thus, the state’s potential to promote economic and human development. Sierra Leone is a clear outlier in this group of resource abundant countries, and I will address why the government receives so little revenue from the resource sector in the next section.

<b>Resource Abundant Countries in Africa and the Middle East</b>	<b>Fuel/Mineral Resource Revenue, % of total Government Revenue</b>
Algeria	69.9
Angola	80.9
Botswana	56.2
Congo, Rep of	70.6
Equatorial Guinea	84.0
Gabon	60.5
Iran	59.3
Iraq	58.4
Kuwait	68.4
Libya	72.5
Nigeria	77.2
Oman	78.3
Qatar	71.3
Saudi Arabia	81.6

Sierra Leone	2.0 <sup>a</sup>
Sudan	43.0
Syria	45.7
United Arab Emirates	76.1

**Table 3: Resource Revenue as a percentage of Government Revenue**

Source: IMF, June 2005; Data from 2002-2003

a: Bank of Sierra Leone Annual Report, 2005

Since it would seem that natural resource abundant countries in most cases should have a higher capacity to promote development from the influx of revenues, to explain their poor development performance, another dimension of institutions must be examined. The ability to harness resource rents is no guarantee for successful development. The disposition of institutions, or their inclination and motivation, to use their capacity to increase human welfare or foster human development is equally, if not more, important to analyzing the effect of the resource curse on institutions.

Resource abundance negatively effects a state's disposition to improve human welfare. It emphasizes the sole incentives of preservation of power and securing a stake in future wealth influxes, providing little motivation to promote human development. Auty (2006) notes an important characteristic of resource rents: "[they] can be detached from the economic activity that generates [them], so that [they] can, in theory, be allocated anywhere in the economy (and also into bank accounts abroad)." This property of resource rents is what encourages competition to control them. Recall his comparison of high rents that provide "incentives to capture and redistribute wealth" and low rents that encourage "wealth creation" which requires long term investment and provision of public goods. This explains why low rents "tend to engender developmental political states" or states that have strive to promote social welfare in the long term. These types of incentives can also appear in states where the government is unable to secure a stake in the resource sector. These acts of preservation of power and competition for rents are simply seen in the private

sector. In fact, when the state is not in control, it has all the more incentive to behave in a competitive manner and the competition is much fiercer. We will observe this in the case study on Sierra Leone in the following section.

The level of democracy is also an important determinant of a state's disposition to foster human development, and the effect which resource abundance has on that disposition. Participatory governments have a greater sense of accountability to their citizens and in return the citizens view the government as more legitimate. This accountability is what can motivate the state to take initiative to provide basic human needs. "Political participation helps in the identification of basic needs, promotes the organizational basis for mobilizing resources to meet basic needs, improves the distribution of basic goods and services, and may satisfy 'people's desires to participate in decisions which affect their lives'" (Frey and Al-Roumi 1999).<sup>7</sup> Rodrik (2000) supports this claim stating that "democracy helps build better institutions" which focus on the needs of the local population. However, as discussed earlier, these dispositional effects of resource abundance, commonly known as "rentier" effects, deteriorate the accountability of the government and can lower the level of democracy.<sup>8</sup> Ross (2003) explains that "in the absence of taxes, people are less likely to demand accountability from their government...[this is also done] through spending: greater patronage can also dampen latent pressures for democratization." Not surprisingly, it has been seen that the ruling elite in resource abundant countries tend to resist democratization - or "political diversification," (Gylfason, 2006) – because it would reduce their share of the political power and wealth. The potential gains from the resource sector intensify competition for political control, discouraging rulers to promote democratization and encouraging them to use those rents to solidify their position of power.

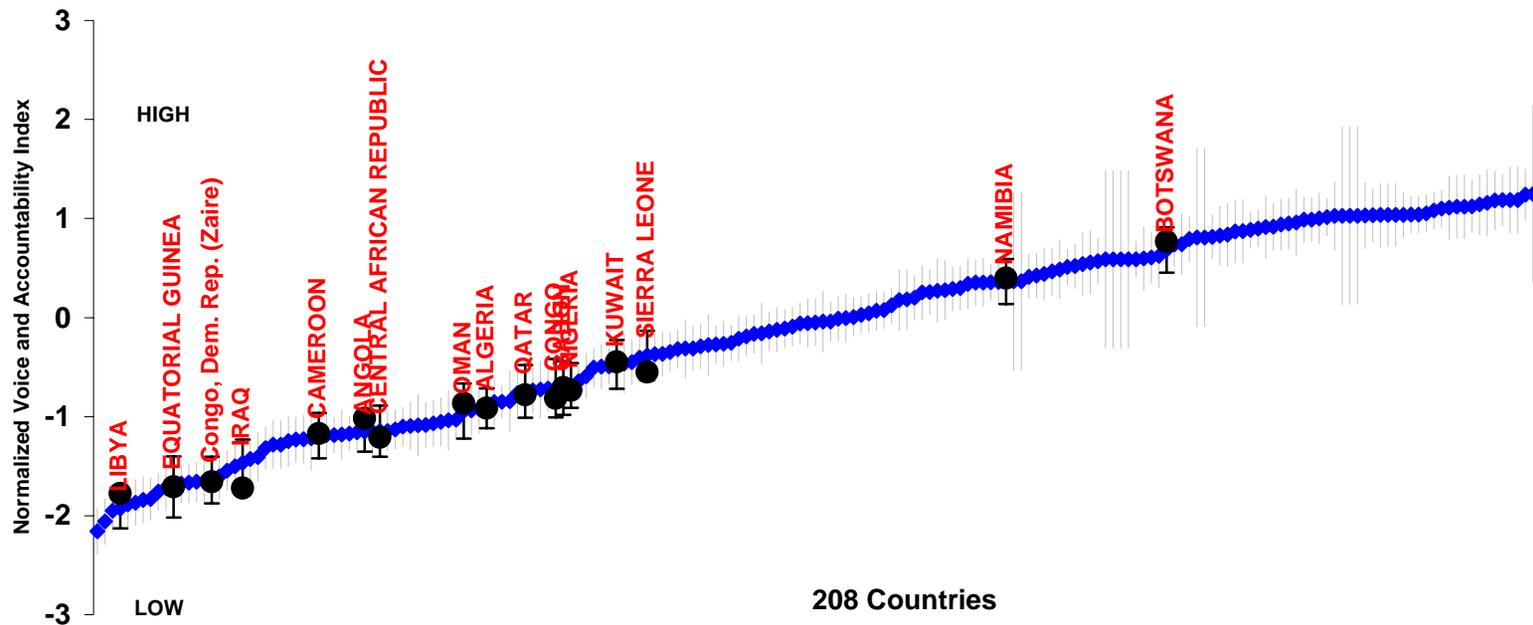
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<sup>7</sup> Frey and Al-Roumi cite R.J. Szal in this quote. "Popular participation, employment and the fulfillment of basic needs." *International Labor Review* 118: 27-38 (1979).

