

THE EXTRACTIVE INDUSTRIES AS A PRIMER FOR ECONOMIC
GROWTH – GETTING AROUND THE RESOURCE CURSE

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I declare that this research report is my own, unaided work. It is being submitted for the Degree of Master of Science in Engineering specialising in Mineral Economics at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

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ABSTRACT

One of the surprising features of modern economic growth is that economies with abundant natural resources have tended to grow less rapidly than natural resource scarce economies. This paper demonstrates that countries with high levels of natural resource exports tend to grow slower than those countries that have fewer natural resource exports. However, when controlling for the quality of institutions, the effect can be reversed. It has been found that all countries (regardless of the intensity of natural resource exports) perform better under 'good' institutions than under 'poor' institutions. Furthermore, the study examines the determinates of good institutions and finds that high levels of social and human capital are pre-requisites for strong institutions and good governance. The data therefore suggests that high stocks of human and social capital are possible cures to the resource curse. The study further concludes that although resource abundance is linked to slower levels of economic growth, countries should not turn a blind eye to their natural resources. They should however not depend on them too much as the benefits of resource based industrialisation and 'forced' beneficiation are questioned. The study has implications for policy makers as it recommends that a blank page approach be taken when formulating a development strategy.

In terms of institutional reform, the study examines various forms of government in Africa against economic success and finds that African countries perform better under democracies. This finding is likely linked to the mode of manifestation of the resource curse. In Africa, the resource curse seems to specifically manifest itself through the political economy (including systems of political patronage, conflict and security) and not through the effects of macro-economic instability (i.e. Dutch disease). Furthermore, a geographical study of institutions, human capital and economic performance suggests that good performance spills over into adjacent countries, thereby creating a case for increased regionalisation in Africa and recommends more bilateral trade and interdependency of African economies to spread good practices.

DEDICATION

I have not solely borne the cost of completing this research project. I would like to thank my wife, Jennifer, for her patience, understanding and inspiration.

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1.0 INTRODUCTION

It would seem strange that countries that possess large amounts of natural resources should not benefit from their extraction. It should be to their advantage to extract these resources either for export or as inputs for domestic manufacturing and that rather than hampering economic growth and development, that a bounty of natural resources would be a certain advantage. Development economists of the 1950s and 1960s argued that resource abundance would serve to fuel rapid economic growth by providing countries with the necessary capital to industrialise their economies and diversify their exports (Luong, 2003). However in reality the opposite is more often the case – resource rich countries have often performed worse than resource poor countries at providing economic and political opportunities for their citizenry (Tsalik, 2003). This phenomenon has been dubbed the ‘resource curse’ by economists globally. It is now quite common knowledge in economic circles that vast natural resources¹ are associated with, stagnant or negative growth rates, (Sachs and Warner 1995) de-industrialisation and political instability (Smith 2004), conflict (Klare 2001) weak institutions and authoritarian regimes (Luong 2003).

¹ One of the weaknesses of the resource curse theory is that the point at which an economy is defined as resource rich is poorly defined in the literature.

Despite some success stories, Africa is poor and getting poorer. There is also some emerging sentiment of pessimism regarding the future prospects of Africa, manifesting itself in Easterly and Levine's "African Dummy Variable" (1997, cited in Acemoglu, Johnson and Robinson, 2003). Nevertheless, why is it that so few African countries have been able to use their rich natural resource base to deliver sustainable economic growth? The case of Botswana is often cited as an African success story (Acemoglu, Johnson and Robinson 2003; Sarraf and Jiwaji, 2001) and there is almost complete agreement that Botswana's success is due to its adoption of proper policies and the formation of functioning institutions based upon relatively intact² tribal institutions which led to the natural transgression into a functioning democracy. So why are some countries able to escape their natural resource curse, while other African countries stumble?³ The answer may lie in the quality of these institutions, and their incorporation in an already strong base of social capital which allows for the proper functioning of these institutions.

Since natural resources are neither 'good' nor 'bad' in themselves, it cannot be the presence of natural resources but must

² Because of the lack of attention paid to Botswana by the British Empire, its tribal institutions were left relatively intact until independence.

³ Whether or not Botswana has escaped the resource curse remains debatable. Botswana is heavily reliant upon diamond mining and the economy is facing difficulty in diversifying.

rather be the management of natural resources that creates an environment which leads to the resource curse. In turn, the management of natural resources is a function of a country's policies, the structure of the state, the capacity of government and the checks and balances between the various institutions.

“What seems to matter for economic growth is not the abundance of natural resources per se, but rather it is the quality of their management and of economic management and institutions in general.” – Gylfason (2001a)

2.0 THE RESOURCE CURSE EXPLAINED

The resource curse thesis is most notably defined by Sachs and Warner (1989) who presented evidence of a “statistically significant, inverse, and robust association between natural resource intensity⁴ and [economic] growth.” As previously mentioned, the resource curse postulates that countries with abundant natural resources tend to not benefit from these resources and in fact, they are worse off than if they had never developed their natural resources. The literature seems to agree (with a few exceptions) that mineral rich countries may benefit from their mineral wealth in the short-term, however without the proper ability to manage these short-term gains and due to other politico economic ramifications of the resource curse, a resource rich country is ‘distracted’ from its developmental focus and ends up in a developmental trap actually worsening the prospects for long-term growth. The figure below (2-1), taken from Gylfason (2001a), depicts the effect of a short-term economic gain from a resource ‘boom’, and the post-boom growth trajectory of the resource dependent country which results in slower economic growth in the long term.

⁴ The natural resources measured were not limited to minerals but also included oil and agricultural products. Furthermore, the natural resource intensity was measured as the percentage of natural resources exported to total exports – which can be considered to be more akin to resource dependence than ‘abundance’. Under the definition of Sachs and Warner, countries that use natural resources primarily for domestic consumption such as the United States would not be termed ‘resource abundant’.

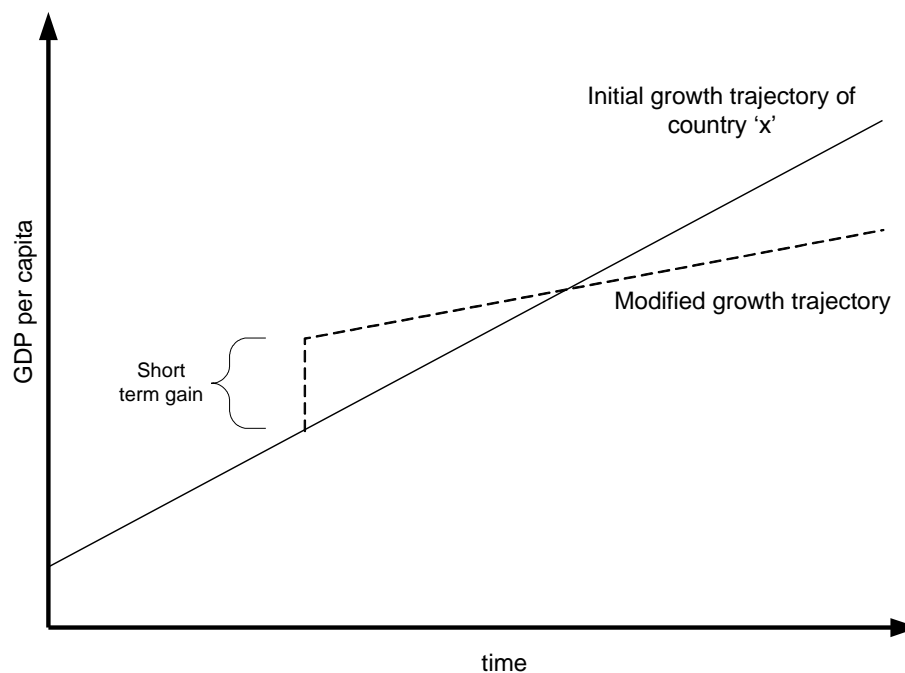


Figure 2-1 Growth path following resource boom. (Gylfason 2001a)

Much effort has been spent in recent years to understand the effects of the resource curse on developing nations. Its study and documentation has been so robust that it has gained widespread acceptance and has to some degree come to be considered as fact. Sachs and Warner continued to build upon their 1989 and 1995 research, and in 2001 they concluded that:

“Almost without exception, the resource-abundant countries have stagnated in economic growth since the early 1970s, inspiring the term ‘curse of natural resources’. Empirical studies have shown that this curse is a reasonably solid fact.” [emphasis added] – Sachs and Warner 2001.

As the theorem has become elevated in economic circles, researchers have now also begun examining the mechanisms through which the resource curse manifests itself. The following subsections seek to explain how natural resource intensity/dependency can impede economic growth in the long run and result in the 'curse of natural resources.'

2.1 Dutch disease

A combination of pressures including exchange rate appreciation, inflationary pressure, skills shortages and government subsidies combine into what is commonly termed "Dutch disease." Although the term is "Dutch disease", the symptoms are not actually limited to the Netherlands. The "Dutch disease" received its name after the discovery of natural gas in the Netherlands in the late 1950s and early 1960s causing a number of unexpected negative economic consequences for the Netherlands. Due to the discovery of natural gas, exports increased significantly and as a result the exchange rate correspondingly appreciated in value. Following the resource boom and the appreciation of the exchange rate, the Netherlands experienced inflationary pressures, the migration of skills between sectors (thus causing skills shortages in non-boom sectors) and government subsidies to ailing sectors as the government tried to prevent or postpone de-industrialisation due to an uncompetitive non-boom tradables sector. Although many of the negative economic

side-effects of Dutch disease are due to an appreciation of the exchange rate, Dutch disease can also occur in countries which lack their own currencies, such as Greenland which uses the Danish Krone or in Namibia whose currency is linked to the South African Rand (Gylfason 2001a).

The discovery of large new resources or commodity cycle 'booms', can often lead to a significant increase in the value of a country's exports. This increase in exports can in turn lead to a balance of trade problem, which in turn will increase the real value of a country's exchange rate. In the case of commodity cycle booms, the volatility associated with the commodity prices can translate into exchange rate volatility in resource dependant states. This in turn can have the negative consequence of impeding a nation's ability to attract investment due to greater perceptions of financial instability thereby increasing risks.

Another problem caused by the appreciation of the exchange rate is that those goods that have not experienced a boom (non-boom tradable goods) will also increase in price, thus reducing the competitiveness of other exports globally. Many studies have illustrated the lack of competitiveness of countries' manufacturing sectors as a result of a resource boom (Gylfason 2001a, Robinson

Torvik and Verdier 2002, Larsen 2003). Thus, abnormal increases in the exchange rate can lead to gradual de-industrialisation as the non-boom tradables sector becomes increasingly uncompetitive.

In addition to pricing pressures due to exchange rate volatility, pressure is placed on the manufacturing sector through the displacement of workers due to wage imbalances. Whereas the manufacturing sector may need to freeze or reduce wages due to the reduction in the profit margins as they strive to reduce costs in order to remain globally competitive, the boom sectors will be offering premium wages as they strive to attract staff for the boom induced expansions. This differential in wages draws skilled workers away from the manufacturing sector, which in turn reduces the overall productivity of the manufacturing sector (Gylfason 2001a).

As the manufacturing sector begins to show signs of trouble, it is not uncommon for governments to begin subsidising these ailing, globally uncompetitive enterprises by redistributing the rents generated through the 'boom' sector. However, in general the amount of subsidies required due to the downswing of the manufactured goods sector are too great to come from the boom sector alone (Sarraf and Jiwanji, 2001), thus it would appear that a strategy to subsidise can only be short-term. Rather than becoming a sustainable solution, it can be used to temporarily slow the effects of

Dutch disease, or it may be used to wait out the 'boom' in hopes that the exchange rate will return to pre-boom levels, thus reviving the competitiveness of the manufacturing sector.

2.2 Protectionist state policies

As governments try to save their ailing manufacturing sectors, these subsidies can further evolve into protectionist state policies. "This inward looking development results in lower investments rates,... [further reducing] growth rates" (Sachs and Warner, 1995). An export led development strategy may then be forced to convert into an import-substitution development strategy; else a country could face de-industrialisation and become a principal producer of primary exports. Accompanying the new shift in policies will be import tariffs since, with a strengthening currency it will be relatively cheaper to import products (Gylfason, 2001a). Thus to make locally manufactured products more competitive, subsidies will usually be accompanied by some sort of pricing or trade distortions.

2.3 Linkages

A further area where a reduction of the manufacturing sector in favour of primary industries can negatively affect growth is through the difference in backward and forward linkages generally present in each sector. There is evidence to support that the manufacturing sector creates many more backward and forward linkages than the

primary sector. The primary sector is generally seen as an enclave sector which, being very capital intensive (as in the extractive industries) would normally seek to import most of its goods and equipment since the equipment required is usually very specialised and produced by few manufactures globally. Sachs and Warner (1995), summarise that “manufacturing, as opposed to natural-resource production, leads to a more complex division of labour and hence to a higher standard of living.” Complementing the argument that there are additional benefits to manufacturing over natural resources, Matsuyama (1992, cited in Sachs and Warner, 1995) found that:

“...forces that push the economy away from manufacturing and towards agriculture lower the growth rate of the economy, by reducing the learning-induced growth of manufacturing. The market equilibrium is not efficient because the learning effects are external to the firm. In this context Matsuyama shows that trade liberalisation in a land-intensive economy could actually slow economic growth by inducing the economy to shift resources away from manufacturing and towards agriculture.” –Sachs and Warner, (1995), pg. 5.

Gylfason (2001a) further builds on the linkages of manufacturing, stating that manufacturing is often associated as being a major contributor to educational progress as it is the ‘learning-by-doing’

sector. By calling it the “learning by exporting” sector, Gylfason further emphasises that a manufacturing sector that is subsidised and not competing globally is in fact not learning. Gylfason goes as far as to say that “trade is education”. [emphasis added]

There are however ways of escaping the Dutch disease and the resource curse if institutions and institutional capacity are adequate (as will be expanded upon later in this paper.) Often, in a sudden boom-induced type of economic shock a country may not have much experience with natural resource policy-making⁵, and it may not have the capacity or foresight to create a set of national policies to stimulate linkages. Some recent examples of the type of policies that can be used to stimulate linkages can be found in South Africa’s new mineral legislation. The new legislation requires not only local content obligations (in terms of both equity ownership and procurement) in the hands of historically disadvantaged South Africans which will serve to address inequality, but it also includes a set of draft local beneficiation legislation which has recently been released in 2005.

⁵ As was the case in the Netherlands, whereby before the discovery of natural gas, the Netherlands did not have robust policies to cater for the macroeconomic consequences of being exposed to commodity cycles.

Different commodities will however create different degrees of linkages in the host economy. For example, the labour intensive agricultural sector may not use much equipment, fertilizers or other manufactured goods, however the widespread effect on employment can have a significant effect on stimulating consumption and reducing poverty & vulnerability. The energy sector can also have varying degrees of linkages. Where energy is exported in the form of crude oil, not many linkages are formed since most of the equipment is imported and the wells tend to use specialised foreign labour amounting to fewer opportunities for domestic labour. In the case of coal mining for energy requirements, the coal deposits will normally be locked into long-term contracts with a local energy company thus the linkages created would not only be limited to the mine's direct consumption but could also be extended to include those formed by the energy company. There are varying degrees of linkages within the mining sector alone. A first distinction can be made between open pit and underground mining operations. A second distinction can be made within the mining sector based on the type of commodity. Precious metals and gemstone operations normally produce fewer linkages than base metals operations due to the concentrated and highly valuable nature of the final product. This is principally due to the fact that gold, platinum, diamonds and other gemstones can be concentrated very quickly to a point where the costs of further mineral purification exceed the cost of transportation.

In this case, a natural resource extraction company may choose to export a 'rough' product and do further refining in a centralised location (possibly in a neighbouring country.) In the case of base metals, a large degree of purification is required before the metal can be concentrated to a suitable level which renders it economical for export. This is generally due to the low value of the metal on a \$/lb basis which requires that only a final product be exported. It is of interest to note that often in lesser developed countries, the bulk of the minerals produced tend to be precious metals and gemstones. This is most likely due to the long-term investment risk associated with large smelting and refining operations in politically unstable developing economies. Thus it would seem that lowering perceptions of risk is one way to stimulate the minerals industry and export diversification (to a limited degree) through the development of other more capital intensive ventures.

Perala (2003, cited in Korhonen 2004) who deepened the analysis of the resource curse to also examine the effect of individual types of natural resources, concluded that countries which predominantly export fuel and minerals termed "point source economies" are more likely to grow slowly than countries which export a variety of raw materials termed "diffuse economies." This could be due to the fact that since individual commodity prices follow cycles that are not necessarily synchronised, resource booms are

therefore not synchronized and economies that rely on a 'portfolio' of minerals rather than just a few are spreading their risks. This strategy would be endorsed by Wright and Czelusta (2003) who state that:

“Excessive reliance on a single commodity for export earnings is unwise, especially if the market in question is volatile and if it provides the major source of government revenues.... In such a situation, adverse shocks are extremely stressful for any society, and in the case of Venezuela, it may have been more than the society could withstand (perhaps exposing underlying weaknesses in its political institutions).” - Wright and Czelusta (2003)

It may be fair to say that extractive industries create lesser linkages in developing countries, however in developed countries where a broader spectrum of extractive industries exist, the sector can produce equally significant linkages as manufacturing, provided that the right investment climate exists for private enterprises to invest the necessary capital in order to benefit their products.

In stimulating linkages, there is a need for a regional approach to promoting policies which encourage the beneficiation of minerals in African countries. As is probably typical of most African countries, Tanzania's borders are poorly controlled, allowing for goods to be moved between neighbouring countries with very little risk of being

caught and with “unfenced mines, [as in many artisanal mining sectors] it [is] clearly impossible to control smuggling by enforcement alone.” (Wangwe, Semboja and Phillips, 2004) When formulating mineral legislation that would have allowed Tanzania to extract tax and royalty revenues from its gem and precious metal mines, Tanzania needed to take cognisance of its neighbours’ policies. It became clear that gold and the gem trade were funnelling into Nairobi, Kenya through Tanzania’s northern border. The incentives to smuggle came from two principal sources. First, though Nairobi dealers did not offer higher prices for commodities, they paid cash on the spot for gemstones and they would buy all qualities. Secondly, no transaction taxes were levied on precious-mineral imports to, or exports from Kenya, only a corporate tax was charged on annual revenues. Thus, the trade-offs became clear for the Tanzanian government – either it would need to engage the Kenyan government to also increase the burden of taxes facing commodity dealers, better patrol the Tanzanian border (which would come at a cost) or offer incentives to local miners at the cost of losing tax revenues.

The Tanzanian example demonstrates the need for regional cooperation when it comes to the natural resource trade. Because natural resources can be a concentrated source of wealth, it is relatively easy for smugglers to escape the nets of government. This is especially true in the case of diamonds and other gemstones.

There is a clear need for regional and resource specific institutions to enforce and promote the proper management of natural resources. Two of such institutions that will be discussed in greater detail later in this paper are the Kimberley Process Certification Scheme and the New Partnership for Africa's Development.

2.4 Booms and busts of natural resource cycles

It is quite well known that commodities follow cycles of supply and demand. As China has recently demonstrated, a fast growing nation can raise the demand and hence the price for commodities significantly. It is however not only the economic growth of nations that can increase the price of commodities, but there is a whole host of variables that must enter the supply demand equation. For example, the new American legislation requiring the installation of catalytic converters in all new vehicles sent the price of platinum⁶ soaring in 2002. Hurricanes and other natural disasters can cause investor speculation regarding the disruption of supply and push up prices, as was the case with oil during the 2005 hurricane season. Catastrophic events in large mines such as a pit-wall failure that block access to the ore body can also raise the price of a commodity for the short-term as analysts revise the supply-demand imbalances. Conversely, price reductions can be the result of opening a large

⁶ Platinum is one of the key minerals required for the manufacturing of catalytic converters.

mining operation which will alter global supply for the long term as was the case of BHP Billiton's Escondida mining operation in Chile. Price reductions may also be due to the dumping of large stocks of reserves on the market as the Russians did with uranium from their arms dismantlement programme, or with gold as was the case with the world's banks which dumped some of their gold reserves in the early 1990s. All of these variables can result in temporary short to medium-term shocks to commodity prices which will tend to stabilise in the long term. Long term price 'reductions' on the other hand are usually possible in one of three manners.

Commodity replacement: This is where a particular commodity becomes redundant or unnecessary due to the advent of other technologies. This may either lead to substitution or simply a reduced demand of the raw material due to innovations in recycling.

Technological innovation: such as the Bessemer metallurgical process for copper, allowing for the introduction of electrolysis on a commercial scale (Wright and Czelusta, 2003). This type of price reduction can have significant effects on the supply side of the supply/demand equation as it may convert large amounts of previously uneconomic resources into economic reserves (as was the case in Chile with regards to copper reserves during the 1880s and

1890s). Further technological advances are plenty, such as the advent of dynamite by Nobel, the invention of the froth floatation recovery process, and most recently the advent of larger surface mining equipment (currently limited by tyre technology).

Reserve discovery: The sudden unanticipated discovery of large reserves can re-adjust supply predictions and lead to a reduction in the commodity price.

All of these activities acting independently can cause significant volatility to commodity prices. As can be seen below (figure 2-2), the nominal price per pound of copper between the period of 1980 to 2000, varied between +50% to -40% from its mean price of approximately 1 USD / lb.