<sup>8</sup> Jensen and Wantchekon (2004) provide empirical evidence of the significant negative effect of resource abundance on the level of democracy.

Rulers of an undemocratic state do not see the public (or the voter) as an empowering entity, meaning that there is no fear of losing an election. Therefore steps taken to preserve their power are not centered on ensuring the satisfaction of the public. This would explain why, if the ruling elite is acting to secure their position of power, it is not necessary for them to invest in social services. In short, deterioration of the democratic accountability of the ruling elite will make the state institutions much less welfare-oriented. It is also crucial note the conditions of pre-existing institutions that could significantly influence how resource abundance affects the development of current institutions. Robinson *et al* (2006) emphasize that “countries with institutions that promote accountability and state competence will tend to benefit from resource booms since these institutions ameliorate the perverse political incentives that such booms create.” A strong pre-existing democratic culture can resist these “perverse political incentives” to use the resource rents for private gain and to preserve political power because the political power is allocated (and taken away) by the public. The state of pre-existing institutions can play an important role in determining the extent to which resource abundance does have negative effects on disposition.

It is not always straight forward to determine the disposition of state institutions to actively promote human development, but it is clear from the above explanation that examining the level of democracy would be indicative of the government’s disposition. Measures of voice and accountability such as freedom of press and civil liberties are a good place to start to gage the level of democratic representation. Kaufmann *et al* (1999) use some of the following indicators to aggregate a measure of voice and accountability: the transparency and fairness of the legal systems; civil liberties; political rights like free and fair elections, representative legislative and political parties; free press; the responsiveness of the government to its people (democratic accountability). Figure 4 highlights resource abundant countries and exhibits the negative relationship between



**Figure 4: Voice and Accountability Scores for Resource Abundant Countries, 2005**

Source: "Governance Matters V: Governance Indicators for 1996-2005 " by Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi.

Kaufmann *et al* Disclaimer: The governance indicators presented here reflect the statistical compilation of responses on the quality of governance given by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries, as reported by a number of survey institutes, think tanks, non-governmental organizations, and international organizations. The aggregate indicators in no way reflect the official position of the World Bank, its Executive Directors, or the countries they represent. As discussed in detail in the accompanying papers, countries' relative positions on these indicators are subject to margins of error that are clearly indicated. Consequently, precise country rankings should not be inferred from this data.

resource abundance and the level of democracy. Most of the resource abundant countries place quite low on the voice and accountability index.

An examination of the fiscal expenditures is one of the clearest indicators of a state's disposition. What portion of the government revenues are put towards need-based welfare expenditures, such as health-care, education, sanitation, or infrastructure? How effective are the expenditures in their purpose? Robinson *et al* (2006) observe an increase in military spending and an inflation of the public sector as a whole in resource abundant countries. They explain that the ruling elite offer employment in the public sector to their patronage to guarantee their support. This, along with increases in military spending, will help maintain their position of power, indicating once again the divergence of the state disposition away from human development.

Analyses of the effect of resource abundance on state institutions' capacity and disposition are by no means mutually exclusive or absolute. For example, a decrease in democracy from the rentier effects will not only negatively effect the state's disposition to promote human welfare but also decreased the state's capacity to implement policies that will promote human welfare. Bratton and Chang (2006) explain, with the support of empirical evidence, that "the strength of states (or their *stateness*) is related, powerfully and positively, to the level of democracy." This negative effect on capacity could counter the large increase in capacity from the influx of resource rents. In general, however, resource abundant countries will experience an increased fiscal capacity from the influx of resource rents and a decrease disposition to use that capacity to promote human development as a result of rentier effects. In cases where the state fails to control rents and experience the increase in fiscal capacity, its disposition will still be shifted away from a focus on human development towards more immediate goals such as restoration of their power and wealth.<sup>9</sup>

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<sup>9</sup> Many scholars use rentier state logic to explain the resource curse, but few ask why the ruling elite act differently with resource rents than with taxes or why citizens do not demand accountability for those resources. Future work to apply

## **VI: Extreme Success and Failure, Botswana and Sierra Leone: Case Studies**

### **Overview:**

Throughout the ever-growing literature on the curse of natural resources, Sierra Leone and Botswana are frequently cited as the prime example of the curse and the exception to that curse, respectively. Sierra Leone, though endowed with a large diamond reserve, in addition to many other natural resources, has a history marred with corruption, civil war, and poverty. Botswana, on the other hand, has the longest-lasting multiparty constitutional democracy in Africa and has experienced one of the highest per-capita income growth rates in the world for over three decades, making it a shining example that natural resources need not be a curse.

Sierra Leone and Botswana were chosen for this case study because they are at two opposite extremes in the resource curse literature, yet they share very similar characteristics. Both are well-endowed in diamonds – alluvial and kimberlite. Ross (August 2003) lists Botswana and Sierra Leone as the top two non-fuel mineral dependent states, with Botswana in the first position with 35.1% of GDP made up of non-fuel mineral exports and Sierra Leone in the second position with 28.9%.<sup>10</sup> While it is commonly known that commodity prices can be quite volatile which could contribute to poor economic performance, diamond prices have remained stable throughout the years due to DeBeers' monopoly over the industry. DeBeers is able to keep diamond prices stable and inflated “by purchasing excess supplies when that is needed to avoid price increases” to “maintain the notion that diamonds are a scarce commodity” (Kretschmer, 1998). Additionally, both countries were British colonies that peacefully gained independence in the 1960s (Sierra Leone 1961, Botswana 1966).