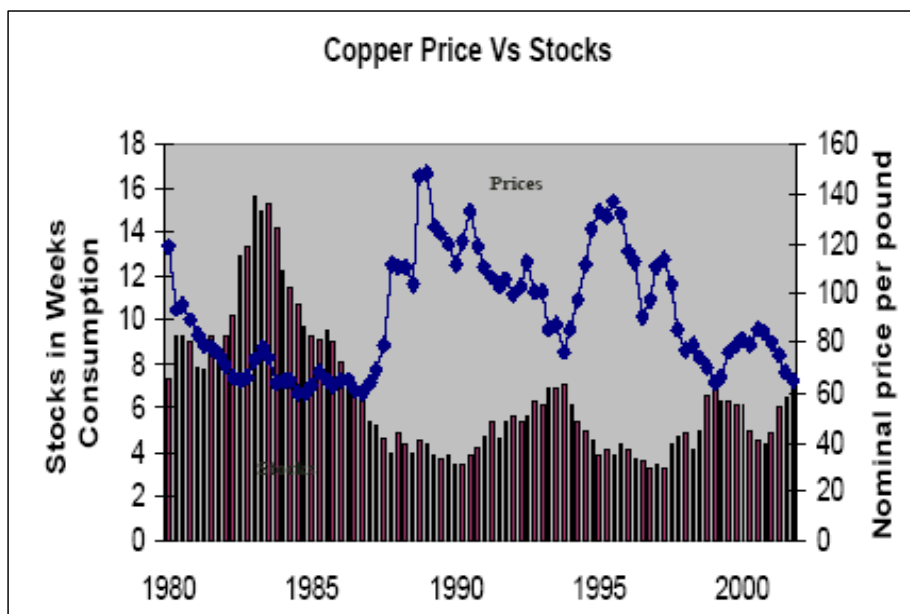


Figure 2-2 Copper price vs. stocks (Mills, 2002)

The following chart (figure 2-3) shows the long-term historical price volatility for all commodities in the United States over a 200 year period. As can be seen from the chart below, major international incidents can also have significant long term effects on the supply-demand equation for minerals.

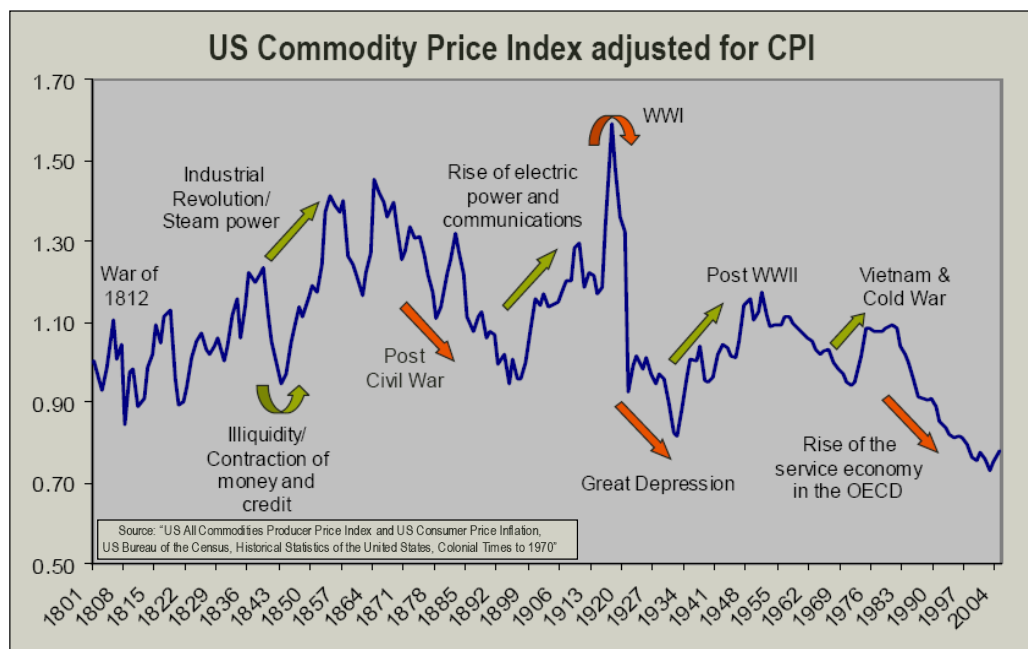


Figure 2-3 Long-term U.S. commodity price index (Goodyear, 2005)

Such volatility not only affects the exchange rate in resource dependant⁷ countries, but it also affects the planning capability of host nations. The booms and busts generate times of great surplus and times of revenue “drought”. Of concern to many economists is

⁷ Synonymous to a country heavily reliant upon resource exports for balance of trade.

that in times of commodity cycle booms, there is often a tendency by governments to spend the additional rents as they try to balance political pressures and meet certain development objectives. Sarraf and Jiwanji (2001) argue that it is the after-effect of the resource booms which creates the conditions leading to slow-growth in the post-boom periods. For example, they refer specifically to the “irreversibility of government expenditure” - where subsidies existed for ailing industries, or where there was pressure by political interests to increase government expenditure during the boom periods. This spending is no longer possible with the reduction in revenues experienced once prices return to their previous state. It can be extremely difficult for many governments to make cut-backs in spending whilst retaining political support, especially if the spending was in the form of fuel and food subsidies for lower income groups.

In addition to spending and subsidy increases, due to resource booms governments also find it much easier to secure large foreign loans. Governments (and creditors alike) mistakenly assume that commodity prices will remain at their elevated levels for long periods of time and take advantage of their nation’s future positive outlook. Once prices finally stabilise or revert, governments are left to service their debts with the now reduced sources of income. This additional pressure can create a situation of political regime instability as the broader population becomes fully aware of the financial strain that the

nation finds itself in. Since financial strength is one of the ways in which the state seeks to legitimise itself, post-boom crises can have a de-legitimising effect on governments.

2.5 Corruption & rent seeking

As it is difficult for some governments to remove the subsidies and protection afforded during the boom periods⁸, governments may be tempted to extract more revenue from other sectors in order to maintain political support. Such temptation may be directed at the natural resource sector in the form of taxes and royalties. Due to the fixed geographic nature of natural resources, resource extraction companies lose much bargaining power with governments once the investment has been sunk. As such, they have very little alternative but to comply with the increase in levies. Bates (1994, cited in Sarraf and Jiwanji, 2001) argues that “the traditional functions of the state, in light of a resource boom, give way to the redistribution of revenues.” Resource abundant economies are further susceptible to rent-seeking since the concentration of wealth in either the private or public sector is concentrated in such a small number of players. Such high concentration of wealth is often present, that in some instances, resource rents distract government attention away from long-term economic development goals towards rent-seeking (Smith

⁸ In Brazil for example, powerful groups blocked the removal of subsidies and protection afforded to the urban-industrial areas long after they were uncompetitive (Auty 1995, cited in Sarraf and Jiwanji 2001).

2004). To governments this may be justifiable, especially if they are adopting the 'dependency theory' of economics. Under such a world view, they would see the developed world's extraction of local resources as a form of neo-colonialism, an infraction of national sovereignty and another method used by the developed world to extract the most out of the developing world without a genuine contribution to economic development.

The tendency to rent-seek can be one of the causal mechanisms behind the resource curse. Since long-term development objectives require a 'sustained effort' to come to fruition, a temporary set-back or change of focus (a distraction to rent-seek) could mean that to re-adopt a development strategy may result in having to start at the beginning due to a loss of credibility, focus and momentum.

Referring once again to the instance of Dutch disease, as countries try to prop up their ailing manufacturing and other non-boom tradable sectors (rendered uncompetitive due to the appreciation of the exchange rate), it is not uncommon for governments to grant specialised loans to 'entrepreneurs' to boost the diversification of the broader economy and create employment. In the developing world the loans are all too often awarded on the basis of political patronage and effectively prop up uneconomic

enterprises (Tsalik, 2003). Governments become reluctant to shut down these enterprises, (which guarantee political support by providing employment) since the withdrawal of the subsidy could lead to a withdrawal of political support. According to Tsalik, this cycle of indebtedness, inefficiency and misdirected incentives inevitably leads to corruption, drives up the cost of doing business for outsiders or those who are not part of the political elite and cannot take part in the subsidy system, forces businesses into the informal economy, and diverts capital away from viable business ventures which would thrive in an open and competitive economy.

Furthermore as government revenues increase dramatically and the resource sector in general experiences a boom, government officials may find it increasingly difficult to avoid engaging in other corrupt activities. Such activities usually include the direct and blatant siphoning of minerals revenue meant for the State, or the granting of major resource development contracts to local political elite to secure support, political patronage or self-enrichment.

Corruption and rent-seeking can hinder an economy in a number of various manners. Despite the fact that corruption hampers the attraction of foreign investment necessary for economic development, corruption underutilises already scarce resources as they are

removed from economic utility and serve to the benefit of a few political elite. Furthermore, high levels of corruption are a sign of poor institutional quality, a disregard for the rule of law and the poor enforcement of property rights – all of which are paramount to successful economic development as will be explored later in this paper.

2.6 The political economy of the resource curse

A review of the resource curse remains inadequate without properly exploring the politico economic dimension of the resource curse. As the political economy is defined as the interrelationships between political and economic processes, a wealth of natural capital will only map out into a positive economic trajectory if a complimentary set of the incentives and constraints are imposed upon politicians.

For example, if one considers a corrupt and unstable state, the various politicians or (people who hold power⁹) will have already embedded a system of incentives which keeps the various factions at peace, ensures stability and in the end their control over the state through the dispensation of political patronage. Generally, patronage

⁹ This distinction is made since in many corrupt states it is not necessarily the politicians who hold power.

is defined as the act of supporting or favouring some person, group, or institution. Such a system has different characteristics depending on the area in which it is practiced. Generally it can be described as a system where someone in a powerful position offers handouts in return for support. Political leaders often have at their disposal a great deal of patronage, in the sense that they take decisions on the appointment of officials inside and outside government (for example on quangos¹⁰). Patronage is therefore a recognised and legitimate power of the executive branch. In most countries, the executive branch has the right to make many appointments, some of which may be lucrative, while other appointments may be sinecure. In some countries, high level appointments may be reviewed by the legislature; in other countries, such as those using the Westminster system¹¹, this is not the case.

In politics, patronage more narrowly defined, is the practice by holders of political office of appointing their followers or fellow party members to positions. For example, those could be high-level posts such as ambassadorships, or lower-level civil service posts. Even blue-collar jobs on the government payroll may be sought after. Such

¹⁰ The term quasi-autonomous non-governmental organisation (QUANGO) came into common usage in the United Kingdom to describe the agencies produced by the growing trend of government devolving power to appointed or self-appointed bodies.

¹¹ In a Westminster system, the members of parliament are elected by popular vote. The head of government is usually chosen by being invited to form a government, by the head of state or the representative of the head of state, not by parliamentary vote.

overt political patronage is seen as a tool for rewarding and enforcing loyalty. Where loyalty is the criterion for selecting a person rather than more meritocratic considerations, then the selection process, if not the competence of the person or the quality of the bureaucracy is naturally seen as questionable.

Patronage can consequently be seen as one of the possible major deficiencies of a system of excess bureaucracy, defined as a system with a weak bureaucratic structure, the availability of large public resources to the Patron, and that these public resources be easily divisible in order to target specific groups and individuals.

Many of the institutional reforms required for economic development will temporarily disrupt this existing system of patronage¹². In turn, the leader will need to risk losing power before any such implementation of new policies and institutions can take place. In many cases the decision to adopt a new system of government is somewhat related to conventional supply-demand economics and the threat of substitution. As with consumers of goods, the consumer will only substitute one good for another once the incentives to do so are in place, i.e. it is less costly to use the substitute than is it to purchase the original product. As with the

¹² This may take place through increased meritocracy or requirements for increase fiscal transparency.

politico-economic dimension, it is only once the benefits to changing the current system far outweigh the costs of retaining the current system will leaders of under-developed resource-rich countries be incentivised to embark upon a strategy of structural reform¹³.

In resource-poor economies, the adoption of the 'right' institutions and the avoidance of the 'political patronage trap' appears to be the more natural course. Since, in resource poor countries no great wealth or patrimony naturally exists, there are little financial resources to entice various political actors. In resource poor countries, one cannot exploit natural resources to generate the capital flows for a system of corrupt political patronage. Leaders must embark upon a strategy to first create the wealth. Whereas in resource rich countries, as has been demonstrated through various African civil conflicts, control of the state is often determined by those elites who control the natural resources.

It is for these reasons that the complexity of the political economy and overcoming the current system of political patronage is seen as one of the major hurdles to implementing institutional reform in resource rich developing economies. As this paper will discuss in

¹³ This is one of the principal reasons why the West has tended to link economic aid to measures of economic and structural reform.

greater detail, getting around the political economy will be one of the various steps necessary to getting around the resource curse.

2.7 Caveats to the resource curse thesis

Having now expanded upon the resource curse theory and given some of the supporting causalities for the symptoms of the curse, should governments of developing countries now cancel all contracts and turn a blind eye to their natural resources? Since the evidence appears to be strong in favour for non-resource based economies, would not ignoring a country's natural resources be a first step in a development strategy?

There are a few caveats with the resource curse literature which one must first expand upon before completely accepting the thesis. The first point is that in most of the literature, resource abundance is defined as the percentage value of natural resources exported to the value of total exports. It is not based on the value of a nations' primary resource production to total domestic production, nor is it based on the quantity of natural resource reserves available for development. For example, if a first world nation is a global leader in natural resource production (as in the case of the United States) and uses these resources as inputs for domestic manufacturing, the

nation would be termed to be poor in natural resources, and thus support the regressions of Sachs and Warner.

Furthermore, most of the literature fails to read deeper into the causal mechanisms between economic stagnation and proportionality of natural resource exports to total exports. It may not be necessarily that the presence of natural resources has caused the nation to stagnate, but rather that it is the failure of the nation to provide the 'right' type of investment climate which has resulted in the failure of the economy's diversification. Slightly re-phrased, the measure of resource abundance (as defined by the literature) may be indicative of a competitive advantage in natural resources in terms of international markets, but as Wright and Czelusta (2003) rightly point out, dominance of an economy toward natural resource exports may simply reflect an absence of other internationally competitive sectors – or “under-development.” This is not such a strange empirical development since the presence of natural resources where no other economy exists is likely due to the large rents associated with natural resources, provided that a firm that has a high appetite for risk.

Maloney (2002) and Stijns (2003) (cited in Wright and Czelusta, 2003) demonstrate that the statistical significance of the resource curse deteriorates once measures such as reserves per capita and

the level of natural resource exports per worker are used. Other insightful work carried out by Robinson, Torvik and Verdier (2002) using the data of Sachs and Warner (1995) shows that when controlling for the interaction between institutions and resources (measured as % commodity exports in GDP), resources can have a positive effect on economic growth when institutions are 'good' and negative impact when institutions are 'bad'.

Further work should be done using other measures to show how a wealth of natural resources can contribute to economic growth in terms of self-sufficiency and meeting a nation's energy requirements for growth¹⁴. This work could also assist to pin point exactly what it is that makes countries rely heavily upon natural resources as their sole source of growth.

In the subsequent sections, this paper will discuss how institutions or the lack thereof contributes to a nation's reliance on natural resource exports, as well as how poor institutional capacity based on maladjusted social capital stock and low levels of human capital detracts from the benefits arising from natural resource extraction in developing countries.

¹⁴ A certain level of natural resource production capability is essential to national security issues. As in the case of World War II, had the United States been reliant on international trade for procurement of natural resources, it would not have been able to mobilise the American economy towards the war effort.

3.0 AN INSTITUTIONAL CURE?

“The overall impact of resource booms on the economy depends critically on institutions, since these determine the extent to which political incentives map into policy outcomes.” – Robinson, Torvik and Verdier, 2002.

The resource curse, most notably studied by Sachs and Warner (1995), linked resource abundance to poor economic growth and weak to negative economic development. Poor economic development is in turn linked to increased rent-seeking and corruption, to closed and protectionist economies, poor quality of life, political instability and high levels of national indebtedness. All of this translates into a poor investment climate where investment is relatively difficult to attract and only the most profitable ventures are developed and dividends expatriated resulting in low savings.

One way to catalyse development through the use of the revenues generated by natural resources is to ensure that the funds are directed to the ‘right places.’ To ensure that this happens, a country needs the ‘right balance’ of institutions that have the ‘adequate capacity’ to undertake the challenges of the developmental state.

In reality, the problem is much more complex than mere institutions can tackle in themselves. Some will recommend that more institutions be established to fix the problems with the first set of institutions; however institutions can only be a cure to a certain extent. There will be a point where additional institutional arrangements will only increase the bureaucratic red-tape and drive away investment rather than attract it. Institutional complexity goes even further when explored. An economy is a system of interdependent institutions with the government and the private sector inextricably intertwined. Economic systems combine legal and financial bodies, formal and informal rules, common values and traditional modes of behaviour. The following definition of institutions is taken from Douglass North's 1993 Nobel Prize Lecture:

"Institutions are the humanly devised constraints that structure human interaction. They are made up of formal constraints (rules, laws, constitutions), informal constraints (norms of behaviour, conventions, and self imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies."

Certainly the institutions adopted by a society are a representation of its cultural and societal fabric¹⁵. They are a mechanism which is superimposed onto a society's values which allows the governance of the society to function in a way which is acceptable to the society to which the institutions serve. For example, the political system of democracy has evolved in the West over a period of two thousand years since its inception in Ancient Greece (Athens, 5AD) and was based from philosophical arguments first posed by Socrates. Over this time, the modern system of democracy has been refined to a great degree; the principals of Socratic thought have been reworked into various political (and institutional) forms. However, over this period the basic fundamental arguments have remained mostly intact and become part of Western cultural norms¹⁶ and thus form a fundamental part of the stock of Western social capital.

In turn, Confucian ideologies deeply affected East Aisa for many centuries dating back to 500 B.C. The principles of Confucianism are embedded through emphasis on personal and governmental morality, correctness of social relationships, justice and sincerity. These in turn gained prominence in China where Confucianism became adopted as the imperial orthodoxy. Toward this end, study of the

¹⁵ This in turn, is a function of its human capital base as will be discussed later in this paper.

¹⁶ Such cultural norms refer to freedom of choice/opinion and critical thinking.

Confucian classics became the basis of the government examination system, and the core of the educational curriculum. With Confucianism firmly ensconced in the minds of the Chinese people and their politicians, it gained political primacy, and no serious attempt to replace it came until the advent of communism in the 20th century. After its eventual reformulation as neo-Confucianism by Zhu Xi (1120 AD), Confucianism also became accepted as state philosophies in Korea and eventually spread to Japan, Singapore, Taiwan, and Vietnam.

A preliminary evaluation of Confucianist principles reveals contradictory ideologies to the recent policies of the Chinese communist state, especially when considering that Confucius encouraged outward thinking and learning from the outside world. However one must look rather at the long term when determining what the social fabric of a nation consists of. When considering that Confucianism was so deeply embedded into the societal fabric of east Asia for over 2000 years, it can be said that it acted as the 'glue' in the matrix which helped China transform from the Han Dynasty over to communism in the early 20th century. Recently however, the world has witnessed China's emergence from pure 'closed' communism into the global economy. So it follows that a social construct based from Confucianism is enabling China to successfully transition from communism into a more outward oriented state.

The importance of the previous two examples is merely to explore diverging institutional paths and their roots in some form of social capital stock. The political systems themselves are not the foundations of modes of behaviour and cultural norms, but it is rather how those culturally accept ideals, over many years, eventually formed the foundations for the current state of global politics and economics¹⁷. The question however remains, what of states which are wishing to develop quickly and are 'importing' their institutions instead of rooting them deeply in their social capital?

Reviewing the opening statement at the beginning of this section yields a couple of insights when applied to modern politics, especially in the developing world: Institutions are a mechanism which are superimposed onto a society's values which allows the governance of the society to function in a way which is acceptable to the society to which the institutions serve.

1. The first assumption the statement makes is that societies in developing countries have a **choice** regarding the type of institutions it adopts. This may be true at a certain level, however in general it is only in determining the shape of

¹⁷ Hence they also form the foundations for the institutions which govern their functionality.

the lowest tier of institutions where a country may have a free choice. To a certain degree, countries need to appease their rich northern neighbours in order to qualify for foreign aid and donor assistance.¹⁸ This is certainly true in many African countries where the form of leadership, governance and institutions are very much dictated on financial terms¹⁹. In general, African (and other aid recipient countries) will function as representative democracies, they will abide by the rules of the WTO and they will strive to be liberal market economies. Whereas Asian economies were able to develop according to a slow transition from Confucianism, Western countries followed the teachings of Socrates while for example, African countries are being asked to quickly develop in ways which don't necessarily touch the social capital stock of Africans.

To this end, there is a growing realisation that the focus of the international community has been somewhat misplaced and that donor aid should nurture structural adjustments aimed at the

¹⁸ Much of which carries institutional reform as a condition.

¹⁹ The Washington Consensus, which drafted 10 key points aimed at reforming high level institutions supports this statement. Signatory status to the consensus was then used to prioritise efforts and direct aid by the Western World and multilaterals such as the World Bank and the International Monetary Fund.

developmental state – a compromise between neo-liberalism and overreaching state regulation (Stein, 2003).