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Tversky and Kahneman's (1979, 1986) prospect theory can potentially provide greater insight into these questions. A more detailed description of the applicability of this theory can be found in my original, full-length thesis.

<sup>10</sup> His figures are for 1995.

These two countries with very similar starting points and conditions, however, took very different paths. In 1975 Sierra Leone's GDP (ppp) was more than double the GDP of Botswana. Now, Botswana's GDP is almost six times that of Sierra Leone and its GDP per capita is more than ten times greater.<sup>11</sup> Not only has Botswana outperformed Sierra Leone economically, but in several indicators of human development as well. The adult literacy rate in Botswana is approximately 94% (92.1% male, 95.6% female) – a great feat considering Botswana had practically no education system to speak of at independence. Conversely, Sierra Leone at independence was considered to be the educational center of West Africa with the European style Fourah Bay College. Yet, currently its adult literacy rate is only 47.6% (59.1% male, 37.2% female). In 1991 the net primary enrollment ratio in Sierra Leone was a low 43% and almost double that in Botswana<sup>12</sup>.

Despite having the second highest HIV prevalence rate in the world (37.3%), Botswana surpasses Sierra Leone in several measures of health standards.<sup>13</sup> The infant mortality rate in Botswana is a third of that in Sierra Leone (53/1000 Botswana, 160/1000 Sierra Leone<sup>14</sup>). The HIV/AIDS epidemic, especially in a country with a rate as high as Botswana, often has significant effects on indicators like infant mortality, and this indicator has in fact risen in the past 10 years for Botswana. However, the fact that Botswana significantly outperforms Sierra Leone is indicative of a superior health system even in the face of the HIV/AIDS epidemic. Other health indicators pointing to higher health standards in Botswana would be a much lower maternal mortality rate (100/100,000 in Botswana, 2000/100,000 in Sierra Leone), a higher measles immunization rate (90% in Botswana, 67% in Sierra Leone), and a significantly greater proportion of births attended

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<sup>11</sup> World Development Indicators, 2006.

<sup>12</sup> World Bank Millennium Development Indicators, Data for 2004.

<sup>13</sup> The HIV prevalence rate in Sierra Leone is 7% (CIA 2007).

<sup>14</sup> World Bank, Millennium Development Indicators, Data for 2004.

by skilled personnel (94.2% in Botswana, 41.7% in Sierra Leone).<sup>15</sup> Sierra Leone does surpass Botswana in life expectancy, 40 years compared to 33 years, but before HIV took its toll, Botswana had a very respectable life expectancy of 62.5 years in 1993.<sup>16</sup> The government has taken many initiatives, promoting some of the most comprehensive programs for dealing with the disease, including free anti-retroviral treatment and a nationwide Prevention of Mother-to-Child Transmission program. Public health expenditure per capita in Botswana for 2003 was \$375 and only \$34 in Sierra Leone.<sup>17</sup>

Where and why does this divergence take place? As outlined in Section V, a state needs both the capacity and disposition to promote human development, and natural resource abundance greatly affects both. After a short historical review I will discuss how the capacity of each state is affected by resource abundance through examining the role of the government in the diamond sector, the level of diamond revenues flowing to the government, and the level of rule of law and government effectiveness. Then I will move on to the disposition of each state and how it was affected through an examination of government expenditures, pre-existing institutions, and the level of democracy. Ultimately this section will exhibit that

1. Sierra Leone's poor welfare performance is due to the negative effects of diamond abundance on the *disposition* of the state to promote human development and the state's inability to attain the potentially substantial amount of diamond revenues that would augment its *capacity* to advance human development; and that

2. Botswana has made such progress with human development (even considering its high HIV prevalence rate) because it was able to turn its diamond abundance into increased *capacity* to

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<sup>15</sup> World Bank, Millennium Development Indicators, Data for 2000, 2004, and 2000 respectively.

<sup>16</sup> CIA Factbook 1993.

<sup>17</sup> Human Development Report 2006.

promote human development and maintain a *disposition* to use that capacity to that end, resisting the perverse incentives typical of resource wealth.

## **Sierra Leone**

### **History: From the Province of Freedom to Civil War<sup>18</sup>**

Sierra Leone was formed in 1787 as the “province of freedom” by slaves freed by the British and brought back to Africa. By 1792, it became one of the first British colonies in Western Africa, and the society of freed slaves assimilated many aspects of British lifestyle and culture. There are several ethnic groups in Sierra Leone, though the Mende, Temne and Limba tribes were the largest portions of the native population. Although, the Krios – the returned freed slave population – were relatively dominant for most of the colonial history. With the creation of the Fourah Bay College in Freetown in 1827 – the only European-style university in the region – Sierra Leone became the “educational center” of West Africa.

During colonial rule, the British administration remained confined mostly to Freetown and the surrounding areas, leaving the chieftains to govern the tribes outside of the metropolitan area with little interference, and in many cases increasing and solidifying the powers of the highest chiefs – the Paramount chiefs. The British administration even provided rather large salaries for the chiefs, which created heightened competition for the chieftaincy. “Discontent at chiefs’ abuses was common in Sierra Leone, often centering on excessive cash levies, unpopular land allocations, forced labour, and the punishment of dissenters. All this helped store up anger which erupted later” (Keen, 2005:10)

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<sup>18</sup> Much of this historical account comes from the State Department’s Bureau of African Affairs Background Notes, Hirsch (2001), and Keen (2005).

In 1951, a constitution was created between the British administration and the local leaders that set up a framework for a peaceful decolonization where responsibilities were slowly passed on to local ministers. Independence came in 1961 with a parliamentary system, similar to that of Britain, and the election of Sir Milton Margai of the Sierra Leone Peoples Party (SLPP) as Prime Minister. At this time, many saw great potential in Sierra Leone to become a successful developmental state. There was already a focus on education with the Fourah Bay College, and the new state showed signs of developing a responsible bureaucracy. “At independence in 1961 Sierra Leone’s development prospects looked encouraging. The country had a renowned educational system; a rich and diversified natural resource base comprising diamonds and other minerals, and abundant agricultural and marine resources; tourist attractions; and a seemingly stable democracy” (Davies, 2002).

Margai’s brother, Albert Margai, took office in 1964 upon Milton’s death and “by all accounts [he] saw the state not as a stewardship in the public interest [as his brother did] but as the power base for personal gain and aggrandizement” (Hirsch, 2001). However, the SLPP ruled relatively peacefully and democratically until 1967, when Siaka Stevens of the All People’s Congress (APC) was elected office. “Margai, unwilling to relinquish power, sought to reverse the popular decision, first through a parliamentary maneuver and then by encouraging a military coup” (Hirsch, 2001). Following several brief coups, Stevens was finally sworn into office in 1968.

Margai’s attempts to overrule the multi-party democracy in Sierra Leone, combined with a previous culture of popular disapproval of tribal chiefs, pushed Stevens to take drastic, undemocratic actions to secure his and his party’s position of power.

“Having himself been temporarily toppled by a coup in 1967, Stevens tried to prevent a recurrence by keeping the army restricted to a largely ceremonial role. William Reno (1995) refers to the creation of a ‘shadow state,’ with entrepreneurs and politicians working together

to hijack the state for private gain. This was mirrored in the creation in 1973 of what we might call a ‘shadow army,’ the so-called Special Security Division (SSD), essentially a private security force that was built up has a means of intimidating opponents and as a counter to the regular army” (Keen 2005).

By 1978, Stevens had amended the constitution to ban all parties other than the APC. In addition to his undemocratic behavior, Stevens’ rule was defined by lavish, reckless spending that drastically weakened the central government. Adebajo (2002), Hirsch (2001) and Keen (2005) all cite the excessive spending on the 1980 Organization of African Unity (OAU) summit hosted in Freetown, equivalent to a year of central government expenditures, which decimated the central budget for years to come. Hirsch explains that Stevens’ rule was referred to as the “seventeen year plague of locusts” for its destruction of the country financially and its corruption politically. In 1985, Stevens hand picked his successor, Major General Joseph Saidu Momoh.

This tremendous and escalating level of fiscally, politically and socially irresponsible behavior characterizing APC rule, combined with the onset of an economic crisis in the late 1980s, motivated the creation of the Revolutionary United Front (RUF). The small group of men of the RUF, led by Foday Sankoh and supported by corrupt Liberian dictator Charles Taylor, began attacking villages along the Guinean border in 1991 and within months had taken control of the Kona district – the center of the diamond mining industry. For them, this was a crucial victory and was much more important than taking control of the capital. The central government had been so weakened by more than twenty years of corrupt rule under the APC, that it could not muster the strength or resources to deter the RUF, which in its early stages consisted of only 100 men. In 1992 there was a military coup which overthrew Momoh and established the National Provisional Ruling Council (NPRC); however, in the following years, the NPRC also failed to deter RUF forces, who continued to gain control of territory and moved closer to Freetown.

The shortcomings of the NPRC brought pressure to reinstate civilian rule, and in 1996 multi-party elections were held to reinstate the civilian government. Ahmed Tejan Kabbah, a former UN diplomat, was elected President. Yet, Kabbah was not in office long before he was overthrown by the Armed Forces Revolutionary Council (AFRC) in May of 1997. The AFRC invited the RUF to join the central government but the Economic Community of West African States Cease-Fire Monitoring Group (ECOMOG) removed the AFRC after less than a year in control and reinstated Kabbah as president. The international community finally took notice of the chaos ravaging Sierra Leone, helping Kabbah and the RUF's Sankoh to negotiate the Lome Peace Agreement, which required the UN Security Council to create the UN Mission in Sierra Leone (UNAMSIL) in 1999. The Lome Agreement made Sankoh Vice President, a position which he almost immediately began to abuse. The RUF staged attacks on UNAMSIL forces in 2000. It was not until 2002 that the government was able to regain control, disarming much of the RUF forces, and President Kabbah officially declared the civil war to be over.

### **Analysis and Discussion:**

Much of the turmoil and instability of Sierra Leone's history can be traced to the conditions of the diamond industry and their effect on Sierra Leone's institutional capacity and disposition. The role of the Sierra Leonean central government in the resource sector has fluctuated throughout history, but it was never able to really reap the benefits fiscally; profits always seemed to end up in private hands and the state's potential to promote human welfare was never realized. To determine where and how Sierra Leone lost the potential capacity from the diamond industry, an analysis of the progression of the industry is necessary.

Intensive mining started in the 1930s and the British administration regulated them under Diamond Protection Areas, where it was actually illegal for anyone else to mine. The British had

exclusive rights over the diamond mining industry from 1934 (the discovery of diamonds) until 1956 with the Sierra Leone Selection Trust (SLST), a DeBeers subsidiary. “Sierra Leoneans [were] legally prohibited from mining their own diamonds” (Keen 2005). Illegal mining of alluvial diamonds grew more and more prevalent. Although it had its own security force, the SLST was unable to curb the ever increasing amount of illegal diamond mining. Pressure among the local population mounted to legalize small, artisan mining operations through the Alluvial Diamond Mining Scheme (ADMS) which would ideally reduce the amount of illegal diamond trade that in the late 1950s constituted almost two-thirds of all diamond production (Keen, 2005). The task of regulating licensing was placed on the local chiefs, which resulted in cronyism in passing on licenses and drastic increases in wealth and power of chiefs of diamond rich areas, fostering resentment by the general population and competition for those positions.