2. The second assumption the statement makes is that institutions are set up to assist the state to **serve** society. The verification of this assumption is fraught with complexity since in many African governments the institutions are set up to only serve a few elites while the majority of the population remain in poverty without a voice. As is discussed later in this research report, it is not simply enough to have the right type of institutions in place, but economic growth and development is very much dependant on the **quality** of the institutions.

Quality and performance of institutions is in turn predominantly linked to accountability (World Bank, 2004) and inevitably to voice. The most accountable form of government known to us today is democracy. Therefore, to propose an institutional cure for the resource curse would require an analysis of the political disposition and the relative familiarity of a nation's populace to this type of political representation. This is however in turn linked to the degree and quality of human and social capital which enables the proper

checks and balances on power and dictates the quality of participation by the populace.

Although institutional reforms which are better aligned to human and social capital stocks are required on a large scale and in the medium to long term, an institutional arrangement is required for the short term in order to enable a transition into the longer term.²⁰ These institutions should find their place in the social capital of the nation and attempt to bridge the gap between the current state and where the nation is aiming.

The remainder of this literature review will focus on the various types of high level institutions and then examine some forms at which these are enshrined in governance mechanisms which have been demonstrated to assist in the management and transformation of nations from resource based economies.

3.1 The social capital paradigm and institutional outcomes

Even when institutions are 'imported' from western models, they will only function in a manner which is compatible with the society's culture. Therefore, if the cultural background of most of the society is

²⁰ An alternative is to educate the majority of the rural African population as to the mechanisms of democracy and the institutions associated with it. However, due to the magnitude of the human capital challenges of many African countries, it is believed that better results would be achieved in the short to medium term through the customisation of institutions to suit Africa's development path.

in the form of tribal or patriarchal leadership (as is the case in most of rural Africa), then even though democracy may be the 'official' form of national leadership, patrimonialism or "neo-patrimonialism" as defined by Bratton and van der Walle (1997) is what will prevail as it is what the society is accustomed to and it will 'click' into the psyche of individuals as being a natural fit to their customs.

A new economic network of economic institutions is required to be formally in place in order to support economic growth and development must be based on a complementary framework of moral values, social traditions and political institutions (Stein, 2003).

The conflict between societal norms and political ideology may be one of the root causes in what Luckman et al (2000) term the dichotomy of democracy between procedural democracy and substantive democracy. In a substantive democracy, the general population plays a real role in carrying out its political affairs, i.e., the state is not merely set up as a democracy but is functionally one as well. This type of democracy can also be referred to as a 'functional' democracy. A procedural democracy, on the other hand, is a state system that has in place the relevant official practices of democracy but is not actually managed democratically. As an example Zimbabwe can be characterised in this manner, since its constitution

is essentially democratic but in actuality the state is managed by a bureaucratic elite with little regard for the voice of its citizenry.

3.1.1 The Washington Consensus

In poorly governed nations, a set of transitional institutions may be what is required to transform the current set of institutions to its final intended form. In other words, transitional institutions would assist to transform a procedural democracy into a substantive one. The structural recommendations would need to be customised to suit the nation's current state and make use of the current indigenous institutions where possible. Economic reforms however are a plenty, and many political scientists tend to ignore the institutions already in place. The world has prescribed various sets of reforms for the developing world with very little success.

In 1989, many nations were asked to prescribe to a set of guidelines of key reforms in order to achieve economic growth. These guidelines were termed the Washington consensus. Countries which subscribed to the 'consensus' include: Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, India, Mexico, Morocco, Nicaragua, Paraguay, Peru, Tunisia, Uruguay and Zambia.

The 10 recommendations of the Washington Consensus include:
(World Bank Poverty Report, 2000)

1. Fiscal policy discipline
2. Redirection of public spending toward education, health and infrastructure investment²¹
3. Tax reform - Flattening the tax curve: Lowering the tax rates on proportionally high tax brackets (typically above median income), and raising the tax rates on the proportionally low tax brackets (typically below median income); lowering the marginal tax rate.
4. Interest rates that are market determined and positive (but moderate) in real terms
5. Competitive exchange rates
6. Trade liberalisation - replacement of quantitative restrictions with low and uniform tariffs
7. Openness to foreign direct investment
8. Privatisation of state enterprises
9. Deregulation - abolition of regulations that impede entry or restrict competition, except for those justified on safety, environmental and consumer protection grounds, and prudential oversight of financial institutions
10. Legal security for property rights

²¹ Physical and human capital accumulation were thus targeted as key requirements for economic development.

Due to the pro-market and pro-liberalisation inclination of the 'consensus' the set of recommendations have typically been seen as neo-liberal²² in its agenda. The general aim of the consensus was centred on the economic principal that overregulation of the economy is bad for growth and that a more liberal economy is needed to stimulate economic growth. The basis of the recommendations is that an economy will operate best once the private sector and the international community are able to operate freely without government intervention. Thus the consensus focused very much on market liberalisation such as competitive exchange rates, the privatisation of parastatals and international trade liberalisation. The consensus did not consider transitional procedures (as previously discussed) but rather expected governments to make the leap.

The following chart (figure 3-1) depicts the economic performance of those countries signatory to the Washington consensus. Performance in this case is measured in terms of GDP per capital in 1995 USD.

²² Neoliberalism refers to a political-economic philosophy that has had major implications for government policies beginning in the 1970s – and increasingly prominent since 1980 – that de-emphasises or rejects government intervention in the economy, focusing instead on achieving progress by encouraging free-market methods and fewer restrictions on business operations and economic development. Supporters argue that by implementing business-friendly policies, a society can assure that its businesses grow, creating jobs and other economic benefits which improve the welfare of the entire economy.

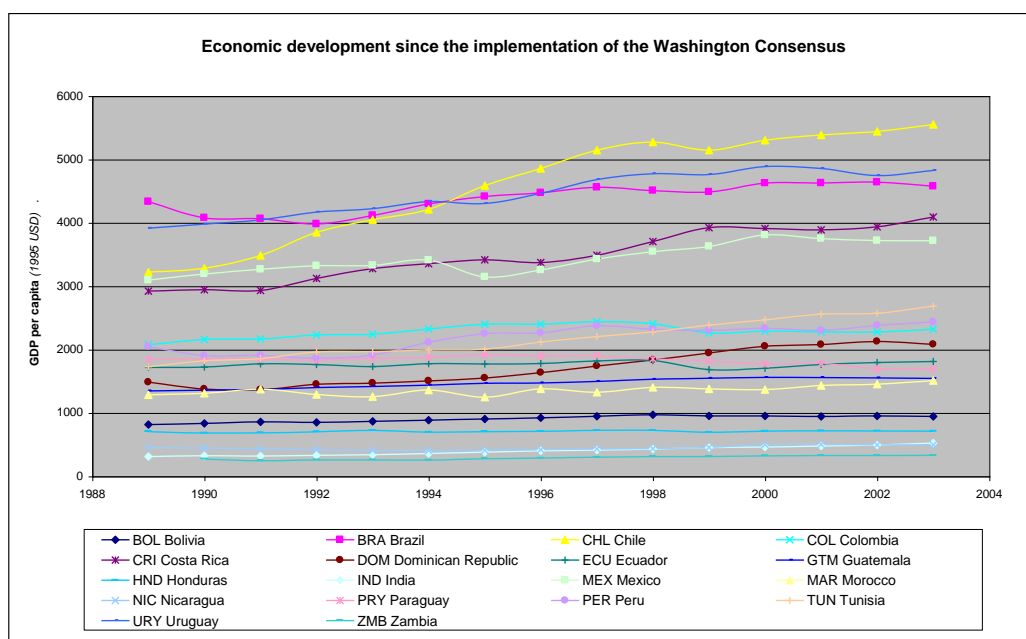


Figure 3-1 Economic development since the implementation of the Washington Consensus (signatory countries only)

A comparison of those countries which were signatories to the Washington Consensus to those which were not (table 3-1) reveals that signatory countries (with perhaps the exception of Chile²³ and India) did not far exceed the average global economic performance. From the table, the benefits of adopting the consensus are not evident. Many countries performed well or better than consensus signatories without immediate liberalisation and openness of their economies (such as China, Korea and Vietnam who achieved 200%, 98% and 133% GDP per capital growth over the same period.) These latter success stories chose a path of government intervention

²³ The case of Chile is often as the 'complicated case' since it is unclear regarding the direct role of the Washington Consensus in stimulating growth. Chile as a detailed case study will be discussed later in this paper.

and customised industrial policy to drive economic growth – a policy outcome completely opposite to the Washington Consensus recommendations but aligned to the needs of the developmental state.

Code	Country	% growth per capita (1989-2003)
BOL	Bolivia	16%
BRA	Brazil	6%
CHL	Chile	72%
COL	Colombia	12%
CRI	Costa Rica	40%
DOM	Dominican Republic	40%
ECU	Ecuador	5%
GTM	Guatemala	14%
HND	Honduras	1%
IND	India	68%
MEX	Mexico	20%
MAR	Morocco	18%
NIC	Nicaragua	9%
PRY	Paraguay	-8%
PER	Peru	19%
TUN	Tunisia	55%
URY	Uruguay	8%
ZMB	Zambia	-12%

Average of Washington Consensus signatories		21%
Best performer	Chile	72%
Worst performer	Zambia	1%

Average of the remainder of the World		19%
Best performer	China	199%
Worst performer	Congo, Dem. Rep.	-63%

Table 3-1 Performance of Washington Consensus signatories versus the remainder of the world.

Anti-globalisation and anti-capitalist critics argue that the consensus' neo-liberal policies have been imposed on economically vulnerable countries and have in fact led them to crisis instead of overcoming it. Some leftist critics of trade liberalisation see the

consensus as a way of throwing open the labour market of an underdeveloped economy to exploitation by a more developed economy. Many of the other reforms (e.g. privatisation of state industries, tax reform, and deregulation) are thus seen as mechanisms for ensuring the development of a local monied elite who will then have a vested interest in maintaining the local status quo. Other more liberal commentators argue that it was not the policies themselves, but the extreme speed at which they were implemented which caused the damage. This latter view seems to support the need for a set of transitional institutions in order to make the progress more gradual and lasting.

Most critics, including neo-Keynesians and post-Keynesians, argue that the underlining policies were incorrectly laid down and are too rigid to be able to succeed. For example, flexible work laws were supposed to create new jobs, but economic evidence from South America draws no such conclusion. In addition they do not take into account economic and cultural differences between countries. They also point out that, should this set of policies work, it must be implemented during a period of rapid growth and not - as often is the case - during a crisis.

Thus, it may follow that such prescriptive recommendations as per the Washington Consensus may fail to take cognisance of the unique features of each country's economic challenge. However when looking at the mixed results²⁴ of those Washington Consensus signatories, there may be a place for a set of prescribed institutional recommendations which are broad enough to be of benefit to most countries. Perhaps these general recommendations could lack the level of detail. A more customised approach is likely to be more valid and successful. The detail regarding the implementation of a broad set of institutional recommendations should be jointly decided between the technocrats and the prevailing politicians. Only then can a customised approach to the developmental state be created which may be able to deliver more success than a broad brushed set of recommendations.

3.1.2 Democratic institutions

In terms of broad political institutional and political arrangements, the most successful countries today are all democratic. As can be seen in Figure 3.2, the top half of the curve is by far dominated by 'free' economies²⁵. It follows then that there would be strong evidence to suggest that embracing democracy would be a logical

²⁴ The success of the Washington consensus is still being debated in economic circles; however it is fair to say that, on average, signatory countries did not perform worse than non-signatories.

²⁵ Freedom data provided by Freedom House (2005) in this case refers to a combination of political rights and civil liberties. It should be noted that the neutrality of Freedom House has been questioned from time to time. Freedom House research is funded by the U.S. government and critics often dispute the favoured results in support of the Western democratic definition of civil and political liberties.

first step to economic development. The debate on this issue is however far from resolved.

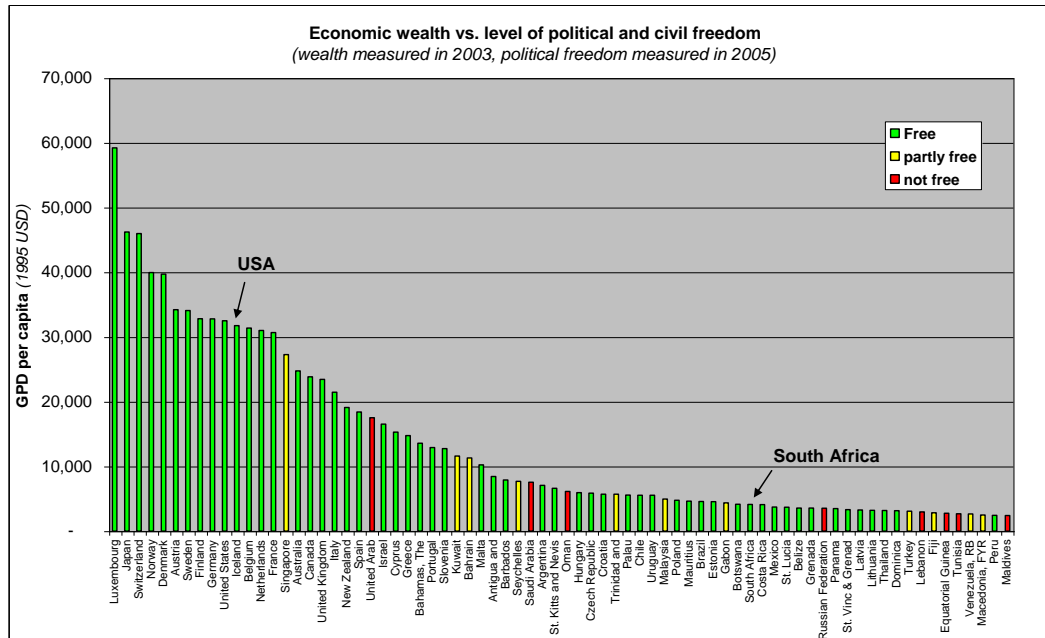


Figure 3-2 Wealth vs. level of political and civil freedom

Przeworski and Limongi (1993) suggest that both democracies and autocracies can support economic growth. “Arguments that relate regimes to growth focus on property rights, pressures for immediate consumption, and the autonomy of dictators. While everyone seems to agree that secure property rights foster growth, it is controversial whether democracies or dictatorships better secure these rights.”

Asian economic growth patterns seem to suggest that autocracy is far better for economic growth. The major weakness of democracy

in terms of its ability to deliver long term economic growth is that it appears to be undermined by pressures for current consumption. “These demands in turn threaten profits; hence they reduce investment and retard growth. Democracy is thus inimical to economic development” (Przeworski and Limongi, 1993). The principle thought behind this philosophy is that democracies are more open to public pressures and therefore may not be adequately isolated from the public to make long term investment decisions which may be uncomfortable to the present population. One such example to be taken from South Africa is the recent increased political pressure place on monetary policy by union groups. South Africa is in a way adopting a fiscal stabilisation strategy through inflation targeting. However, the strength of the currency is putting certain industry sectors at risk and thereby jeopardising jobs²⁶. The unions however would rather see inflationary instability then risk the loss of employment – this is a good representation of a short term focus over the long term strategy. South Africa is however fortunate in its democracy since the level of political contestation is relatively low. The current ruling party (African National Congress) has a clear majority as it won over 69% of the votes in the 2004 general elections. This gives the party some of the legitimacy and autonomy

²⁶ Those sectors principally placed at risk are the minerals sector – since their earnings are denominated in foreign currency while the majority of costs are in the local currency. Therefore a strengthening of the local currency in effect increases the cost of doing business.

to entrench difficult economic reforms required for the long term growth of South Africa.

The question why dictators would behave in a developmentalist fashion has been studied by some scholars and it engages in comparisons of the Far East and Latin America. In this view, the key to the superior economic performance of the East Asian 'tigers' is state autonomy, defined as a combination of the 'capacity' of the state to pursue developmentalist policies with its 'insulation' from populist pressures, - particularly those originating from large firms or unions. The argument regarding growth favouring dictators is based on the following two assumptions: (1) state autonomy favours growth and (2) state autonomy is only possible under authoritarianism.

The following chart compares the freedom house data with economic growth over the period of 1989-2003. As can be seen the results are much more mixed with the top end of the growth economies dominated by un-free and partly free economies. This could be for a number of reasons, most notably: 1. Economies that are un-free are relatively poor, therefore any increase measured relative to the base year can be mistaken for exceptional performance. 2. The economies in question grew faster than free

economies due to the isolation of the state – which leads to its ability to adopt harsh policies necessary for long-term growth.

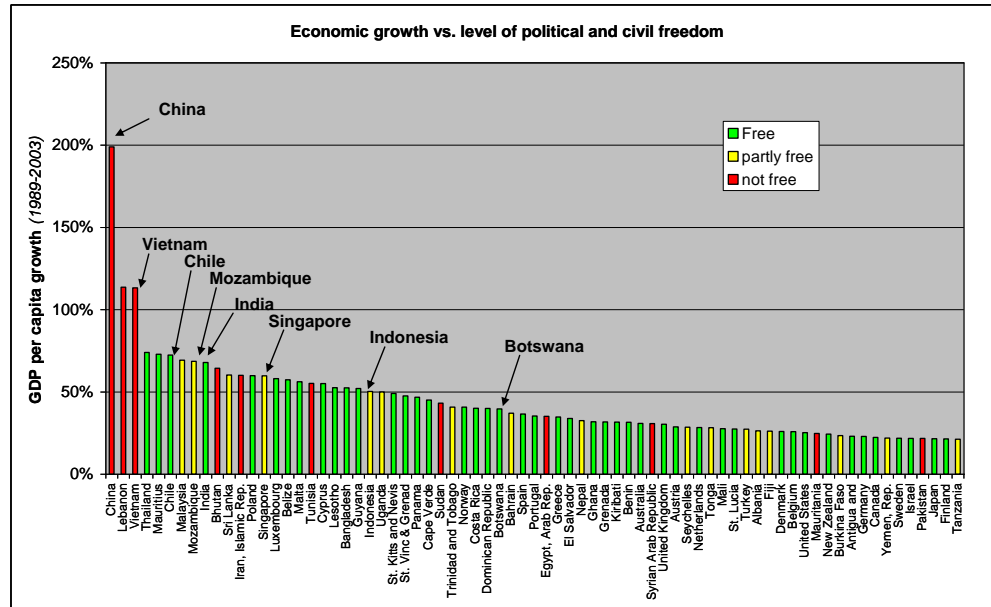


Figure 3-3 Economic growth vs. level of political and civil freedom

The danger associated with the adoption of an autocracy is the increased likelihood of predatory behaviour by the state. Previously in this paper the difficulties and challenges surrounding resource-rich countries due to rent-seeking were discussed. Several models which view state autonomy as pernicious for economic performance position an argument that the state is always ready to prey on the society and only democratic institutions can constrain it to act in a general interest. From this perspective autocracies of all types can be seen as a source of inefficiency and according to Rodrik (1997), “the bottom line is that living under an authoritarian regime is a much riskier gamble than living under a democracy.” There can however,

under certain circumstances emerge a benevolent dictator. The benevolent dictator is a more modern version of the classical "enlightened despot", being an undemocratic or authoritarian leader who exercises his or her political power for the benefit of the people rather than exclusively for his or her own self-interest or benefit, or for the benefit of only a small portion of the people.

Africa's poor economic performance over the last 20 years seems to support the view that authoritarianism is riskier. Figure 3.4 demonstrates the economic growth of Africa between 1989 and 2003. The various countries are also categorised according to the Freedom House grading system. As can be seen all 'free' economies (with the exception of two)²⁷ achieved an increase in GDP per capital over this period, while the results of the 'not free' and partially 'free economies' were much more mixed and varied. On average, free economies achieved a GDP per capita increase of 30%, while not free and partially free economies achieved growth rates of -1%.

²⁷ Sao Tome and Principe achieved a -1% GDP per capital decrease while South Africa achieved -2%. In the case of South Africa, there is a mismatch between the Freedom House data and economic performance, since South African can only be considered as 'free' post the 1994 general elections, in which case the graph would have shown South Africa to have achieved 10% growth.

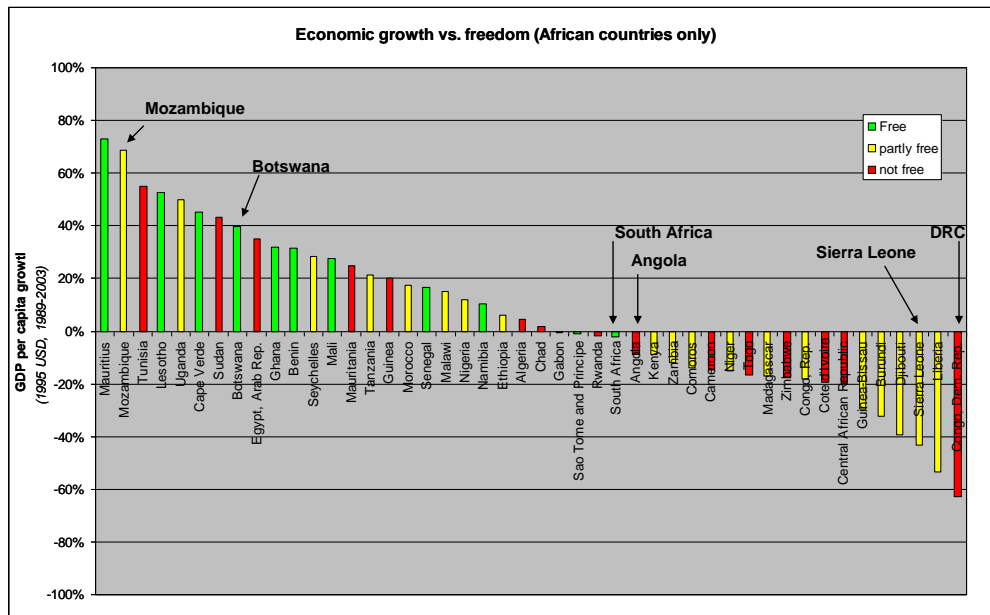


Figure 3-4 Economic growth vs. level of political and civil freedom (African countries only)

Analysing the data through statistical methods yields some interesting insights. As can be seen in figures 3-5 and 3-6, ‘free’ countries in Africa performed somewhat better than the global average of free countries, yielding some optimism for African economic growth²⁸. Partly free countries performed somewhat worse than the global average while the not free countries performed significantly worse.

²⁸ This could be partly due to the low starting point (GDP per capita 1989) for most African countries when compared against the rest of the world.

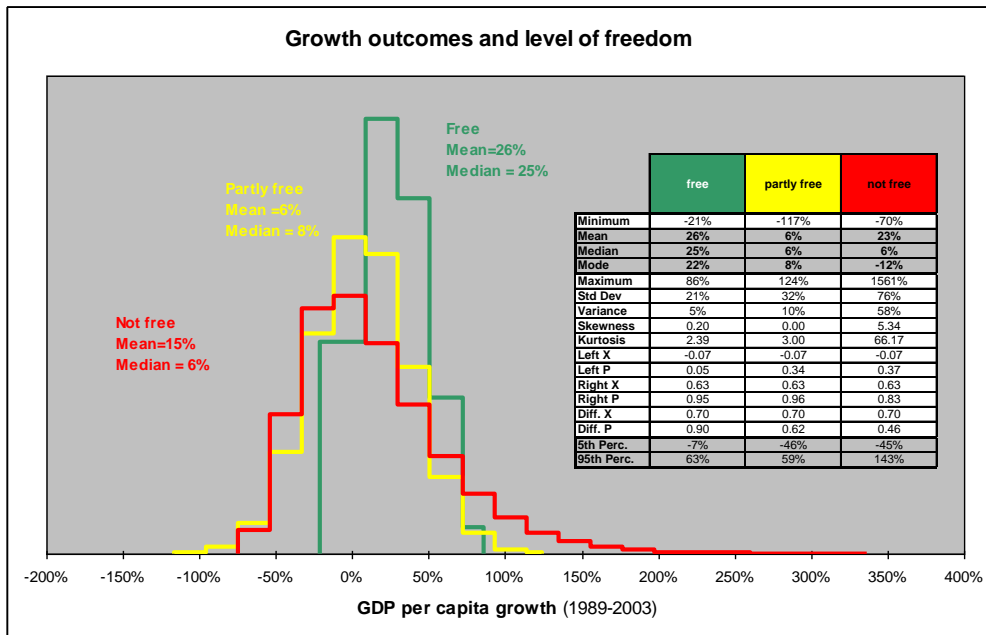


Figure 3-5 Growth outcomes and level of freedom

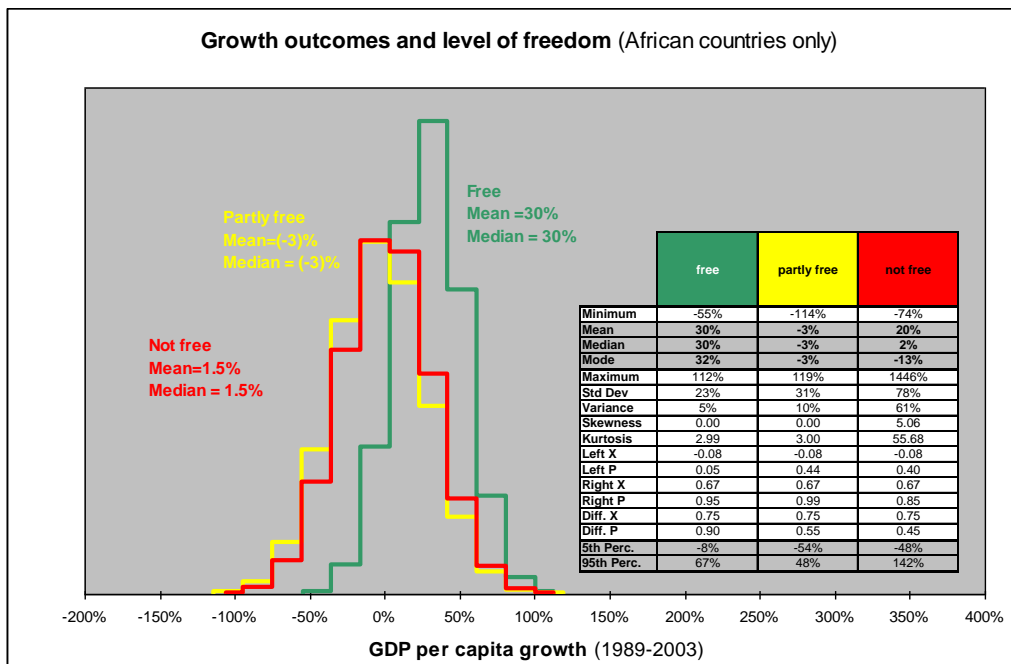


Figure 3-6 Growth outcomes and level of freedom (African countries only)

These results suggest that autocracies and dictatorships do not perform as well in Africa as they may in the rest of the world. This leads one to conclude that Africa suffers from a shortage of benevolent dictators and that African dictators do not restrict civil and political liberties to adopt harsh policies which will deliver high growth rates. They rather restrict liberties to pursue other paths which may include rent-seeking and self-enrichment at the cost of economic growth. Part of this phenomenon could be due to the inability of autocratic African governments to maintain order and peace,²⁹ thus they need to rapaciously develop and control their extractive industries to maintain a politico-economic balance through the transfer of rents. Given this outcome, it follows that a first step in achieving growth from natural resources in Africa is to create a set of incentives for autocratic governments to adopt a set of transitional institutions to eventually guide them from autocracy to substantive democracy.

A geographical representation of freedom (as in figure 3-7) shows clustering of freedom ratings in various parts of Africa. This is indicative of a regional effect, whereby free economies tend to be positioned next to 'partially free' economies, while 'partially free'

²⁹ As previously discussed in detail under section 2.7 – 'the political economy of the resource curse', autocratic governments in Africa (and challengers to power) rely heavily upon resource rents to manage the system of incentives in corrupt governments. This point touches on the political economy of the resource curse as well and the role of natural resources in fuelling conflict.

economies are located adjacent to 'not free' economies. It would then appear as though freedom is spreading from the South to the North, as well as from the West to East. This phenomenon is likely due to border spill-over whereby freedom or democracy (civil liberties) are being strengthened in a few clusters and then spreading over to adjacent countries. One likely causal mechanism for this phenomenon is through increased regionalisation and trade as well as through various multilateral institutions such as SADC, the AU and NEPAD.

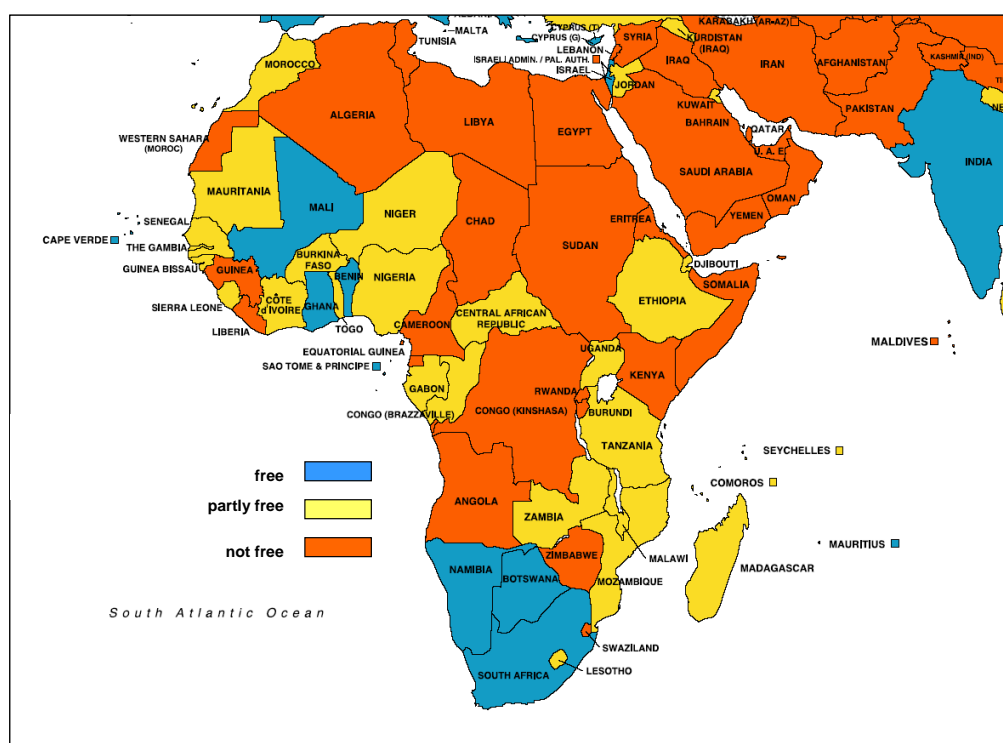


Figure 3-7 Geographical representation of Freedom House Survey Results, 2002 (Africa only)

Other than merely stimulating economic growth (or at least preventing negative growth), an additional benefit to adopting

democracy is that it is the most peaceful mechanism for transitioning between different forms of government and political parties known today. It gains its legitimacy through the popular vote which gives voice to the people.

In this section a functional democracy was seen to be akin to a free economy according to the freedom house survey. The not free countries were seen to be akin to either suppressed procedural democracies (as in Zimbabwe) or autocracies. In examining the data it appears that the African track record has benefited most from 'deep' democratic social institutions. This forms the starting point of this paper and the remaining arguments are based from this point of departure.

3.1.3 Property rights and political institutions

Property rights and their security is most likely the single most important factor when considering the importance of institutions for economic growth. An essential characteristic of capitalism is adherence to the rule of law in establishing and protecting property, including, most notably, private ownership of the means of production. It has been argued that a strong formal property and legal system makes possible:

- a) greater independence;
- b) clear and provable protected ownership;
- c) the standardisation and integration of property rules and property information in the country as a whole;
- d) increased trust arising from a greater certainty of punishment for cheating in economic transactions;
- e) more formal and complex written statements of ownership that facilitates the easier assumption of shared risk and ownership in companies, and the insurance of risk;
- f) greater availability of loans³⁰ for new projects, since more 'things' can be used as collateral for the loans;
- g) easier and more reliable information regarding such things as credit history and the worth of assets;
- h) an increased fungibility, standardisation and transferability of statements documenting the ownership of property,

All of these benefits to property rights have historically enhanced the economic growth of western countries. Historical analysis demonstrates that the above benefits paved the way for structures such as national markets for companies and the easy transportation of property through complex networks of individuals and other entities.

³⁰ This is possibly one of the strongest developmental reasons for land reform in Africa. Property rights or ownership of land makes it possible for individuals to seek loans to improve productivity, invest in the economy and assist to smooth out seasonal cash constraints. This in turn allows for greater risk taking, savings and (hopefully) sustainable economic growth. Microfinance as a tool to assist in economic development is dependant upon incumbents using their property or other assets as collateral.

Capitalism is often contrasted to socialism in that besides embracing private property in terms of personal possessions, it supports private ownership of the means of production. Those who support capitalism often credit the lack of control over the means of production by government as crucial to maximising economic output. Few however, go as far as Ludwig von Mises (2004) in support of property rights, who emphasises that the "history of private ownership of the means of production coincides with the history of the development of mankind from an animal-like condition to the highest reaches of modern civilisation." In all modern economies some of the means of production are owned by the state; however an economy is not considered capitalist unless the bulk of ownership is private. Some characterise those that have a mixture of state and private ownership as "mixed economies."

Property rights are fundamental to developing an economy under pure capitalist or 'mixed' conditions. However simply enshrining property rights into the constitution is not merely enough. In much of the developing world, there remains the issue of capability of government, its institutions and its ability to enforce property rights as well as the ability of society to keep the government in check.

Reminding ourselves now of the politico-economic considerations of the resource curse (or of resource dependant economies) the question remains: With all its mineral wealth, how can a resource-rich government ensure that the most benefit is 'literally' extracted from the ground? Khan (2002) has stated that:

“The key institutions enforced by the state include the system of property rights, the interventions that define rents and incentive structures (which includes taxes and subsidies), and the higher level political institutions such as democratic or authoritarian decision-making bodies that describe the rules for changing rules.” – Khan (2002)

This statement applies generally to all sectors of the economy and can be verified for suitability to the extractive industries sector by the Fraser Institute's – Mineral Investment Attractiveness Survey (2003-2004). The survey highlights that certainty regarding the application of existing legislation is of prime importance to mining executives; however the type of political institutions is not of prime concern in itself. It is rather the stability of the institutions adopted by the government that is currently in power, and the possibility that a subsequent and replacement political party would have significantly different policy stances than the ruling party. Essentially natural

resource based industries are long-term, capital intensive industries. Although the extractive industry expects that there would be some degree of tax reform over this period, it is the magnitude and its effect on the change and security of tenure that are of prime concern.^{31 32}

The 'perceived' risk to a company when considering the investment rests not with whether the current constitution enshrines their rights over the resource, but more importantly it is whether this right could be revoked at some later stage. As any such violation would need to be brought to the local court in a time of dispute, the ability and independence of the judiciary will then determine the validity of the claim and if any wrongdoing has transpired.

3.1.4 Independence of the judiciary

In order to ensure that the proper checks and balances are in place, the judiciary must be independent of the State. It must be sufficiently isolated from political pressures in order to enforce the rule of law regardless of the political stature of the accused. In general, the judiciary must be separate from the legislative and executive branches of government - this is commonly known as the

³¹ These points are only of prime concern if the development of the extractive industries will largely be funded by foreign multinational corporations. Hence political stability in this case is important for attracting foreign direct investment.

³² In the extractive industries, property rights can be seen as synonymous to the mining right or extraction rights in oil. As the convention in most countries is for the state to own the resources of the country, a company may have the 'right' to extract these for the benefit of the country. If the right to extract is fungible, then in essence it can be seen to be the same as a property right.

“separation of powers.” The powers of a sovereign government should split between two or more strongly independent entities, preventing any one person or group from gaining too much power. This statement holds true in the case of substantive democracy, however this does not apply in the case of autocracies.

In the case of a benevolent dictator, such a character would control much of the power, thus independence of the judiciary would not necessarily be guaranteed. When specifically considering this risk in the context of Africa, the risk of a violation of rights under a non-independent judiciary is higher than in the remainder of the world. Recalling evidence from previous discussions, predatory behaviour by the state resulting in poor economic growth in Africa remains a risk of autocracies, as African states tend to suffer from a shortage of benevolent dictators.

However, simply superimposing the American or British governmental structures onto an African state would likely yield unsatisfactory results as the capacity to manage such complex and far reaching bureaucracies would not yet exist within the state. The societal predisposition of Aristotelian thought surfaces once again, since the idea that these different functions (judiciary and government) should be vested in different institutions finds its first

ancestry in Aristotle. The separation of powers forms a part of western social capital. As many African communities are still nurturing young democracies and emerging from a patriarchal form of leadership it is with great uncertainty how one could foresee how African citizens (in the most undeveloped nations) would support and fulfil their role in enforcing these institutions. Without the proper educational background of the citizenry, these complex bureaucratic structures and procedural norms are likely to falter. Almond and Verba (1963, cited in Diamond 1992) found that educational attainment³³ had “the most important demographic effect on political attitudes.” Furthermore, Diamond (1992) concludes that “it is not economic development per se and certainly not mere economic growth that is the most important developmental factor in promoting democracy. Rather it is the dense cluster of social changes and improvements.”

The idea of "checks and balances", coined by Montesquieu (1689-1755) also forms part of western social capital stock and the concept needs to be integrated into African society to function properly. In a system of government with competing sovereigns, "checks" refers to the ability, right, and responsibility of each power to

³³ The link between human capital and social capital is somewhat intuitive, however the debate remains as to the direction of causality. The need for human capital stock will be examined in greater detail in this report.

monitor the activities of the others; "balances" refers to the ability of each entity to use its authority to limit the powers of the others, whether in general scope or in particular cases. Keeping each independent entity within its prescribed powers can be a delicate process. Public support by informed citizenry, tradition, and well-balanced tactical positions do help maintain such systems³⁴.

The 'voice'³⁵ of the people plays a key role in a functioning democracy. Freedom of speech and the freedom to challenge the decisions of government are essential to a functioning representative democracy. There must be a mechanism by which the citizenry can challenge government decision making outside of the electoral process. The independent judiciary provides this proper forum, to ensure that each citizen has the right to challenge government, to further ensure that the constitution is being upheld and that new laws do not impinge upon civil liberties and are generally supported by the populace.

³⁴ In Africa, and in many emerging countries, the citizenry are poorly informed – either through poorly established communications infrastructure or through a lack of human capital (education). The traditions of democratic process have not yet been formed and internalised in society as the democracy in question may still be very young. Furthermore, the well-balanced tactical political positions may be scarce due to the various pressures associated with the political economy of the resource curse.

³⁵ Democracy develops the concept of voice through the concept of voting which gives legitimacy to the government. However this normally only occurs every 4-5 years (on average) and other forms of 'voice' are required for a functioning democracy. Other forms include but are not limited to: referendums, civil action and a multitude of government watchdogs and NGOs.

3.1.5 Meritocracy

The key functions of the state in a democracy “are to provide protection for property rights and to deliver democratically decided-upon public goods efficiently” (Khan 2002). A major inhibitor to African states is their inability to deliver services due to a lack of capacity. A lack of capacity in turn can be a lack of funds, a lack of “reach” or simply a lack of human capital which hampers the quality of decision making throughout the government’s bureaucracy. One method to ensure that the state has the capacity to deliver is to ensure that the state bureaucracy has the correct people appointed in the correct positions. Often and especially in many African countries, highly respected positions of government are awarded in return for political support³⁶ (Bratton & can der Walle, 1997). Due principally to a lack of incentives to achieve personal success in a (*non-existent*) market economy, wealth and power is sought through the state mechanism, thus government officials attempt to secure as big a portion of the pie for themselves through rent-seeking or through giving support to superiors in the form of political favours. This system of clientelism is supported by systematic rent-seeking whereby the setting of high taxes allows government to create various economic rents that could be used to dispense political favours. “The constant redistribution of state resources for political

³⁶ Once again, this outcome is driven in part by the politico economic dimension of the resource curse.

purposes [leads] to endemic fiscal crisis and diminished prospects for sustained economic growth. The dynamics of neopatrimonial rule³⁷ [has] ensured that African states routinely [outspend] their revenues by a large margin” (ibid) This in turn has created such a climate of uncertainty in political leadership and stability that it has virtually frightened all potential and current investors away – except for those ventures which prove sufficiently lucrative to tolerate the risks³⁸. This in turn can limit the amount of economic diversity present in the economy. Private investors will seek to limit their exposure to these perceived risks through geographical diversification thus limiting their dependency on the host country.

One mechanism to overcome cronyism and corruption in government is to make appointments according to merit, and not according to ethnic, familial or political lines. A meritocracy mediated either through a careful selection process can not only raise the calibre of the bureaucracy, but also create a sense of pride and elitism which would transcend to improved service delivery (Tendler, 1997). Tendler’s recount of health care professionals in Brazil discusses how central government support, the interviewing process and publicity about government programmes through the media can

³⁷ Max Weber’s definition (cited in Speck, 2005) of the patrimonial political system is one where “all government authority and the corresponding economic rights tend to be treated as privately appropriated economic advantages.”

³⁸ Such high return investments are typical of many of the natural resources being developed in Africa.

help to create a sense of pride amongst government workers which can deliver results in difficult circumstances.

However, only one part of the meritocracy issue has been resolved by getting the right people in the right places. Governments must create challenging and rewarding careers for their staff in order to retain them. The correct measures and incentives must be adopted to ensure that promotion will follow performance. Good performance must be linked to career and financial gains as this will be the only way to reduce incentives for petty corruption. Government officials should also be sufficiently isolated from politicians in order to further reduce the tendency for political favours to be asked of officials.

3.1.6 Transparency

Transparency is essential to service delivery and effective governance. It is through the access of information that the public and other agencies can hold governments accountable. Transparency must not only be in the form of political association and motives of political leaders, the formation of the national budget and in the spending of national funds but it is also recently emerging as an issue on a more private-public level. In recent literature and press headlines, transparency has emerged as a very relevant topic to the extractive industries sectors – specifically with regards to the amount

of money paid to governments in terms of export duties, royalties and taxes generated through the development of natural resources. Due to the magnitude of the rents generated through the extractive industries, the degree of rent-seeking and the amount of resource-based political conflict present on the African continent, transparency in terms of payments made to Government is soon to become business as usual in Africa for publicly listed companies.