While the ADMS had increased the amount of legal mining activity, smuggling still remained prevalent. In response, the Gold and Diamond Office (GDO) was created, run by the DeBeers cartel, which bought and sold diamonds through legitimate channels but at the high prices found in the illicit markets. The GDO seemed to be successful in significantly decreasing the level of illegal diamond trade, but the central government saw no substantial increase in revenues from the diamond sector; “Sierra Leone’s diamond wealth continued, in effect, to hemorrhage from the country” (Keen, 2005). The SLST was mostly privately run, meaning the government of Sierra Leone had no direct ownership or share in the profits, which would explain the central government’s inability to gain the increased capacity typically seen in resource abundant countries. In 1971 the state did take a controlling share of the SLST with the National Diamond Mining Corporation (also known as DIMINCO). However, the revenues from this creation of a public-private organization did not augment government revenues because the “bulk of DIMINCO’s

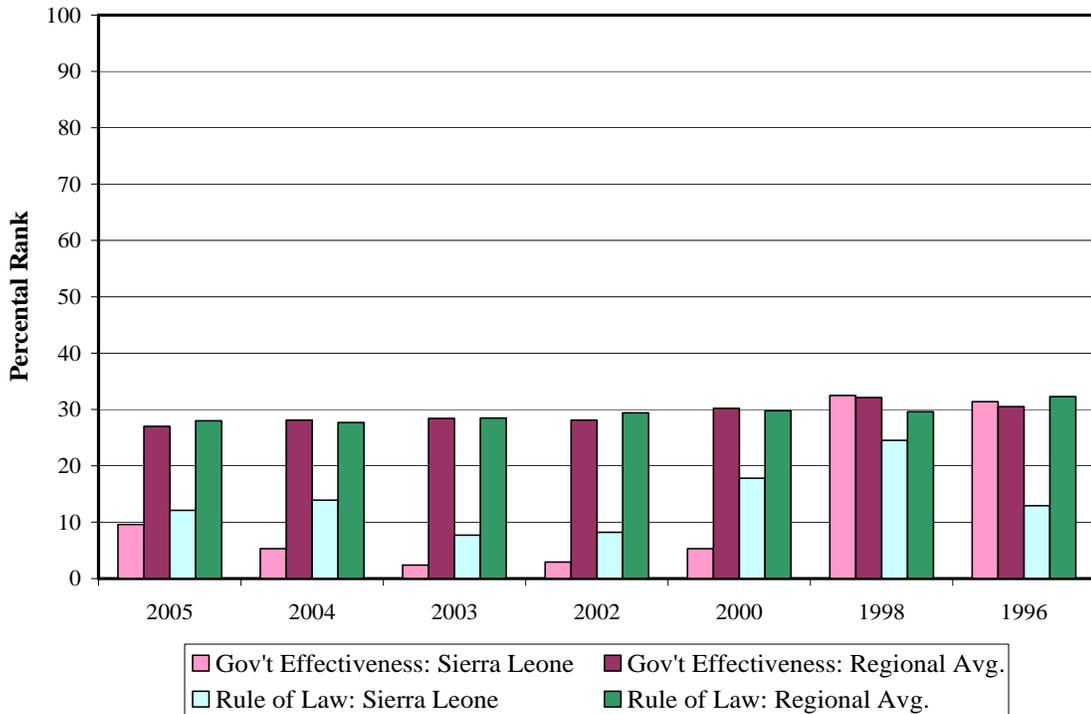
income found its way into private hands...a select group of business men – often Lebanese and usually close to Stevens – rather than the treasury or the general population” (Keen, 2005: 23). Thus, the state still saw no augmented capacity from its diamond industry and its human development stagnated.

Stevens used those revenues to increase his private capacity and maintain his position of power rather than to increase the public fiscal capacity. Stevens had no motivation to ensure that any of these revenues were deposited in the national treasury- even for the augmentation of his military (let alone social development). As noted earlier, he felt threatened by the military and maintained his own private security force, the SSD. By 1984, the SLST pulled out and the official corporate diamond sector fell apart. “The state had lost control of its assets, enabling private entrepreneurs to take over Kono and adjacent diamond-rich regions.” (Hirsch, 2001: 27-28) Any revenue from the diamond industry that the state (or Stevens) was collecting disappeared with the collapse of the corporate diamond sector. Almost all diamond mining was done privately and illicitly traded out of the country. Keen reports that “by the late 1980s, economists were estimating that 95 percent of Sierra Leone’s diamond production was being smuggled out of the country” (2005: 22). Even more recently, Davies, citing USAID, states that in 1999 Sierra Leone’s diamond production was estimated to be \$70 million and that \$68.5 million was traded illicitly (2002).

The mismanagement of revenues from the diamond sector, the inability to control illicit diamond mining, and the general corruption of Stevens’ administration eventually bankrupted the government, to the point where there was no capacity to provide anything – socially, militarily or economically. When the economic crisis of the late 1980s hit, already low levels of human welfare were exacerbated – teachers were not paid and forced to charge students themselves; there was less than 30% enrollment in secondary schools; public healthcare was deteriorating or simply

unavailable (Keen, 2005: 27-29). Momoh made several efforts to reign in diamond smuggling and regain some revenue, but he lacked the political power. “If Momoh had been able to gain a greater degree of control over the diamond industry, this might have helped him to raise sufficient revenue to consolidate his control and thereby obtain further revenue. But he lacked the local clout to put the new edicts into operation. Corrupt mining officials continued to allow extensive illicit mining” (Keen, 2005: 34). When the RUF began its attacks in 1991, the government was too weak to defend itself.

As reviewed in Section V, the level of rule of law and government effectiveness can also be indicative of the institutional capacity of a state. From the brief history presented above, it is clear that the central government was essentially rendered ineffective through Stevens’ rule. The residual effects of his corrupt activities made the level of rule of law almost non-existent, bringing on a civil war. The government’s inability to legitimately secure a significant role in the diamond industry and maintain a flow of revenues from the sector severely inhibited its ability to implement effective policies for human welfare. Figure 5 below is clearly indicative of Sierra Leone’s poor performance in recent years compared to the regional average for Sub-Saharan Africa, which itself is quite low.



**Figure 5: World Bank Institute Governance Indicators, Sierra Leone vs. Regional Average<sup>19</sup>**

A state’s institutional capacity and disposition, and the effects of resource abundance thereof, are not mutually exclusive – as explained in section V. The negative effect on the disposition of the Sierra Leonean government to support human development, derived from what at times was only the prospect of windfall revenues from the diamond industry, seems to be at the root of the state’s inability to capture sustained revenues from the sector. Rentier effects – in the sense of self preservation and battle for control of territory that will produce rents – were present in Sierra Leone even if windfall revenues were not.

A cursory examination of the interests of the ruling elite would clearly conclude that their priorities lie in the maintenance of their position of power and maximizing their private gain. The

<sup>19</sup> Kaufmann *et al* measure Government Effectiveness by combining “perceptions of the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government’s commitment to policies into a single grouping.” They measure Rule of Law with “perceptions of the incidence of both violent and non-violent crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts.”

fact that Stevens' power was threatened from before he even officially took office certainly shifted and reinforced his politics of intimidation and patronage. He did not feel secure in his position of power and saw the public more as a threat than the reason he was in power. In Sierra Leone there was also a history of resentment towards the chiefs who were not welfare oriented and also easily corrupted by the colonial administration. This made leaders more focused on retaining their power rather than on the collective good or human development. The lack of any previous transparent or semi-democratic institutions severely hindered their development upon independence.

The lack of solid pre-existing democratic institutions, and the deterioration of what little democracy there was after independence, explains the poor disposition of the state to promote human welfare and the self-serving interests of the ruling elite. During Stevens' regime (and even earlier with Albert Margai), when the system of corruption and unaccountability began, the level of democracy fell dramatically. Sierra Leone was a budding democracy at independence with potential, but it was not strong enough to resist the perverse effects of resource abundance. Without a previously established culture of participation and consensus, it was easy for Stevens to eliminate democratic aspects of the state institutions; therefore allowing the disposition of the state to be shifted towards his personal needs. Stevens amended the constitution for one-party rule and used intimidation and force to remove any opposition. Transparency International ranks Sierra Leone 126 out of 158 with a score of 2.4/10, and it has been shown in Figure 4 that Sierra Leone ranks low with the measure of voice and accountability as well.

The low level of democracy and the lack of disposition to promote human welfare can be traced to Stevens' insecurity in his position. He saw other political leaders and parties and the military as the ultimate threat to his power and control of resource wealth. Therefore, his policies of patronage and intimidation were logical to maintain his position of power and wealth – appeasing

and providing social services for the public were not necessary. However, policies such as these have severe consequences, which are evident in the chaos, civil war, and deep poverty that follows soon after his rule.

Stevens' preoccupation with the preservation of his status, and lack of focus on human welfare, is clearly visible in the government expenditures. As explained above, the revenues from the resource sector were not being put toward public spending of any kind – even the military. Stevens profited privately, as well as the business men with whom he had developed strategic relations, and used his profits to support his private security force (SSD), enhance his reputation among other African leaders (lavish and wasteful spending for the OAU Summit), or to simply buy off the opposition (when that failed, his investment in the SSD was put to use). None of these expenditures exhibit any inclination of a focus on human development. During all of Stevens' spending, the education and healthcare systems were left to deteriorate.

“From the 1930s to the present, diamonds became the crucial keystone in the widespread pattern of corruption and private benefit that has remained beyond the institutional capacity of successive governments to control” (Hirsch, 2001). There was clear potential for a greater capacity from diamond abundance, but this was overshadowed by the lack of will produced by resource abundance to take action to increase human welfare. All of this has left Sierra Leone to be one of the poorest and most poverty stricken countries in the world today.

## **Botswana**

### **History: From mineral scarce colony to diamond-produced development**

In Botswana, the pre-colonial tribal institutions were particularly incorporative and run largely on consensus. The Tswana tribes in the eighteenth century conquered many of the other

ethnic tribes, but they had a very integrative tribal structure, so these other tribes “were basically amalgamated into the Tswana” (Acemoglu *et al*, 2001). While the chiefs were the central political leaders in these tribes, “they were not, and were not supposed to be, absolute dictators” (Colclough and McCarthy, 1980). A form of public assembly or forum, called *kgotla*, existed in these tribes where the members of the tribe (the male members) acted in a type of advisory and critical role to the chief. Colclough and McCarthy (1980) cite a Setwana (the language spoken by the Tswana) proverb that “‘a chief is a chief only by the will of the tribe’ implying that the tribe could if necessary remove the chief” (36). It is also important to note that “tribes” in Botswana are not the traditional ethnic groups that usually come to mind. A “tribe” was actually a political entity – similar to a territorial reserve or state – which is a product of British rule. In other words “tribes” are actually multi-ethnic groups. The University of Botswana’s History Department’s report on the Afrobarometer Network findings makes the point with the following example: “The ‘Batawana Tribe’ [Batawana, not Batswana] of the North-West was a *political* entity, in which the Batawana, as an ethnic group, were a minority. Most members of the ‘tribe’ spoke other languages.”

In 1885 Britain officially declared Botswana, then “Bechuanaland,” a royal protectorate. The British colonial rule was relatively minimal as it was a colony for its strategic, territorial positioning more than value of the region itself. Though Britain had some level of indirect rule in most of its colonies, in Botswana it was particularly non-invasive – much less than in Sierra Leone. Thus these pre-colonial institutions and this culture of governing under the consent of the populous survive today.

During the pre-independence period, the colonial administration neglected the education and healthcare systems, investing little in their development and localizing the responsibilities of maintaining and providing these social services to the tribal administration which lacked the

necessary resources. “The quality of education was uniformly poor with large class sizes and a high failure rate” (Acemoglu *et al*, 2001). At independence, enrollment in primary education was only 47% and only 40% of those students actually completed their primary schooling. Secondary education was only provided to 3.1% of population in that age group.<sup>20</sup> Samatar (1999) reports that the “secondary school system produced only 16 students in 1965 capable of higher education.” Health standards were also quite low, which was typical of poor countries of the time. In the late 1930s, only nine doctors with a supporting staff ran four mission hospitals and three government hospitals throughout the entire protectorate. Even in 1963 a majority of government expenditures on health were concentrated in those seven already existing hospitals, rather than creating new health centers in rural areas far from those hospitals (Colcough and McCarthy, 1980).

A constitution was established in 1961 with a framework for peaceful decolonization. This constitution remains functioning and unchanged today. The transition from the tribal system based on participation of the tribe members to a democratic independent state, while not perfect, was smooth. After gaining independence in 1966, Seretse Khama of the Botswana Democratic Party (BDP) became the first president. Khama was well respected by the Batswana population, having strong ties to most of the population, sustaining a united dominant class. Samatar (1999) emphasizes how the fact that Khama “wore many hats:

1. For the peasants, he is a chief. [He was chief of one of the largest tribes in Botswana before independence]
2. For the small group of educated Africans, he is one of them.
3. For the large cattle-owners, his is one of them. [Cattle-owners were the economic elite]
4. For the chiefs, he is one of them.
5. For the Europeans, by dress, language, behavior and experience, he has much in common with them;

cemented a national coalition” (71).