There have already been some recent cases of resistance by governments to this initiative. For example, British Petroleum (BP) has agreed to participate in the “Publish what you pay” campaign, however in declaring its intent, the Government of Angola has threatened to sue the company if it follows through.

Such initiatives denote a shift in global policy and an impingement on national sovereignty. Given the low levels of social capital and the inability of many third world citizens to properly engage with government, western market and multilateral institutions have justifiably had to fill the gap in ‘checks and balances’.

The transparency provided for through market institutions ensures that corporate citizenship is followed. If in the previous case, the Angolan government insisted that BP not declare the amounts

paid to Government, BP may need to withdraw its investment. This in turn would have repercussions as most foreign firms could see Angola as a 'no-go' zone and the Angolan economy could then suffer a set-back due to lack of production and foreign investment.³⁹ Pressure would then build up on the Angolan government by various factions and something would need to be done to remit the situation. In any case, the presence of transparent market based institutions in this case should assist to ensure good governance and expose if not merely deter its occurrence in the first place.

3.1.7 Corruption & rent-seeking

The key determinant to successful institutional reform in Africa will be the amount by which any reform reduces corruption and rent-seeking behaviour. Corruption has a significant effect on the contribution of the extractive industries to the broader economy, since corruption and rent-seeking inevitably results in the misallocation of government resources and efforts. Rather than maximising the interest of the public through the economy, corruption and rent-seeking seeks to maximise the interests of the few who have power. To change corruption and rent-seeking one must change the structure and nature of incentives which form the politico economy. As the current corrupt practices have to differing degrees become

³⁹ Perhaps more importantly for the Angolan government, they would not be able to capture rents from the oil revenue during a period booming prices.

entrenched within existing institutions, change will have to come piecemeal and by trial and error and thus there is recognition of a need for a transitional period.

As previously discussed, to change the current structure of political economy the current patterns must be deterred and new patterns must be encouraged. These pressures will not always come from within, as in many developing countries a “voice” has not yet been well established. The change agent will therefore be catalysed by other actors and facilitated through multilateral and market institutions.

3.1.8 Multilateral institutions

Multilateral institutions are present to support African countries in making the required structural adjustments. Institutions such as the World Bank Group (WBG), the International Monetary Fund (IMF) and to a lesser degree, the World Trade Organisation (WTO) are continuously revising policy research in hopes that they are able to arrive at workable solutions to today’s developmental challenges.

Although often received as neo-colonial and pro-capitalist institutions, the WBG and the IMF can be seen as more pro-development than the WTO. However, through the collapse of the

WTO's Cancun talks, developing nations appear to be gaining more equitable terms in world trade. Although the terms appear to be improving, the WTO's stance is still very much pro-liberalisation, although it makes arguments that liberalising trade is a step towards development or at least growth.

It is important to underline the extent to which multilateral institutions such as the WBG and the IMF are committed to structural adjustment programmes in Africa. Between 1981-2003, 35 countries in Sub-Saharan African implemented 162 structural adjustment programmes with the help of the WBG and the IMF. By comparison, the remainder of the world only saw 126 structural adjustment programmes implemented over the same period (Campbell, 2003). One central aspect of the state restructurings (due principally to the effects of the resource curse) saw the withdrawal of the state from the mining sector. Among other reasons, these assets were principally sold in order to reduce fiscal deficits⁴⁰.

Much of the re-structuring taking place within the African economies has been directed towards creating the correct enabling environment to attract foreign direct investment (FDI). In doing so however, the WBG and the IMF have failed to customise solutions to

⁴⁰ This can be interpreted as an inducement by the various multilaterals to effect structural change.

the State's immediate requirements and often leave loose ends which have proven to be the weakness of previous Bank and Fund initiatives. While the liberalisation strategies have clearly contributed to the attraction of FDI, with respect to the mining sector, the new policies "appear to fall very short of permitting sustainable development strategies and the introduction of norms and standards with regard to the protection of the environment, social impacts on labour, conducive to such strategies" (ibid). Although structural reform is much needed in Africa and the remainder of the developing world, one of the unintentional effects of new policy recommendations (from Western multilaterals) is that they tend to reduce the fiscal strength of the state, of its capacity to monitor and enforce and consequently decreases the legitimacy and sovereignty of the state, (ibid).

Other criticisms of the World Banks' and the WTO's recommendations come from Mabogunje (2004) who states that restructuring policies coming from the Bank encouraged more liberalist and market based services. This in turn has caused a hasty retreat of many African governments away from service delivery to rural communities. The vacuum created from the retreat created severe shocks which have worsened the conditions of rural communities. Furthermore, globalisation as encouraged by the WTO has meant the exposure of Sub-Saharan Africa's regional economies

to various external shocks, especially those due to commodity cycles, deteriorating terms of trade and adverse climatic conditions.

Additional multilateral institutions which are increasingly affecting the role of extractive industries in Africa are the Kimberley Process Certification Scheme and the New Partnership for Africa's Development.

The Kimberley Certification Scheme, institutionalised by the World Federation of Diamond Bourses and the International Diamond Manufacturers Association is a form of industry self-regulation which strives to reduce the spread of conflict diamonds, by creating a process of warranties for every legitimate diamond mined throughout the world. Through this certificate scheme it is illegal to import or cut any raw diamond that does not contain its unique certificate authorised by the Minister of Mines/Natural Resources of the host country (World Diamond Congress 2002). Though not without its problems, the Kimberley Process is a first and necessary step in promoting ethical responsibility in the diamond trade. Criticisms of the Kimberley Process come mostly from NGOs and deal specifically with the lack of mechanisms for which to audit countries. However inadequate the current certification process is, there are mechanisms in place for which to change the process. For example news

headlines in 2004 (Katz, 2004a) tell of the Republic of the Congo's exclusion from the Kimberley Process. A Kimberley Process review mission's findings indicate that Kimberley Process "participants cannot be confident that conflict diamonds are not entering the legitimate trade in rough diamonds through the Republic of Congo." The report goes further to recommend that "according to all participants' national regulations, [they] must immediately advise their customs authorities to not accept shipments of rough diamonds with [Kimberley Process] certificates issued by the Republic of Congo."

The diamond industry's success is dependant upon the association of its product with love, glamour and purity. It is for this reason that it is in the best interest of all diamond mining companies, downstream sectors and diamond producing countries to ensure that the Kimberley Process is successful in legitimising the trade of all diamonds. The international boycott implemented on the Republic of the Congo's diamonds sends a signal to corrupt and rent-seeking government officials that if they wish to manage their natural resources, they must do it within legitimate channels and that the World will not allow mineral wealth to fuel African civil wars any longer.

Having realised that capacity to manage the trade of diamonds is lacking in many parts of the developed world, the Kimberley Process (KP) has made it the responsibility of other KP signatories to assist with the development of such capacity. It is with the realisation that if one country fails in securing the value of diamonds all countries will suffer the consequences that has unified nations in this effort. The KP process is an excellent example of how the diamond producing countries of all wealth levels, in combination with corporations can work together multilaterally to secure the best interests of the many.

A second recent institutional mechanism which very much affects the future growth prospects of Africa comes from the NEPAD. One of the unique features that makes the NEPAD so promising for the delivery of development is that it is a development strategy developed for Africa by Africans and not another package of policies handed down from Washington. Although, the fundamentals of many contemporary 'Washington Consensus' policy recommendations are incorporated within the NEPAD, the fact that it is being sold by Africans to other African leaders as a path out of poverty gives the programme more legitimacy and appears to give more political will to the process as there is now ownership and perhaps more drive to make it work.

The goals of the NEPAD are threefold: reduce poverty, achieve sustainable economic development and achieve access to markets. The continent of Africa has been broadly recognised as an indispensable resource to the world community. Most notably of those resources it has to offer are the natural resources- both mineral and agricultural. NEPAD recognises that in order to achieve sustainable economic development and a reduction in poverty for all Africans, these natural resources must be managed wisely.

The structure of the NEPAD is such that the whole is comprised of a number of smaller initiatives ranging from issues of peace and security to human resources development. Of most direct relevance to the extractive industries are: (NEPAD 2001a)

1. The Capital Flows Initiative – (iv) Private Capital Flows.
2. The Market Access Initiative – (i) Diversification of Production and (iii) Mining

Through the capital flows initiative, the NEPAD seeks to increase private capital flows to Africa. “The first priority is to address investors’ perception of Africa as a “high-risk” continent, especially with regard to security of property rights, regulatory frameworks and markets” (NEPAD 2001b). Furthermore, NEPAD realises that taxation and investment regimes play a major role in promoting or discouraging

investment. It is therefore crucial that African governments ensure that they adopt policies and practices that are in line with best practice. The definition of best practice is however vague although this could be intentional to allow for the customisation of policies to a country's immediate circumstances.

In the market access initiative, NEPAD recommends that all signatory governments create environments in which mineral beneficiation should be encouraged through regional linkages. Private enterprise must be supported and to this end, policies – both mineral-specific and national, must be drafted to encourage this behaviour. While specifically related to mining, NEPAD urges governments to “create a regulatory framework that is conducive to the development of the mining sector while establishing best practice that will ensure efficient extraction of natural resources.”

One of the key institutional arrangements in the NEPAD is the peer review mechanism, which calls for the review of African leaders and country performance by a jury of peers. The instrument is a ‘non-penalty’ mechanism whereby it is expected that acceptable economic and political performance will be deliberated upon by a forum of peer leaders. The mechanism has been recently criticised by the private sector and NGOs alike for lacking the power to induce

change in faltering nations. The peer review process is to be the driving force behind NEPAD, however without the necessary punitive powers to keep countries in line it is difficult to understand how and why countries could be induced to comply⁴¹. However one must also ask themselves if the peer review mechanism does not include an element of African social capital which could unlock the secret to its legitimacy and enduring success. Perhaps the core to the NEPAD's success is intuitively not meant to be understood by Westerners as it may rely upon social qualities which the West is not accustomed to. If NEPAD is relying upon unique African cultural values, then one example of such social values which affirms the peer review mechanism is ubuntu⁴². Ubuntu is seen as one of the founding principles of the new Republic of South Africa and is connected to the idea of an "African Renaissance". In the political sphere, the concept of ubuntu is used to emphasise the need for unity or consensus in decision-making, as well as the need for a suitably humanitarian ethic to inform those decisions. Louw (1998) suggests that the concept of ubuntu defines the individual in terms of their relationships with others, and stresses the importance of ubuntu as a religious concept, stating that while the Zulu "maxim umuntu ngumuntu ngabantu" ("a

⁴¹ Considering the blatant disregard for good governance displayed by many African leaders over the last 50 years it is difficult to understand how a peer review mechanism could create the 'right' incentives to induce institutional reforms.

⁴² Ubuntu is a South African ethic or ideology focusing on people's allegiances and relations with each other. According to Tutu (2000) ubuntu can be defined as: "A person with ubuntu is open and available to others, affirming of others, does not feel threatened that others are able and good, for he or she has a proper self-assurance that comes from knowing that he or she belongs in a greater whole and is diminished when others are humiliated or diminished, when others are tortured or oppressed."

person is a person through other persons")⁴³ may have no apparent religious connotations in the context of Western society, in an African context it suggests that through one's actions with humanity, one may become an ancestor worthy of respect or veneration. Those who uphold the principle of ubuntu throughout their lives will, in death, achieve a unity with those still living. Extending this to nation building it can be suggested that "ubuntu" be expanded upon to believe that a nation is a nation through other nations, or that peoples are peoples through other peoples. It is certainly hoped that the NEPAD represents the first of many successful truly 'African' institutions which find their strength drawing upon African⁴⁴ core values merging with Western policy recommendations.

3.1.9 Market institutions

Market driven institutions based on complete and 'perfect' information, open and fair transactions, fluidity of capital and information, and the lack of price & resource allocation distortions are one of the driving mechanisms of today's successful and modern western economies. In the pursuit of maximising the benefit of natural resources, the market certainly has a key role to play.

⁴³ Extending this to nation building it can be suggested ubuntu be expanded upon to believe that "a nation is a nation through other nations", or alternatively that "peoples are peoples through other peoples".

⁴⁴ African culture is as diverse as the many languages spoken in Africa. The NEPAD and South Africa's vision of the "African Renaissance" may represent a cultural mismatch between South Africa's social capital (underpinned by Ubuntu) and the social capital stock of other African countries. Hence, although the NEPAD's peer review mechanism makes use of African social capital its performance may be suboptimal in the same fashion as Western institutions based on western social capital have been historically. Having said this, Africa is perhaps one step closer to a better cultural fit.

The market works in the following manner: it maximises the good of the public at large by maximising the good of the many smaller private needs. From a neoclassical economics perspective, all agents are assumed to be utility-maximising and possess rational expectations. At any one time, the macro-economy is assumed to have a unique equilibrium at full employment or potential output and this equilibrium is assumed to always have been achieved via price and wage adjustment (market clearing). Every enterprise acts according to its own needs and the way it interprets information. However just as information is not always perfect, neither are markets. There are also certain public goods⁴⁵ which cannot be generated effectively through private means and are best provided by the state. There is therefore a necessary symbiotic relationship between the state and the market.

There is however a difference in the role a state should play depending upon the level of development. In a developed economy the state can take a less active role in the goings on of the economy and leave more to the market, but in the contemporary notion of

⁴⁵ Public goods can include education, health care, national defense, national infrastructure such as roads, railways, ports and communication infrastructure to name a few.

today's developmental state⁴⁶, much more involvement is required by government in order to get markets to work in a manner which optimises the public good.

There are several methods by which markets or market institutions can serve in maximising the benefit of natural resources towards African development.

The first is in the form of Foreign Direct Investment (FDI). It is generally accepted that markets are a broad source of capital which can serve to kick-start a country's economy. However, the literature is undecided regarding the "real" benefits of FDI, other than the positive effects that FDI may have on the macroeconomic status of the host country (in terms of providing necessary foreign exchange), it is not clear as to why FDI is sometimes thought of as the "Holy Grail" of development (Zarsky and Gallagher, 2003). Evidence from recent developments in Asia have shown that the reverse is actually true: it is rather economic development that attracts FDI (Chang 1998, Milberg 2003). It can be argued that there is a mutually reinforcing relationship between the two. It is however reasonable to assume

⁴⁶ "The developmental state emphasises capacity to implement economic policies effectively. Such a capacity is determined by such others – institutional, technical, administrative and political. Undergirding all these is the autonomy of the state from social forces so that it can use these capacities to devise long-term economic policies unencumbered by claims of myopic private interests. It is usually assumed that such a state should, in some sense, be strong and enjoy relative autonomy from key social actors" (Mkandawire, 1998).

that at some critical point, economic growth will not be possible without FDI, and FDI will not flow into a country without the reasonable expectation for economic growth. By comparison, the vast majority of FDI flows today are between developed countries, with China attracting the majority of flows to developing countries, leaving very little to Africa and the remainder of the developing world. Future economic growth due to FDI will not only depend on the amount of FDI, but on some of the non-monetary benefits⁴⁷ arising from FDI. In this way FDI is very much like natural resources in that it is not the presence of FDI that will kick start the growth process, but it is rather how it is used which will be the determinant factor.

Markets themselves can also be a useful mechanism for promoting transparency in an economy. Due to the listing requirements of many of the world's largest stock exchanges, it is difficult for today's large multinational resource based companies to engage in corrupt or unethical activities for fear of being exposed. Consider the situation where a country is emerging from a resource boom period and is facing a balance of payments crises as it has over-extended itself. In order to raise the necessary capital to pay off some of its debt, it chooses to privatise some of its parastatal mining

⁴⁷ Non-monetary benefits arising out of FDI could include technology transfer, product diversification, employment, the transfers of management know-how etc. In turn, the human capital stock of the host nation needs to be high enough to absorb these non-monetary benefits.

companies. Whereas previous governments may quickly dispose of these assets to local political elites in return for support, a government that chooses the market approach will ensure that they are 'at least' getting market value for their assets. As in the recent case with the Societe Miniere de Bakwange (MIBA) of the DRC, the government invited applications from De Beers, BHP Billiton, Trans Hex and Dan Gertier International (DGI) to bid for 78,000 square kilometres of prospective diamond exploration territory. Each company prepared very competitive offers for exclusive exploration rights to the land which is considered to be highly prospective. In the end, the DRC decided that De Beers, BHP Billiton and DGI will have the rights to jointly prospect the land. While now having raised sufficient funds, MIBA will be able to conduct exploration activities on the remaining 930,000 square kilometres of its concession (Katz, 2004b). Under such a strategy, if the long term goal of MIBA and the Government of the DRC is to rapidly expand its diamond sector, then utilising the private sector as a source of capital can assist in this objective.

Another mechanism through which markets contribute to economic growth is through increased transparency led by initiatives such as the Publish What You Pay (PWYP) campaign (Palley 2003). The initiative proposes legislation requiring that publicly listed oil and mining companies disclose information about payments to

governments as a condition of stock exchange listing. Through this system, anyone with access to the internet will quickly be able to see how much revenue natural resource companies have paid local governments. It is hoped that such a campaign will assist in reducing corruption as it will provide a clear audit trail regarding how much money was received by government, by whom and for what.

One of the weaknesses in the PWYP is that it does not go as far as to make the governments declare how much money they received, nor does it address the issue of state owned natural resource companies who may receive moneys from governments while also making payments. In trying to fill this gap, the Extractive Industries Transparency Initiative (EITI) announced by Tony Blair at the 2002 World Summit on Sustainable Development seeks to create voluntary compacts between governments and private industry regarding natural resource revenue transparency. Under this framework, private companies are to disclose what they pay to governments, state owned companies will declare what they receive from governments and what they pay to government, while the government will declare what revenues they receive.

Disclosure of payments in this fashion should render government officials more accountable and thus reduce corruption. Investors and

citizens everywhere stand to benefit from PWYP and the EITI as reductions in corruption will stimulate investment and growth, as well as lowering the perception of political risk associated with the host nation (Palley, 2003).

3.1.10 The structure of natural resource ownership and industrial policy

Having now established the form of political system to be employed and the various requirements to create a deep functional democracy, the next question to answer when dealing with issues of natural resources is: What role should the government play in the extraction of these resources? The structure of ownership is critical in understanding the resource curse as it will, in turn, determine the actions and roles of the key players (the entrepreneur, the market, the multinational corporations, multilateral institutions, the state, and labour). As demonstrated by Luong and Weinthan (1999) and subsequently by Luong (2003), the role of the key players and hence the structure of natural resource⁴⁸ ownership is dependant upon the interaction of two key variables:

1. The availability of alternative sources of export revenue
2. The level of political contestation.

⁴⁸ In the case of Luong and Luong & Weinthal, their focus was primarily on oil as the natural resource in question. Furthermore, their study focused primarily on Kazakhstan.

They argue that “the key to understanding why resource rich states share so many negative attributes is not their mineral wealth per se,... but whether the proceeds from resource extraction and exports are concentrated or dispersed.” In their framework, proceeds which are concentrated would impoverish the state whereas better dispersal of the proceeds would enrich the state.

In Luong’s model, the availability of alternative sources of export revenue would mean that the state could postpone the development of its natural resources whilst maintaining its current levels of expenditure. In this case a state with alternative sources of export revenue would seek to retain control over its reserves until the time suited it to develop them, whereas a state without outside sources of export revenue would be under pressure to develop its reserves.

The level of political contestation on the other hand relates to the politico economy of the resource curse and determines the amount of resources that political leaders need in order to remain in power. “The more intense the challenge to maintaining the existing system for dispensing patronage... the greater the state leader’s need to

attain additional resources⁴⁹ to maintain power” (ibid). As previously discussed, this is particularly true in Africa’s developing economies where the emergence of a potential rival threatens the existing clientelist networks and systems of patronage upon which the economic and political systems are based.

When natural resource ownership relates to land ownership, a different set of dynamics emerges. In rural Africa, subsistence farming plays a fundamental contribution to people’s health and well-being, however in many countries, the plots are not registered in the farmer’s names nor do many farmers have any registered assets to use as collateral. This lack of assets poses a significant risk to their livelihood since in the case of a shock⁵⁰, the farmer would have nothing to fall back on, no assets to sell, nothing to place against his name to secure a loan to wait out the drought as may be the case. Access to credit may also help farmers avoid the distress sale of assets and replace productive assets destroyed in the event of a disaster. The key strength of microfinance however is in the knowledge that the money will be there in a time of need, which makes it possible for families to resist resorting to other less attractive strategies such as child labour (World Bank 2000). Additional

⁴⁹ In this case resources refers specifically to the means by which the leader will secure support.

⁵⁰ A shock in this case could mean poor crop yield or a death in the family. International crop prices are not as relevant for subsistence farming since little surplus is produced for export.

benefits to land tenure are related in the ability of a farmer to embark upon riskier ventures which could have higher payoffs for the farmer and the economy as a whole. However these arguments are based upon the premise that a farmer is able to raise the credit against an asset.

The problem of land registration / distribution is not easily solved. In the case where the land is already owned, it must now be re-purchased by the state at market prices –a lengthy and costly exercise as demonstrated by South Africa’s and Brazil’s land reform programmes. In the case where the land remains unregistered, the problem is compounded by the “reach” of the state and bureaucratic capacity. The state may not have the capacity to survey and register all the new plots, nor may it even have a presence in the most remote areas of the country – with this in mind, it is also unlikely that financial institutions will be present in rural Africa any time soon.

The issue of regulating small holdings for agricultural purposes is akin to the artisanal mining sector in much of Central and Western Africa. In many of these instances the state lacks the capacity to regulate. Many of the mining blocks remain unregistered, thereby hampering the states ability to collect tax revenue, gain knowledge of the deposit value, and enforce proper health and safety procedures.

From the perspective of the artisanal miner, a lack of state regulation and official access to markets increases the vulnerability of the miner to sell his product to buyers. In the case of the artisanal diamond trade, the diamond dealers often control the local economy due to the socio-economic state of dependency of diamond diggers.

As diamond diggers themselves do not typically have the resources available to finance their own development activities, so they look to financial sponsors who are able to advance them shovels, sieves and rice. However, the price of such backing is high; the sponsors assume de facto control of the output. In many cases, the livelihoods of extended family members of the diggers also depend on the largesse of the same sponsors, who extend credit to purchase the tools needed in another business, or the textiles and dry goods sold in another family business. The miner must sell most or all of his production to his sponsor, who deducts real, but also additional “fabricated” costs, from the price paid to the miner. The miner has little ability to influence price as upsetting the buyer may trigger economic catastrophe to the extended family.

Often the diggers’ and the licensed miners’ only real chance to get a decent price for their winnings is to smuggle some of their diamonds out of the country. This smuggling is not done to avoid

export taxes; it is the only means available to preserve the true value of production - by side-stepping the middlemen and sponsors.

The financial return to the artisanal work force is often so meagre that the miner cannot be expected to make any significant tax contribution to the government, and his own ability to purchase goods or engage in commerce is severely constrained. In many respects the mining communities are collectively bankrupt, with little or no means (either as a group or on an individual level) to spend beyond purchasing life-sustaining essentials for themselves and their families, and certainly not to invest or save. This huge group and their dependents lack the requisites to contribute significantly to the domestic economy.

In terms the structure of natural resource ownership in the formalised mining sector, western multilateral institutions have encouraged the privatisation of parastatal natural resource companies. As per the Washington Consensus, the privatisation of state corporations is at the forefront of thought. One such country which embarked on a massive privatisation of state assets post the adaptation of the consensus is Chile. At the time of the Washington consensus, the Chilean government owned and mined much of the countries natural resources.

The degree of economic isolation followed by import-substitution industrialisation policies leads one to speculate that Chile had adopted a set of policies in accordance with dependency theory or world system theory. The theories postulate that the wealthy nations of the world need a peripheral group of poorer states in order to remain wealthy. These poor nations provide natural resources, cheap labour, a destination for obsolete technology, and markets to the wealthy nations, without which they could not have the standard of living they enjoy. First world nations actively, but not necessarily consciously, perpetuate a state of dependency through various policies and initiatives. Very generally, some of the policy outcomes which a developing state may adopt to break free from the dependency theory are:

- Promotion of domestic industry. By subsidising and protecting industries within the periphery nation, supposedly, these third-world countries can produce their own products rather than simply export raw materials. In the 1970s Chile embarked upon a massive campaign of import substitution industrialisation which it would hope would develop the secondary economy, gain skills and enable Chile to effectively

emerge into the world markets with a set of strong and competitive industries.

- Import limitations. By limiting the importation of both luxury goods and manufactured goods that can be produced within the country, supposedly, the country can avoid having its capital and resources siphoned off.
- Forbidding foreign investment. Some governments took steps to keep foreign companies and individuals from owning or operating property that draws on the resources of the country.
- Nationalisation. Some governments have gone so far as to forcibly take over foreign-owned companies on behalf of the state, in order to keep profits within the country. There is currently speculation that Venezuela is moving towards this direction as it has now required that all mining companies re-apply for their mining rights.

3.1.10.1 Case study: Chile

Chile is an excellent case to study in order to glean deeper insight into the effects of industrial policy and the structure of resource ownership on economic growth. Much of the historical insights are adopted from The Library of Congress - Country Studies and the CIA World Factbook, with the exception of the charts and data analysis which are based on the World Bank's world

development indices database and Chilean national accounts and trade statistics.

The following chart (figure 3-8) depicts the historical composition of Chilean exports since 1960. As can be seen (in 1998 terms), the absolute value of primary exports since 1960 has remained relatively stable. The government attempted to diversify local manufacturing and adopted an import substitution industrialisation (ISI) policy stance. As with most historical cases, Chile's import-substitution strategy was accompanied by an acute overvaluation of the domestic currency that precluded the development of a vigorous non-traditional (i.e. non-copper) export sector. Although some agrarian reform was attempted, the government increasingly resorted to controlling agricultural prices in order to subsidise the urban working and middle classes. The agricultural sector was particularly harmed by the overvaluation of Chile's currency. The lagging of agriculture became, in fact, one of the most noticeable symptoms of Chile's economic problems of the 1950s and 1960s. Over this period, manufacturing and mining, mainly of copper, significantly increased their shares in total output.

By the early 1960s, most of the easy and obvious substitutions of imported goods had already been made; the process of import

substitution was rapidly becoming less dynamic. For example, between 1950 and 1960 total real industrial production grew at an annual rate of only 3.5 percent, less than half the rate of the previous decade.

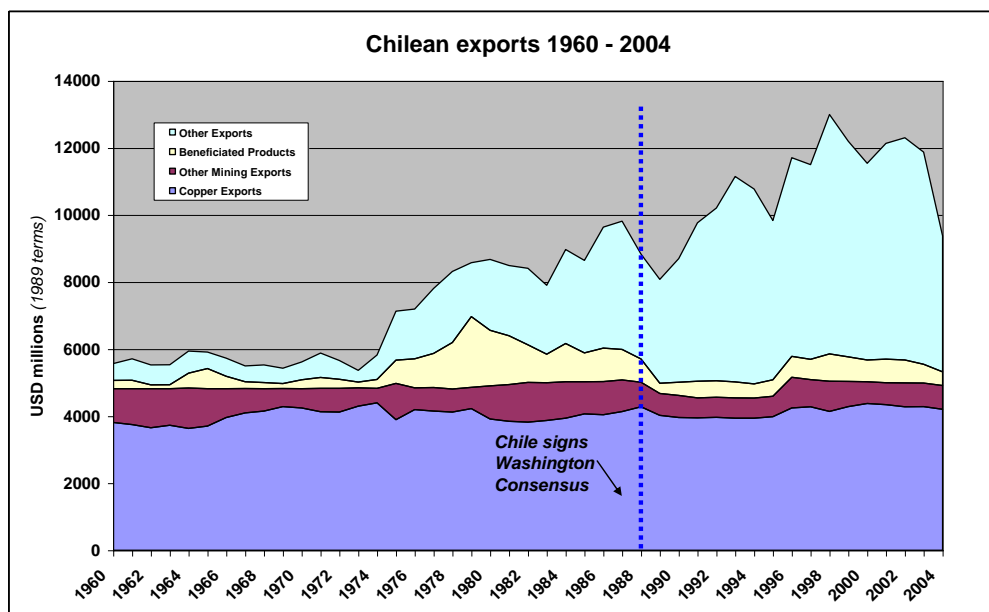


Figure 3-8 Historical composition of Chilean exports⁵¹ (Chilean national statistics)

During the 1960s, and especially during the Frei administration, some efforts to reform the economy were launched. These included agrarian reform, limited liberalisation of the external sector, and a policy of mini-devaluations aimed at preventing the erosion of the real exchange rate. Under the 1962 Agrarian Reform Law, the Agrarian Reform Corporation (Corporación de Reforma Agraria-Cora) was

⁵¹ It should be noted that although the Chilean government loosened its control of many of the natural resources since adopting the Washington Consensus, Chile retained its interest in Codelco – the Chilean copper mining parastatal which produces over 40% of the World's copper.

created to handle the land distribution programme, but land reform proved to be slow and expensive⁵². In spite of these and other reforms, toward the end of the 1960s it appeared that the performance of the economy had not improved in relation to the previous twenty years. Moreover, the economy was still heavily regulated. (See figure 3-9.)

In September 1970, Salvador Allende, the UP candidate, was elected president of Chile. Over the next three years, a unique political and economic experience followed. The UP was a coalition of left and centre-left parties dominated by the Socialist Party (Partido Socialista - PS) and the Communist Party of Chile (Partido Comunista de Chile - PCCh), both of which sought to implement deep institutional, political, and economic reforms. The ruling socialist-communist Popular Unity's (Unidad Popular--UP) program called for a democratic "Chilean road to socialism"

When Allende took office in November 1970, his UP government faced a stagnant economy weakened by inflation, which hit a rate of 35 percent in 1970. Between 1967 and 1970, real GDP per capita had grown only 1.2 percent per annum, a rate significantly below the Latin American average. The balance of payments had shown

⁵² Land reform has since had similar experiences in Brazil and South Africa.

substantial surpluses during all but one of the years from 1964 to 1970, and, at the time the UP took power, the Central Bank of Chile had a stock of international reserves of approximately US\$400 million.

The UP had a number of short-run economic objectives: initiating structural economic transformations, including a program of nationalisation⁵³; increasing real wages; reducing inflation; spurring economic growth; increasing consumption, especially by poorer people; and reducing the economy's dependence on the rest of the world. In the area of structural reforms, two basic reforms were immediately implemented. First, agrarian reform was greatly intensified, and a large number of farms were expropriated. Second, the government proposed to change the constitution in order to nationalise the large copper mines, which were jointly owned by large United States firms and the Chilean state. The remainder of the UP's nationalisation program was to be achieved by a combination of new legislation, requisitions, and stock purchases from small shareholders. The other goals (output and increased consumption, with rising salaries and declining inflation) were to be accomplished by a boost in aggregate demand, mainly generated by higher

⁵³ This had a profound and lasting effect on the natural resource sector and specifically on the structure of ownership of natural resources.

government expenditures, accompanied by strict price controls and measures to redistribute income.

The UP's macroeconomic program was based on several key assumptions, the most important being that the manufacturing sector had ample underutilised capacity. This provided the theoretical basis for the belief that large fiscal deficits would not necessarily be inflationary. The lack of full utilisation was, in turn, attributed to two fundamental factors: the monopolistic nature of the manufacturing industry and the structure of income distribution. Based on this diagnosis, it was thought that if income were redistributed toward the poorer groups through wage increases and if prices were properly controlled, there would be a significant expansion of demand and output.

The UP perspective on the way the economy functioned ignored many of the key principles of traditional economic theory. In this respect Chile's policy stances do not differ greatly from those of the developmental state in East Asia. However, the principle difference lies in that Asia was focused primarily on developing export-led growth through competition with the global economy, while Chile's focus was more internal. Chile's policies greatly diminished the attention given to monetary policies, and a complete disregard of the

exchange rate as a key variable in determining a macroeconomic equilibrium. In particular, the UP programme and policies paid no attention to the role of the real exchange rate as a determinant of the country's international competitive position. Moreover, the UP failed to recognise that its policies would not be sustainable in the medium term and that capacity constraints were going to become an insurmountable obstacle to rapid growth.

After the military took over the government in September 1973, a period of dramatic economic changes began. Chile was transformed gradually from an economy isolated from the rest of the world, with strong government intervention, into a liberalised, world-integrated economy, where market forces were left free to guide most of the economy's decisions. This period was characterised by several important economic achievements: inflation was reduced greatly, the government deficit was virtually eliminated, the economy went through a dramatic liberalisation of its foreign sector, and a strong market system was established.

From an economic point of view, the era of General Augusto Pinochet Ugarte (1973-90) can be divided into two periods. The first, from 1973 to 1982, corresponds to the period when most of the reforms were implemented. The period ended with the international

debt crisis and the collapse of the Chilean economy. During this period, a pragmatic economic policy that emphasised export expansion and growth was implemented. The second period, from 1982 to 1990, is characterised by economic recovery and the consolidation of the free-market reforms. This eventually led to the implementation of the Washington consensus.

The following chart (figure 3-9) of Chile's national accounts statistics shows the performance of the overall economy over the same time period as figure 3-8, but in 1995 terms. As can be seen the economy only started to achieve high growth figures post 1984. This date aligns with Pinochet's free market reforms and Chile's adoption of the Washington Consensus which can be indicative of two possible developmental paths:

1. The increase in GDP and GDP per capital was due to a loosening of government involvement in the run-up to adopting the Washington consensus, thereafter the consensus policies continued to be beneficial for the Chilean economy. This argument would support the neo-classical and neo-liberal economic view which states that in order to achieve economic growth the role of the state should be limited.

2. Given that high growth rates were achieved immediately following Chile's import substitution and "anti-dependency theory" policies suggests that this policy set was appropriate over the 1970s and gave Chile the correct skills to diversify away from natural resource dependency.

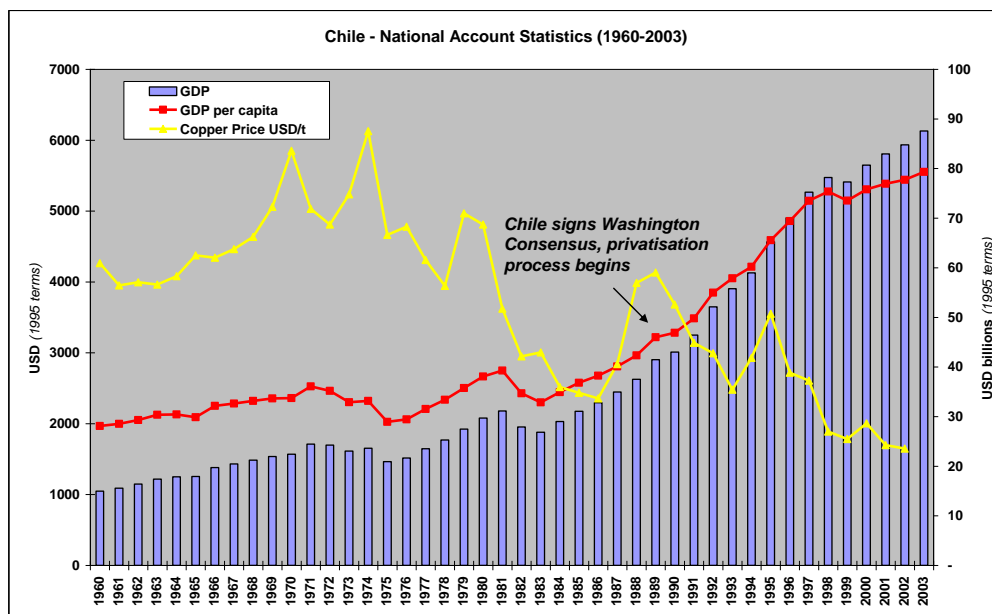


Figure 3-9 Chilean economic growth and copper price (1960-2003, source: World Bank Development Indicators)

When closely examining figure 3-8 in conjunction with figure 3-9, one can extend the following conclusion: In the period post the Washington consensus, Chile achieved growth away from its natural resource sector. Secondly although forced beneficiation of natural resources (through ISI) predates the massive growth periods experienced in the mid 80s until this day, the exports of beneficiated goods quickly ceased to 'pre' import-substitution levels after the

adoption of the Washington consensus. Chile shifted focus from its “comparative” advantages in making products from copper and other nationally mined products to strategically identified “competitive” advantages. These competitive advantages, in strategically identified sectors, are the driving factor behind Chilean growth in the post-consensus years. As can be seen in figure 3-8, it is the “other” exports which continue to grow and not the benefited or primary mineral exports⁵⁴.

Chile’s case contains many important policy lessons for other countries considering the forced development of benefited products from a comparative advantage in natural resources. In Chile’s case these policies were unsustainable and cost more than they benefited the nation⁵⁵ (Martin, 2005). In the end, the Chilean economy only experienced rapid economic growth once more liberal policies were implemented and other strategic sectors of the economy identified for growth. Developing countries should rather specifically target strategic sectors and nurture these. The industrial policy set adopted by Asian countries in recent years to achieve high rates of economic growth is very similar to the Chilean case but there

⁵⁴ In Chile’s case, the ‘other’ exports include an increase in aquatic and agricultural products, in addition to manufactured products.

⁵⁵ The costs are greater than the benefits since government reallocates tax and other revenue from competitive sectors to grant subsidies to infant industries to develop. Meanwhile, import tariffs are increased on foreign goods which can lead to inflation and to higher costs for local industries – rendering them even more uncompetitive.

exists one major difference. Because of the low natural resource base of Asian countries, they did not have the opportunity to develop their comparative advantages into competitive advantages. From commencement of their development strategy, they had to adopt policies which targeted strategically important industries for growth. In essence, Asia had an interventionist approach but intervened to seeking a competitive advantage – not to make the most out of its natural endowments.

The following simplified example illustrates how import substitution industrialisation and forced beneficiation leaves a sector uncompetitive, costs more than the benefit and can create an environment of rent-seeking to keep the uncompetitive sector afloat.

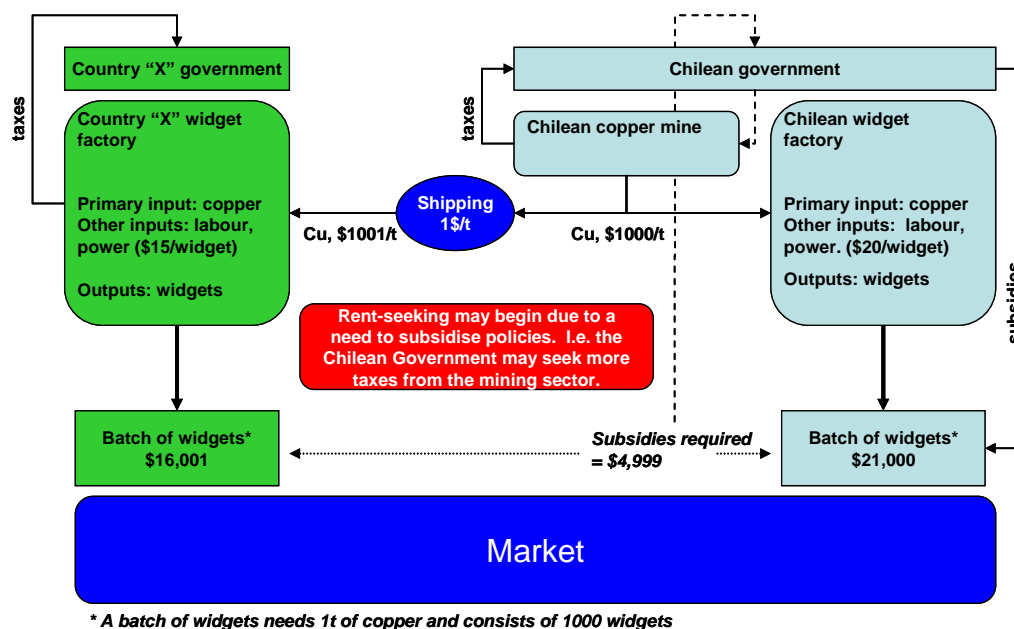


Figure 3-10 Import substitution, forced beneficiation and rent-seeking

Consider the following scenario, Chile and Country “X” both wish to manufacture widgets from copper. Widgets in this example are made solely from copper, and Chile, as the major producer of copper, believes that for this reason it would be beneficial to take over the widget industry. Currently, a batch of widgets requires 1t of copper and a batch consists of 1000 widgets. The cost of shipping copper to Country “X” is very low at 1 \$/t of copper. Country “X” has a relatively weak exchange rate in comparison to Chile which is making Country “X” very competitive. In addition to this country “X” has been making copper widgets for a long time and already has all the necessary skills and infrastructure to do so efficiently. For each widget produced, Country “X” only has additional costs per widget of \$15. This includes all other inputs required, excluding the cost of copper and shipping – which is calculated separately. Chile, on the other hand has operating costs of \$20 per widget – due to perhaps more stringent labour laws and a strong exchange rate.

In determining how competitive Chile is at producing widgets in comparison to Country “X”, Chile can produce a batch of widgets for \$21,000 whereas Country “X” can produce a batch for \$16,001. Therefore, for Chile to compete with Country “X”, the Chilean

government needs to subsidise the widget factory by a total of \$4,999 per batch of widgets.

After 5 years in making widgets, the additional \$4,999 comes as a drain to the Chilean fiscus. The government did not expect to have to subsidise so much and for so long. The government considers removing the subsidies, but this is met with opposition from populist groups such as unions and the political elite who are benefiting from the subsidies. Therefore, the state has little recourse but to rent-seek and increase the taxes and royalties on the mining industry (which is producing the copper required for the widget factories). Those mining companies that are privatised complain to the government. Due to the fixed nature of the mines, the multinationals realise they have little power to negotiate as they cannot move the mine into a 'friendlier' country. In the end, the mining sector is actually subsidising the Chilean widget factories. Due to the additional costs, owing to the subsidies and increased costs of ore extraction over the life of mine, copper reserves may be revised downwards. If reserves are largely rendered uneconomic, the Chilean widget factories will need to close since they are even more uncompetitive if they are required to source copper on the international market.

As can be seen from this example, the Chilean widget factories are only as sustainable as the Chilean coppers reserves. This leads one to conclude that a 'forced' economy based on local natural endowments is as finite as the reserves themselves.