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<sup>20</sup> Statistics for 1965 from Colcough and Mc Carthy (1980).

One of Khama's first actions in office was to pass the Mineral Rights in Tribal Territories Act in 1967, which transferred the mineral land rights from the local tribes over to the state. "Its passage was undoubtedly simplified by the limited knowledge of the mineral potential at the time, the ethnic homogeneity of the Batswana, and most importantly by the fact that Seretse Khama, the State President, also happened to be the traditional leader of the only tribe which at that time had any prospect of mineral wealth" (Colcough and McCarthy, 1980). It was soon after that intensive diamond mining commenced within Botswana. In 1975, the government was able to negotiate an equal share in the new diamond mining industry with DeBeers, forming Debswana. The government had a strong bargaining position as it became more and more clear that Botswana was an important region of diamond abundance. DeBeers, who had and still has, a strong monopoly on the industry could not risk completely withdrawing from Botswana. The 1975 agreement with DeBeers was a huge triumph for the Batswana government because it had been struggling to shift away from its fiscal dependence on British funding (Colcough and McCarthy, 1980). The high level of human development in Botswana was explained at the beginning of this section, but it was at this point, when resource revenues really began to flow to the government that improvements in health and education became visible. In 1975, Botswana's HDI score was a .500 and in 1990 it had risen to .680 (after this the effects of the HIV/AIDS epidemic began to take hold and HDI fell).

In 1980 Khama died in office and Vice President Ketumile Masire peacefully made the transition into office. Masire was reelected three times (1984, 1989, and 1994). After his retirement in 1998, Festus Mogae took over, who was reelected 2004 and is still in office today.

### **Analysis and Discussion:**

Unlike most other resource abundant countries, Botswana was able to turn its diamond abundance into a blessing which contributed to both its human and economic development. Early

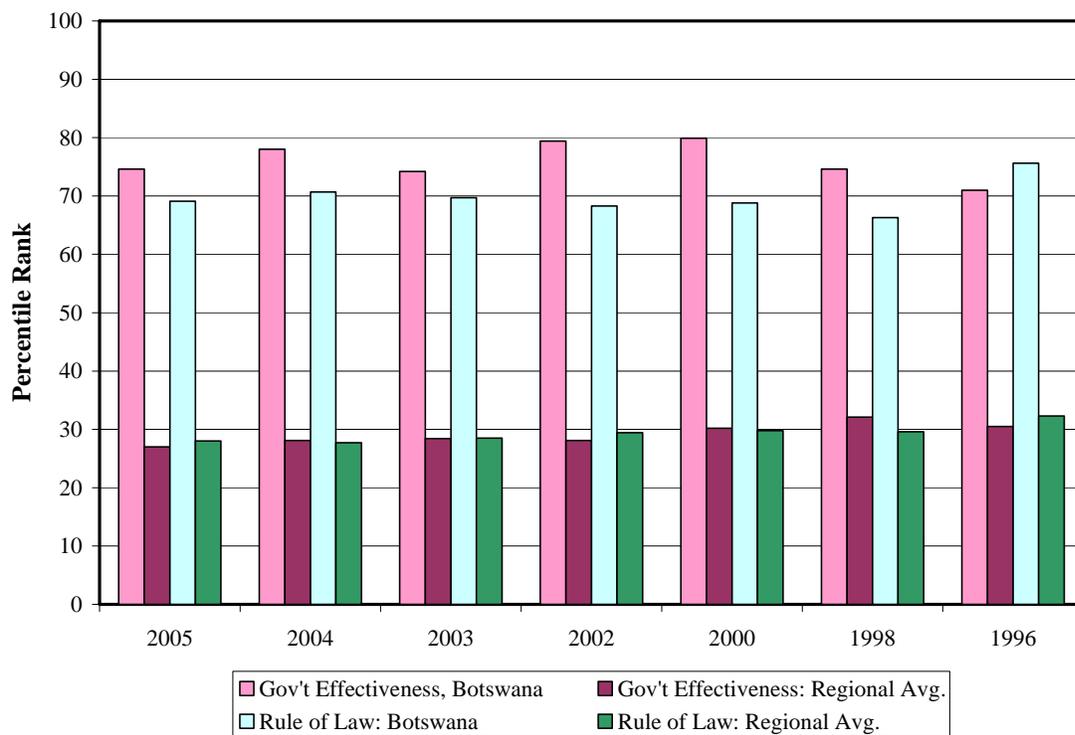
in its independence human welfare performance was quite low due to a lack of capacity on the part of the government – it simply lacked the resources improve conditions. Botswana’s success in securing and maintaining a strong position in the diamond industry was undoubtedly one of the most important factors in the augmentation of its capacity to promote human welfare. The fact that these negotiations with DeBeers took place several years after independence also played a factor in its success, especially compared with Sierra Leone, whose diamond sector was already mostly privately run at independence. “Botswana got off on to the right track at independence and by the time the diamonds came on stream, the country had already started to build a relatively democratic polity and efficient institutions. The surge of wealth likely reinforced this” (Acemoglu *et al*, 2001). And not only was it able to get a stake in the industry, but the revenues flowed directly to the central government, not into private hands – which is not easy to guarantee, as seen in Sierra Leone.<sup>21</sup> As the value of diamond exports increased rapidly from the mid-1970s onward, the budget balance shifted from deficit to surplus, and has remained a surplus since 1983 (Samatar, 1999: Table 5.6).

Botswana experienced a huge increase in fiscal capacity almost immediately at the start of major diamond mining. The government was not only receiving revenue from taxes and royalties, but also from dividends and shares of the profit as an equal owner of Debswana. Colcough and McCarthy (1980) report that even in the first two years of major diamond extraction, rents from the mineral industry totaled 18% of government revenue. This figure only increased from there. The Bank of Botswana reports that in the 1990s, the diamond industry provided approximately 50% of government revenues on average. In its 2005 Annual Report, in the 2004-2005 fiscal year mineral revenue still constituted 49.3% of total government revenue.