3.1.10.2 Chilean lessons applied to South African diamond beneficiation

The scenario above holds important lessons applicable in the South African context with its many development objectives. South Africa's developmental state, rooted in a mixed economy⁵⁶ can be said to be somewhat influenced by the dependency theory of economics. The state very much still has a hand in the economy and is using its influence to achieve its broader development objectives. As such, the legislation governing the minerals sector is being adapted to align itself with government objectives. Some of the new mineral policies include, but are not limited to a new mining charter (linked to socio-economic development plans), a new ad valorem royalty and most recently the diamond amendment bill⁵⁷. The

⁵⁶ The ownership structure of enterprises in South Africa is very much a mixture of private and state owned enterprises - hence the economy is termed 'mixed'.

⁵⁷ The diamond amendment bill once implemented will increase the government control of all diamonds produced in the country. The bill removes the right of the mining company to market its product and envisages the state playing a critical role of allocating resources (diamonds) to many small, black economically empowered companies. Through this mechanism of reallocation the government seeks to increase beneficiation thereby increasing the value of the final exported product as well as develop skills in the diamond cutting and polishing sectors.

diamond amendment bill is specifically of interest when examining the case of Chile and its import substitution/beneficiation campaigns.

Whereas in the previous hypothetical example, Chile identified the manufacturing of “widgets” as a good industry to develop because Chile mined copper, South Africa is attempting to force⁵⁸ the beneficiation of diamonds because it mines them. As was shown in figures 3-8 and 3-9, induced beneficiation did not work for Chile and there is at this stage little evidence to suggest that South Africa’s approach will be more successful in creating a sustainable diamond cutting and polishing sector given the marginal nature of South Africa’s diamond mines. In 2004, 5 out of the 7 De Beers mines were running at a loss – which comprises the bulk of South African diamond production. Considering that the majority of the mines are scheduled to be depleted by approximately 2015, large quantities of capital need to be injected into the mines’ infrastructure in order to sustain current levels of production. The royalty bill and the export duty envisaged by the diamond amendment bill will increase the cost of production and reduce the reserve base of the mines – it will also jeopardise the envisaged returns on the mine extension projects and render some of these unfeasible.

⁵⁸ In this case, ‘force’ is the applicable term since South Africa will not induce companies to move beneficiation centres to South Africa but will instead allocate all mined diamonds to a state diamond bourse for reallocation to cutters. All rough diamonds exported will attract a 15% export duty.

There is the possibility that these additional “costs” will be pushed downstream to the market in the form of price and that the mines may be able to continue to plan on current revenues. If price is pushed onto the consumers, the markets will only absorb additional price if there is a shortage of supply in relation to demand and if price elasticity is relatively weak⁵⁹.

South African diamond cutters are not competitive in all the various grades of diamonds⁶⁰. To further complicate the matter, the mix of South African goods positions South African cutters at a disadvantage in comparison with Eastern cutting and polishing manufacturing firms. Given the current uncertainties in the industry regarding the threat of synthetic diamonds, the possibility of a future U.S. recession, slower or stagnant growth in India, China and Japan and increased volatility in diamond price due to the liberalisation of De Beers’ grip on the industry, natural price cycles and price volatility can be expected to increase. These natural cycles will likely, from time to time, render certain cutters uneconomic. In the case of diamond supply exceeding demand, the South African diamond

⁵⁹ Currently this is seen to be the case.

⁶⁰ South African cutting factories are only competitive in the larger and more valuable goods. India is predominantly the most competitive country in the smaller size fractions and lower quality goods.

bourse may be required to stockpile diamonds.⁶¹ If such a situation arises, this additional working capital will need to be funded by the state or the bourse itself. In turn, this form of subsidy will come at a cost to the South African government.

The case of South African diamond beneficiation can be seen akin to Chile's widget factories. The "subsidies" in this case would refer specifically to either propping up inexperienced South African cutting and polishing businesses, as well as unexpected working capital requirements in the face of price cycles. The other costs to South Africans will be in the form of lower taxable profits from the mines, reduced investment in the mining industry due to: reduced returns and potentially higher perceptions of political risk; reduced reserves and therefore reduced sustainability of the communities where mining currently takes place; and finally reduced financial stimulus of linkages between the mining industry and other businesses due to a shortened mining life.

Although the government's objectives are to create employment through its natural endowments, the current anti-dependency theory position of the South African government and its many policy implications may come as a greater cost to the South African

⁶¹ As the South African diamond cutters will produce at higher prices, jewellery manufactures and consumers will first purchase lower priced goods from more competitive markets.

economy than a benefit. A recent study commissioned by South Africa's Nedlac (National Economic Development & Labour Council) found that "promoting beneficiation would be achieved at a relatively higher cost than intervention in other sectors. The researchers recommended that "great care" be taken in "expending resources on intervening in the sector as returns may be limited" (Goldman, 2005).

The motivations for pursuing such policies in the face of industry and technocratic opposition are many. Perhaps most significantly, government motives are likely heavily influenced the political economic situation in South Africa. The current ruling party (the ANC) has not delivered economic reform, growth, opportunities, distribution of wealth and equality in the rates expected by the majority of South Africans since the ANC took power in 1994. The government's underperformance may be posing a threat to its legitimacy. Although well isolated due to a clear electoral majority in parliament, the pressure from civil action groups and populist movements may be forcing the South African government to adopt centralist policies in order to deliver on its previous promises timeously before the next set of elections for as Kohli (1993) notes, "the gap between expectations and the reform-induced reality exacerbates the problems of managing fragile new democracies."

Much of the literature and previous case studies suggests that when considering the development of secondary industries, developing countries should rather take a blank page approach. A rich base of natural endowments is not necessarily easily converted into a competitive advantage and therefore is not necessarily on the road to competitive and sustainable economic development. Control of natural endowments are however the easier route – since the far more difficult task of converting an uncompetitive economy into a competitive economy can be temporarily avoided. Using the natural resources and adopting interventionist state policies may temporarily maintain or even elevate current income levels, however as natural resources are finite, so is an economy which is dependant upon them. This problem is at the core of the resource curse. It has been argued by many in economic circles that one of the reasons natural resource rich countries fail to develop competitive economies in comparison to resource poor countries is simply because they have the natural resources which allows them to delay the application of appropriate competitive growth policies (Kim, 1998; Martin, 2005; Auty 1990; Ross, 2005c). In summary, there is a certain element of distraction associated with being resource rich which drives the postponement of appropriate policies aimed at industrialisation and economic development.

When forming the basis of industrial policy and the type of government intervention, a nation should rather strategically determine sectors from which to specialise and become globally competitive. A blank page approach is appropriate when determining opportunities to develop secondary industries. Countries should strategically identify industries based on a competitive basis and not on comparative advantage terms. As was shown with the case of Chile, it was not the forced beneficiation which drove Chile's GDP per capital growth, but it was rather the development of the economy away from mineral beneficiation which is responsible. However this is not to say that a country should turn a blind eye to its natural resources. As shown later in this paper, natural resource wealth forms the basis for the current standard of living, and maintains this standard until development through economic diversification is achieved.

3.1.11 Room for the developmental state and transitional institutions

Due to the emerging nature of developing economies, many of the basic services of the state have not yet been developed for complete market economies to function perfectly. In these 'mixed' economies there is still very much a role for the state to play in stimulating economic growth. Markets will not tend to naturally fill the vacuum of these economies and need to be induced to

participate. However the manner in which markets participate must also be guided by the state. The state and market will be intertwined; the market will carry out many of the functions of development, while the state will set the playing field and give guidance and incentives through various forms of industrial policy. For such an economy to function, the state must be embedded in the economy. However, in order to make the long term policy choices required, the state must be somewhat isolated from populist pressures. This form of state has come to be known as “embedded autonomy” or the “developmental state”.

“The developmental state emphasises capacity to implement economic policies effectively. Such a capacity is determined by such others – institutional, technical, administrative and political. Undergirding all these is the autonomy of the state from social forces so that it can use these capacities to devise long-term economic policies unencumbered by claims of myopic private interests. It is usually assumed that such a state should, in some sense, be strong and enjoy relative autonomy from key social actors” (Mkandawire, 1998). As in the case of both East Asia and Chile, the developmental state takes much of its shape through the type of industrial policies it implements. Accordingly a few of the most advocated reasons of the need for industrial policy in developing countries are:

1. The protection of local companies
2. The socialisation of risk
3. The presence of market failures

The market plays an equally significant role in the developmental state. There is a strong case for a balance between state intervention and market forces. The market provides the natural incentives which the state cannot, and the state, on the other hand, provides those basic services and frameworks upon which markets rely to function properly. This balance is briefly illustrated by returning at the end of this section to the case of Chile in comparison with East Asia.

3.1.11.1 Protection of local companies

“[P]ioneering technology was the crux of the competitiveness of leading enterprises” (Amsden, 1994). Although initially direct competition in Asia was sought through low wages due either to relaxed labour laws or due to the setting of the exchange rate, it was hoped that this alone could attract foreign investment and “wrest away market share from industrialised nations” (ibid). However, over time low wages are “no match for the higher productivity of more industrialised countries” (ibid). Given this outcome and the fact that most transnational corporations are subject to a home bias, the future industrialisation of developing countries becomes increasingly bleak since the developing country will not ever develop its own local solution to enhanced competitiveness.

The protection of local companies or infant industries can be regarded as direct interference by the State to try and position the local industry in some kind of middle ground. This can be accomplished through regulating a maximum amount of foreign ownership and control, offering less regulatory requirements to locally owned companies, specialised incentives to start-ups, specialised grants and tax write-offs for local R&D, as well as other policy instruments which may act as a deterrent to investment by foreign firms such as limitations to the repatriation of profits, etc.

In essence, the protection of local industries creates local expertise and local talent within the developing nation. It allows industries to mature and then develop their own techniques which will give them a unique competitive edge in the international market place.

3.1.11.2 The socialisation of risk

“The capitalist economy has developed on the basis of the growing socialisation of risk”, Chang (1994). “The West has grown rich, by comparison to other economies, by allowing its economic sector the autonomy to experiment in the development of new and diverse products, methods of [manufacturing,...] and relations between capital and labour” (ibid). Chang argues that because the

state could act in such a way that it internalised the benefits but externalised the risks, it “allowed risk-taking beyond a scale whose risk can personally be borne out by the experimenter.”

The socialisation of risk can therefore be seen as an institutional arrangement since it is comprised of the host of incentives⁶², disincentives and protectionist policies which make up the investment environment pertinent to the particular enterprise.

3.1.11.3 The presence of market failures

Amsden (1994) and Chang (1994) both mention the failure of the market as a need for industrial policies. Chang has the view that industrial policy has a strong role to play when it comes to the problem of coordination. “Firms [are] islands of planned economy in the capitalist sea of anarchy.” Each company has a limited view on information and each must strive to be the leading firm. Due to production economies of scale, the more units that Company A can deliver the less will be its cost per unit since a large degree of each firm’s costs are fixed and sunk. Therefore if Company B cannot produce units for less than Company A, it will eventually be driven out of the market. Eventually, “the outcome is an oligopolistic industry in

⁶² Bankruptcy protection and social nets are institutional arrangements that allow for greater risk-taking in the economy.

which strategic interdependence among the decisions of the firms exist.” (ibid.)

In a developing economy where local capital for investment is scarce, it becomes wasteful for too many companies to compete against each other, only to be left with a few remaining companies. Some coordination is preferred since then each company can focus on different national industrial requirements. For this reason, governments in East Asia limited new entrants in specific sectors to allow local companies the freedom to focus solely on competition with foreign companies.

Amsden (1994) describes the failure of market forces in the way in which they will relate to subsidised firms. “Market forces cannot be relied upon to discipline business to act efficiently.” It is doubtful whether subsidised firms have the motivation to invest heavily in R&D, reduce costs and improve efficiencies in order to subsequently improve competitiveness. “Subsidy recipients, therefore must be disciplined, or the prognosis for sustained industrial development is dim: a continuation of subsidies to inefficient firms (inefficient by comparison with the world frontier), or de-industrialisation and unemployment as subsidies are retired.” Amsden clearly sees the

state playing the role of disciplinarian in an environment where subsidies may create market distortions.

3.1.11.4 The interaction between the market and the developmental state

Although the government is a key role player in an economy led by a developmental state, the market is equally a significant player. As many of the government's policy recommendations rely heavily upon market mechanisms to drive investor decision making, the two (market and state) are interconnected.

As previously discussed, many economists advocate that a more non-interventionist state is the better one, however as demonstrated in the recent discussion, there is a real need for interference by the State from time to time as markets are not perfect – especially when one economy is at a disadvantage to another. It is rather how this intervention is carried out that is crucial. “The consequences of state intervention depend on what kind of intervention is attempted by what kind of state and in what context” (Evans, 1995b).

Evans (1995b) expands upon the concept of “embedded autonomy” which not only alludes to the relationship between the state and society but also about the structure of the state itself. The

state must be embedded in order for the state to be more responsive to entrepreneurial endeavours. “Entrepreneurship must be selectively stimulated, complemented, and reinforced. This in turn demands more intimate connections to private economic agents, a state that is more ‘embedded’ in society than insulated from it.” When Evans discusses ‘autonomy’ it is specifically in the manner in which the state responds to the needs of the economy. Autonomy also has much to do with the structure of the state and the way in which representatives of the state benefit from the state’s interaction with the economy. The most suitable state structure to suit capitalism and the market economy is bureaucracy even though there are numerous challenges associated with building a functioning bureaucracy in the third world (ibid). The challenge herewith is the degree of insulation from the bureaucracy’s interaction with the economy. Weber (cited in Evans 1995b) believes that “insulation from democracy [is] a necessary pre-condition for a functioning bureaucracy.” “The kind of coherent, cohesive bureaucracy that is postulated in the Weberian hypothesis must have a certain degree of autonomy vis-à-vis society. The problem is separating the benefits of insulation from the costs of isolation” (Evans, 1995b). There is a balancing act that must take place to ensure that the relationship between ‘embeddedness’ and ‘autonomy’ are most effectively combined.

Further to the role of the State, in the state-market relationship, the correct level of “embedded autonomy” will be required for the state to act simultaneously as incubator and disciplinarian of industry. An incubator in the sense that the state is required to grow the domestic industrial base, and a disciplinarian in the sense that the state must keep those subsidised industries competitive in the international market place.

3.1.11.5 Returning to the cases of Chile and East Asia

Although immediate liberalisation of the economy post import substitutions industrialisation policies, and adopting market based institutions may have demonstrated fair results for Chile.⁶³ There still remains room for the concept of the developmental state and transitional institutions, especially in Africa. Palma (2003) suggests that the history of poor development in Latin America is partly due to the “extreme form in which [new ideologies were] taken up”, implying that one cannot simply jump from a set of ideologies (or development path) to another without carefully mapping the path and complementing it in turn with the nation’s natural endowments and institutions. Palma further suggests that “Latin America [may be] in

⁶³ Although Chile’s development path may have shown good results in terms of export diversification and GDP growth, Chile’s performance is often understood as a “complicated case”. Chile has experienced wide scale macro-economic instability due to external shocks as well as balance of payments issues with its import substitution industrialisation policies. However as far as the role of macro-economic stability in economic development, East Asian countries (as did Chile) put a prime focus on industrial upgrading and not macro-economic stability (Chang, 2003c).

desperate need of a touch of East Asian Confucianism; i.e. once a development path has been chosen, a significant degree of persistence, pragmatism, effective leadership and self-respect can be of great assistance in policymaking.”

The East Asian experience⁶⁴ uses the developmental state primarily to emphasise Japanese-style strategic industrial policy. When a late-industrialised country wishes to emerge and compete globally, market mechanisms are not enough, especially in industries that require a high level of skills and capital investment, “governments have to intervene and deliberately distort prices to stimulate investment and trade. Otherwise industrialisation won’t germinate” (Amsden, 1994).

The East Asian countries all promoted industries with high growth potential and widespread externalities through an array of means, which included: infant industry protection; export subsidies, including tariff rebates on imported inputs used for exports; coordination of complementary investments; regulation of firm entry, exit, investments, and pricing intended to ‘manage competition’; subsidies and restriction of competition intended to help technology upgrading (Chang, 2003c). The focus of these countries was primarily on

⁶⁴ By East Asia, attention is specifically drawn to Japan, South Korea, Taiwan, Hong Kong and Singapore

promoting industries with the vision of making them competitive globally. There was also an understanding that the only way that this could happen was to offer some initial protection linked to exports performance. As the goal is to eventually eliminate the infant industry protection, the sector enjoying the protection will need to eventually be self-reliant. In comparison to the import substitution industrialisation policies of Chile, an export focused industrialisation programmed is far more effective since a focus on ultimate global competition forces industry to learn - with the state acting as incubator and disciplinarian. Under an export industrialisation strategy a country will not only experience benefits of “learning-by-doing” but also benefits through “learning-by-exporting” whilst limiting its exposure to a ‘subsidisation trap’.

Many nations put a great deal of faith in new sets of institutions and expect that policy makers and government officials can now rest while the institutions and reforms will do the work. This position places too much faith on institutions alone. Institutions, like an endowment of natural resources are simply a tool, they are part of the developmental state’s plan and they must support the plan and be identified through the plan. A Washington Consensus type of approach will likely not work on its own. A nation must take cognisance of its economic history, its stock of social capital, its capacity to govern and a variety of other factors before it can adopt a

set of institutions to support its development objectives. As the nation progresses along its developmental path, the institutions will need to be modified to suit the changing needs of the economy and society. Latin America put too much faith in new ideologies and switched very quickly from closed economies to open economies while some have now gone back to closed economies in a matter of mere decades. Lack of continuity between the previous economy and the new economy could be one possible explanation for Latin America's 'stumblings'. Countries wishing to change development trajectories should realise the need for transitional institutions. Moreover, Western countries and multilaterals should also appreciate this requirement and not too forcefully impose structural changes at an inappropriate pace.

3.2 The human capital paradigm and social capital outcomes

One of the areas poorly addressed in literature is the effect of natural resources on human capital. Human capital typically refers to peoples' skills and abilities as used in employment and how they otherwise contribute to the economy. A country's human capital stock therefore is comprised of the population's level of educational attainment (its skills and knowledge base) as well as measures of its mortality rates (its health status).

Although poorly covered within the framework of the resource curse, human capital has long been identified as a critical issue for economic development. The millennium development goals for example are heavily geared towards the improvement of human capital.

- | |
|---|
| <ol style="list-style-type: none">1. Eradicate extreme poverty and hunger2. Achieve universal primary education3. Promote gender equality and empower women4. Reduce child mortality5. Improve maternal health6. Combat HIV/AIDS, malaria, and other diseases7. Ensure environmental sustainability8. Develop a global partnership for development |
|---|

Figure 3-11 UN millennium development goals

As human capital accumulation is critical for economic development, it is of great importance to understand the effect of natural resources on human capital accumulation. The question at stake is: Do natural resource abundant countries tend to accumulate more or less human capital than resource-poor countries?

According to Stijns (2004) human capital is essential for economic development because “education permanently increases the efficiency of the labour force by fostering democracy⁶⁵, and that human capital facilitates the absorption of superior technologies from

⁶⁵ This could likely be through a greater understanding of society and its role in democracy. For example there may be a critical level of education required to understand the economy, its place in the global arena and making informed electoral decisions. Furthermore the argument also runs in the other direction – that a higher level of education amongst the populace will lead to an increasing desire to be control in one's own future and hence greater participation in decision making. There is evidently a link between human capital accumulation and social capital. This link will be discussed in greater detail in the following sub-section.

leading countries.” This point is important not only because it creates a natural link between human capital and social capital, but also because it captures the essence of current trade theory and Schumpeterian economics. The interrelation to social capital will be described in a latter section, but for now it of benefit to briefly discuss the ability of economies with high levels of human capital to absorb technologies.

Modern trade theory rests on the assumption that each country has a comparative advantage in trade in relation to the rest of the world. Free trade is positioned from the point of view that a reduction of tariffs and liberalisation of trade will allow the specialisation of countries to take place. Whilst this is important, the specialisation in trade is dependant upon the absorption of new technologies and management practices to render a particular sector competitive. Hence, the higher level of human capital in a country the more readily new technologies will be accepted and adopted. Schumpeterian thought complements this in that his theory of economic development rests in innovation. He postulates that without innovation eventually an economy would stagnate and that technological progress brought about by an increase in knowledge is the driving factor behind economic growth. Hence, the lower the human capital base, the lesser the knowledge, the less innovation finally resulting in reduced growth.

Given that it is naturally well accepted that a high level of education is important for economic development, developing countries and specifically resource-rich countries should allocate a great deal of financial resources to elevating levels of human capital.

3.2.1.1 Natural resources and human capital

In specifically examining the role of natural resources in developing human capital, Gylfason (2001b) shows that public expenditure on education relative to national income, expected years of schooling for girls, and gross secondary enrollment are all inversely related to the share of natural capital in national wealth across countries. He concludes that natural resources appear to crowd out human capital, thereby slowing down the pace of economic development. Gylfason asserts that “nations that are confident that their natural resources are their most important asset may inadvertently – and perhaps even deliberately! – neglect the development of their [other] resources, by devoting inadequate attention and expenditure to education.”