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<sup>21</sup> It is, however, important to note that there was no real prevalence of smuggling in Botswana because it is mostly abundant in kimberlite diamonds, which require large corporate operations to extract, whereas Sierra Leone was abundant in both kimberlite and alluvial.

The stable rule of law and the high effectiveness of the government’s policies (seen in Figure 6 below) in Botswana reinforce the notion that the state had a high capacity for human development. Sustained resource revenue (and capacity) allowed the government to ensure a certain level of rule of law and implement effective policies. The increased capacity produced by the resource sector clearly puts Botswana above the regional average for Sub-Saharan Africa with respect to these governance indicators.



**Figure 6: World Bank Institute Governance Indicators, Botswana vs. Regional Average**

The potential to enhance human welfare from this augmented capacity did not go to waste. Botswana was able to resist the negative effect on its disposition to promote human development that most resource abundant countries face. The state had the will and motivation to use its capacity to promote human development as opposed to private gain. Why was this the case?

The pre-existing culture of participatory governance was by far the most important influence on the disposition of the state to promote human welfare and key to resisting the perverse incentives

created by resource wealth. The tribal heritage based on consensual rule was critical to the adoption of a stable democracy at independence. Additionally, this democracy had several years to develop before windfall revenues from the diamond industry began to flow. Transparency International recently labeled Botswana as the “least corrupt country in Africa” ranking it at 32 out of 158 with a score of 5.9/10. Its stable democratic system meant that the biggest threat to the political rulers was the voter – not a military coup or political rivals. This implies that the ruling elite felt accountable to the public to secure their position of power, motivating them to serve their needs and provide social services like healthcare and education. This would explain why countries with well-established democracies perform better with respect to human development. This is a major difference between Botswana and Sierra Leone.

The ruling elite in Botswana at independence were a united class of predominantly cattle owners. Before intensive diamond extraction, the cattle industry was the biggest economic sector, which meant that the cattle owners had a vested interest in stability and economic development, as they stood to profit the most from it. “At independence the only real prospect for a sector of the economy to develop was ranching... and a great deal of the infrastructure development had the effect of increasing ranching incomes....The political elites were therefore enriched by the development policies that were adopted in 1966” (Acemoglu *et al*, 2001). These elite did not change their views or policies when diamond revenues appeared because they felt secure in their position and in the institutions. “The political security of the elites was to some degree an outcome of the relatively developed institutions that Botswana inherited from its pre-colonial period, which ensured some degree of political stability” (Acemoglu *et al*, 2001). This feeling of security allowed the elite to support development policies that seemed to undermine the power of most other African governments.

The effects of the interests of the ruling elite and high level of democracy on its disposition to promote human welfare are clearly visible in the government's expenditures. For the fiscal year 2004-2005, education commanded 24% of total government expenditures and healthcare took 12%.<sup>22</sup> If you combine education; health; food and social welfare; housing, urban and regional development; and community and all other social services, this constitutes almost half of all government expenditures.<sup>23</sup> These numbers clearly show a disposition, will, and desire, to foster human development. This disposition, when combined with its great capacity, helped Botswana to achieve its level of development today and surpass many of its neighbors.

## VII. Conclusions

Natural resource abundance has been found to have a significant negative impact on human development in this paper. This effect is seen to take place through the impact on the capacity and disposition of state institutions to foster higher levels of human welfare. High levels of resource rents may increase the capacity of a state, but will also have detrimental effects on the placement of human development as a priority to the government. Without the motivation to use its potential capacity to promote better human development, the state remains bogged down by poverty.

However, as seen in the case of Botswana, this is not an absolute or certain outcome for all resource abundant countries. The question is: what made Botswana resist these effects? What can be concluded from these case studies is that strength of pre-existing stable, democratic institutions can be the ultimate determining factor of the effect of resource abundance. Sierra Leone, who was unable to gain control of resource revenues, had weak participatory elements in its government

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<sup>22</sup> If this percentage seems low considering the health crisis at hand, note that Botswana has one of the most extensive programs combating HIV/AIDS. It recently rolled out a huge anti-retroviral program with a tremendous amount of private investment through their partnership with the African Comprehensive HIV/AIDS Partnerships, Merck Pharmaceuticals and the Bill and Melinda Gates Foundation.

<sup>23</sup> Statistics from the Bank of Botswana Annual Report 2005.

before its independence. The tribal structure was very authoritarian and created much resentment from the population. The fact that the diamond industry was pre-established to be controlled by the private sector during the pre-independence period also had detrimental effects on the development of stable, democratic institutions. The disposition of the government to promote human welfare was moved away from that goal from its inception. Botswana, however, has strong participatory elements in its tribal heritage as well as communal sentiments. This history allowed Botswana to easily adopt a solid democratic system at independence. Also contributing to its democratic development is the fact that intense diamond revenues did not begin flowing into the national treasury until several years after independence. With a stable democracy already in place, the damaging effects on the disposition of the government to foster human development typically seen in resource abundant countries were not felt.

This conclusion does not mean that all hope is lost for resource abundant countries without previous democratic governments. If countries with newly found resource abundance acknowledge and understand the effects on their abundance on their capacity and disposition, they can take steps to reform their current form of governance. The Extractive Industry Transparency Initiative (EITI) is one example of how a country without a previously stable and accountable government can avoid the negative effects of resource abundance on their development. The EITI supports more transparent and accountable governance in resource abundant countries through an independent publication and verification of company payments and government revenues from extractive industries. Additionally several oil producing countries are creating development entities that are funded by a secured percentage of oil revenues. The Chad-Cameroon pipeline project has earmarked 80% of royalties and 85% of dividends for poverty reduction spending until the end of 2007, and after that those figures increase to 95% and 100% (Pegg 2005). Norway, another

resource abundant country able to avoid the curse, has started the Oil for Development initiative where the Norwegian development agency helps developing oil rich countries to manage their revenues. With precautions such as the EITI and initiatives like Oil for Development, countries can avoid the curse, but this only comes with the understanding of the impact of resource abundance on institutions and human development. As the resource curse becomes better understood, the more the world will recognize the detrimental effects that resource abundance has on development, economically and socially, and be better prepared to prevent them.

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