The research is however not unified in its conclusions, as Davis (1995) finds that human capital accumulation indicators tend to be higher in mineral countries than in non-mineral countries. The

differences in conclusions may however lie in the data being analysed. Where Gylfason included measures of agriculture in his definition of resource-rich, Davis limited the analysis to minerals when referring to natural resources. Stijns (2004) is doubtful as to whether the role played in economic development by the agricultural sector is similar to that played by the minerals sector. This lumping of differing sectors is widespread as many of the studies carried out on the resource curse tend to lump the two sectors together -including the leading papers by Sachs and Warner, 1995, 1997 & 2001.

The above studies focus purely on the quantum of human capital as measured by levels of educational attainment of public expenditure figures. It is important to however distinguish between quantity of human capital measured by these indices and quality of human capital. Furthermore, there may be differences in the 'type' or 'structure' of human capital between resource-rich and poor nations. Kim (1998) finds that resource rich countries tend to have high levels of certain specific human capital and relatively low levels of general human capital. According to Kim, specific human capital represents specific skills, and the level of general human capital is related to the adaptability or flexibility of economic agents, which in turn lowers the cost of moving to more productive or technology intensive sectors.

In Kim's model, a low level of general human capital is related to inflexibility of human capital. i.e. a mining nation would find it difficult to embrace other sectors due to its deep and specific mining skills. This inability to 'swing' between sectors can be seen as a cost to diversifying an economy. As described previously, the current levels of high mineral wealth enjoyed by resource-rich countries can induce governments to postpone a transition to higher productivity, higher return activities. "The reform of Latin American economies was blocked because the deployment of revenues from their primary products had initially been too successful in raising living standards and labour cost.... [By] the time the limits to the primary sector's capacity to generate foreign exchange became apparent, the cost of making the required switch to a competitive industrial policy (which [is] necessarily based upon low-wage manufactured exports) were too high. ... [this] argument is a variant of the resource curse thesis which suggests that resource rich countries may squander their resource advantage because an overly optimistic estimation of their prospects reads to the pursuit of lax economic policies. A corollary is that resource-poor countries, mindful of their marginal position, may compensate for their disadvantage by adopting firmer and more far-sighted policies" (Kim, 1998).

Kim concludes that the resource curse manifests itself in human capital through two principal methods. The first is that over-

commitment to the low productive, low technology sector, including primary resources leads to a delay in raising the level of general capital⁶⁶ which would make the economy more open and flexible. Secondly, in a similar fashion to Gylfason, Kim concludes that these “minerals economies have low levels of educational attainment” primarily due to their low technology sector⁶⁷.

3.2.1.2 Human capital as a basis for social capital

When considering the previously used definition of social capital,⁶⁸ it would appear that human capital (education) is a necessary pre-requisite to successively adopting more complex forms of institutions. If the ultimate goal for social and human capital is to support the institutions required for economic growth in a market economy, and those institutions are guided and nurtured by a democratically elected government, then the following conclusions by Diamond (1992) are of note:

1. There is a strong positive relationship between democracy and socioeconomic development.

⁶⁶ Due to the immediate cost associated with developing general human capital.

⁶⁷ In contradiction to Kim's conclusion, for an excellent paper detailing the level of technology employed by the mining sector see Wright and Czelusta (2003), who conclude that “minerals constitute a high-tech knowledge industry in many countries.”

⁶⁸ Social capital was previously defined in this paper as the existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them. An alternative definition is: Social capital “refers to the collective value of all 'social networks' and the inclinations that arise from these networks to do things for each other” (Putnam, 1995). As an aside to Putnam, social capital is a key component to building and maintaining a democracy.

2. This relationship is at least causal in one direction: Higher levels of socioeconomic development generate a significantly higher probability of democratic government.
3. High levels of socioeconomic development are associated with not only the presence but the stability of democracy.
4. The level of socioeconomic development is the most important variable in determining the chance of democracy.⁶⁹
5. The more well-to-do the people of a country, on average, the more likely they will favour, achieve, and maintain a democratic system for their country.

Lipset (1960, cited in Diamond) hypothesised a number of historical and sociological processes by which economic development generated a greater likelihood of democracy. Of these, the first is that economic development gives rise to a more “democratic political culture.” This, he states is “partly due to increased education. Citizens come to value democracy more and to manifest a more tolerant, moderate, restrained, and rational style with respect to politics and political opposition.” An implication of this is that, given that institutions (and the society that supports and enforces their legitimacy) are an integral part of social capital, education has a key role in moulding and forming the social capital stock.

⁶⁹ Diamond notes that this is however far from completely determinative.

4.0 DATA ANALYSIS AND FINDINGS

In order to better understand the resource curse and pay specific attention to its structure in African Countries as well as on the global scale, various simple regressions and correlations were run. Data was collected which could give insights into economic performance, levels of mineral dependence, levels of institutional quality, and levels of human capital. Since there is no direct measure for social capital, certain indices of institutional quality combined with a snapshot of current institutional arrangements (i.e. democracy) were used as proxies for social capital and its strength in support of these institutions.

The models used data from various sources including the World Bank's world development indices, export figures from the World Trade Organisation, measures of institutional quality from the World Bank's governance research indicator country snapshot dataset (GRICS), freedom and polity data from the United State's Freedom House surveys as well as various smaller organisations.

Once collected and filtered to remove outliers, the data was then interrogated to provide answers to 5 principle questions:

1. Can the resource curse be confirmed?
2. How does the presence of natural resources support economic growth?
3. What is the role of institutions and institutional quality in mitigating the effects of the curse?
4. What is the role of social capital in supporting those institutions?
5. What is the role of human capital in supporting both institutional quality and social capital?

The following subsections attempt to provide answers to these questions.

4.1 Confirming the resource curse

The first objective of the data analysis is to confirm the resource curse. Instead of including measures of natural resource intensity which includes agriculture, fishing and forestry (as per Sachs and Warner and many other economists which have studied the resource curse), this analysis is specifically focused on mineral resources including oil⁷⁰. As per Stijns (2001) it is assumed that mineral resources, as enclave or point-source economies, have structurally different impacts on the economy. For one, due to the presence of large rents, mineral resources contribute to an economy principally in

⁷⁰ This is principally what many economists inherently mean when they examine resource abundance in the context of the resource curse.

the form of financial flows with a smaller influence on employment and linkages. On the other hand, due to the widespread nature of agriculture, its primary impact on an economy is not through the distribution of rents but rather as an employer⁷¹ and secondly through its creation of various economic linkages.

The following figures (figures 4-1 to 4-3) are produced in an attempt to confirm the work of Sachs and Warner (figures 4-4 & 4-5).

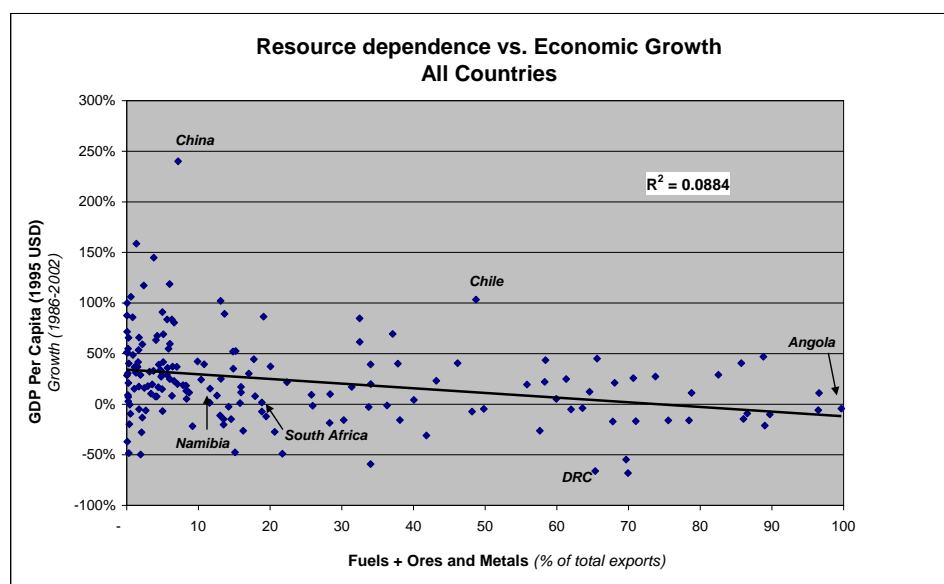


Figure 4-1 Resource dependence vs. economic growth

Figure 4-1 depicts resource dependence versus economic growth. As can be seen, although there is a slight decreasing trend in economic growth as resource dependency is intensified, the correlation is weak ($R^2 = 0.09$). Also noticeable is that poor countries

⁷¹ The World Bank (2005) estimates that 70% of Africans are employed (formally and informally) in the agricultural sector.

(such as China) which were not dependent on resource exports managed to achieve extremely high rates of growth. The chart is further complicated by the case of Chile, which although dependant on natural resources for exports and foreign currency, achieved a growth rate of over 100% during the period of 1986 to 2002. Chile's case indicates that resource dependent countries are capable of achieving high rates of growth; however Chile appears to be the outlier in the data represented above and thus must be seen in that context. Given Chile's excellent performance over this timeframe, it should be studied in greater detail to determine which policies it adopted to enable such a high growth rate.

Examining the data to determine if the resource curse is more present in the world's poorest countries and in African countries the following two charts (figures 4-2 to 4-3) indicate the same gentle downward trend as resource dependence increases. These charts greatly resemble the charts produced by Sachs and Warner (1997) (figures 4-4 and 4-5). Sachs and Warner also show a weak correlation between resource dependence and economic growth – the foundation of the resource curse theses. The correlation in this case is, however, unknown.

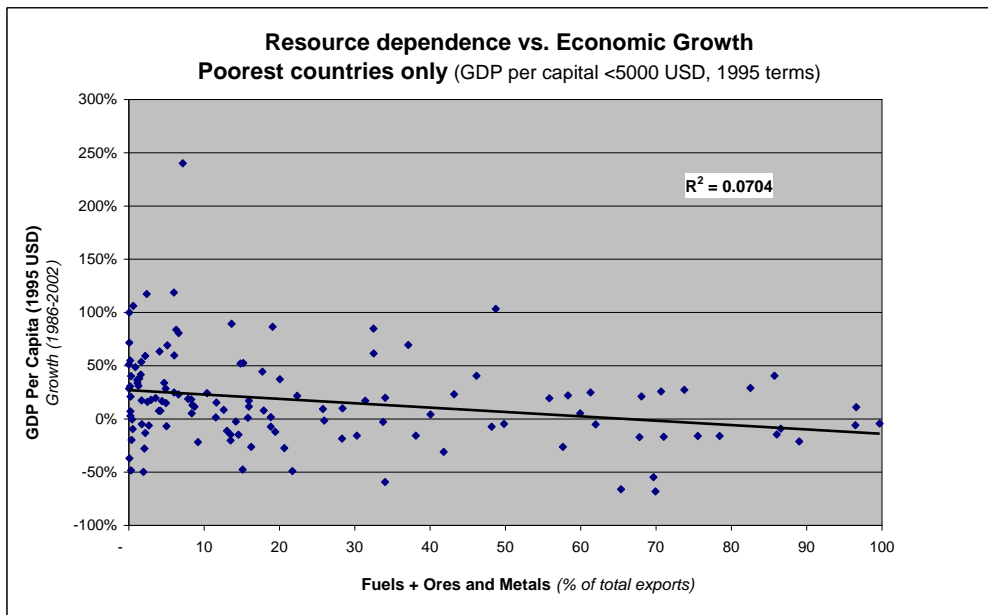


Figure 4-2 Resource dependence vs. economic growth (poorest countries only)⁷²

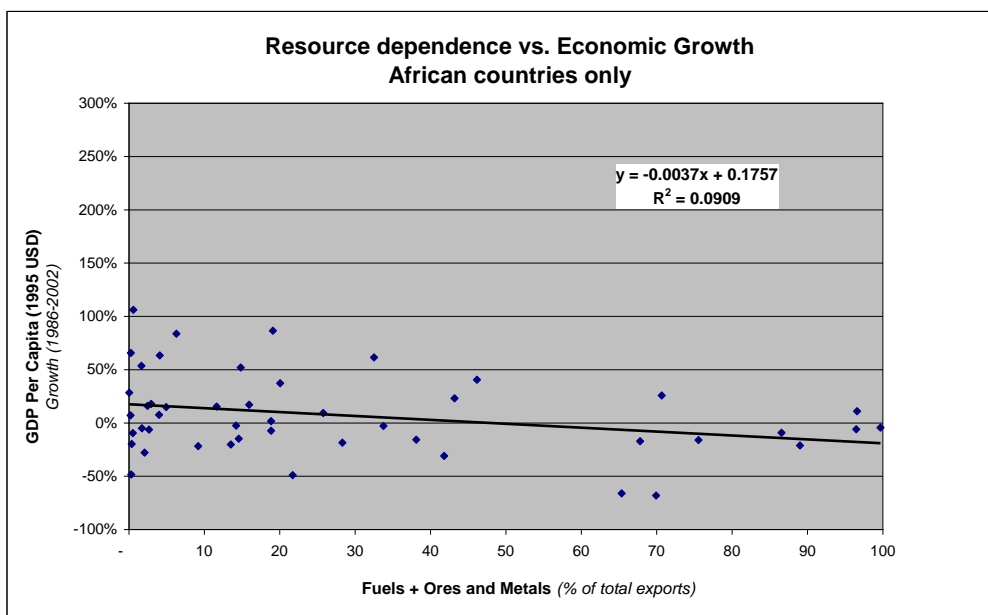


Figure 4-3 Resource dependence vs. economic growth (African countries only)

⁷² Economists typically characterise countries with a GDP per capital of less than 5000 USD as being underdeveloped.

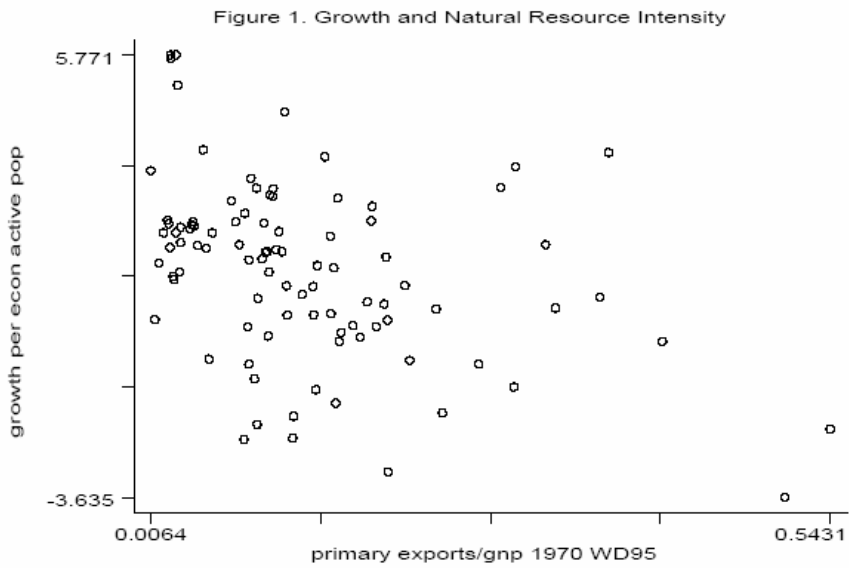


Figure 4-4 Percentage of primary exports in total exports vs. economic growth (Sachs and Warner, 1997)⁷³

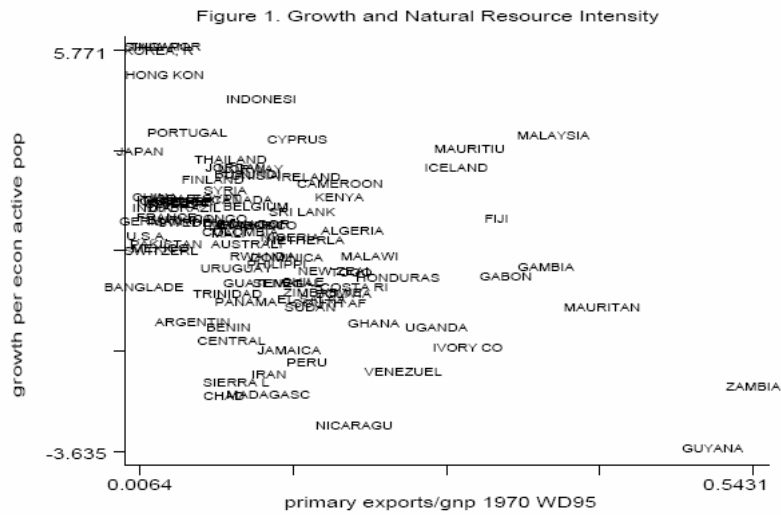


Figure 4-5 Percentage of primary exports in total exports vs. economic growth with country names (Sachs and Warner, 1997)

⁷³ Correlation unknown.

Examining the charts of Sachs and Warner (1997) in detail, it is of benefit to highlight some of the differences between their data and the data used in this analysis. In the Sachs and Warner dataset, the highest level of primary exports in relation to GNP is 54%, while in the case of figure 4-1, this figure is as high as 96% for the case of Angola. It is also worth noting that in this study, GDP per capital is used a measure of economic growth while the % of natural resources in total exports is used to measure resource dependence whereas in the study of Sachs and Warner, they use total primary exports as a % of GNP to measure resource abundance.

The following chart uses the same data as in figure 4-1, however upper and lower bounds to economic growth are superimposed.

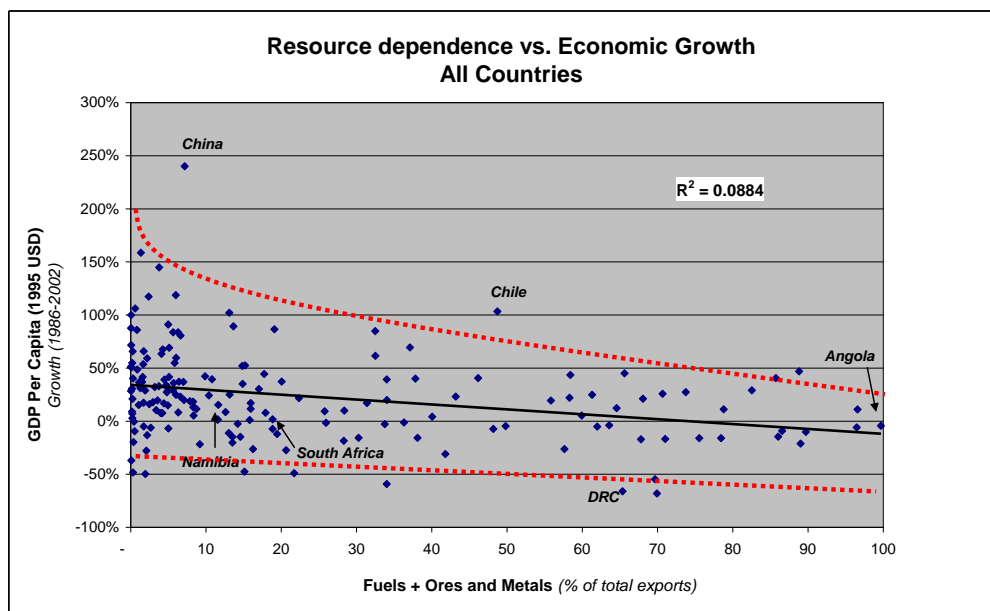


Figure 4-6 Resource dependence vs. economic growth (with upper and lower bounds)

Although the correlations are weak, the data used in this report confirms the resource curse thesis. That is, those countries most reliant on natural resources⁷⁴, measured in terms of mineral exports to total merchandise exports have on average achieved less economic growth than those countries less reliant on natural resource exports. For example, the average growth rate of countries with greater than 50% natural resource intensity in total exports was -5%, while the remaining countries with less than 50% intensity of natural resources in exports experienced 33%.

At this junction, it is important to make the distinction that the term “resource abundant” is not appropriate when describing these “slow growth” countries but rather the analysis done to date better describes the effect of “resource dependence”. Countries such as the United States, Australia, Canada and Norway can all be considered “resource abundant” due to the annual value of primary exports. However, due to the diversification of their economies they are not “resource dependent.” The resource curse could rather be positioned in the following manner: Countries dependent on natural resources for growth achieve, on average, poorer growth rates than those countries less dependant on natural resources. The data is

⁷⁴ A natural resource in this case refers specifically to the metal ores and fuel component of natural resources. Forestry and fishing are not included in the data.

however far from conclusive on this matter and as discussed later in this section, the poor performance of resource dependent countries is likely an outcome of other factors external to the quantum of natural resources in exports.

4.2 Natural resources, 'wealth' and the economic base

The next set of charts examines the 'wealth' of resource dependent economies. It is important to examine this parameter since relative 'wealth'⁷⁵ may act as an incentive for change. For example if a country achieves a high level of wealth, while being natural resource dependent, there may be very little incentive to diversify the economy away from natural resources. When examining the wealth of resource dependent nations, figures 4-7 and 4-8 demonstrate that not only are countries that are more reliant on natural resources slower growers (as demonstrated in the previous section), but they are also characterised by low levels of development which is commensurate with low levels of wealth.

⁷⁵ In this case wealth is measured in terms of GDP and GNI per capital whereas economic growth was previously measured in terms of GDP per capita growth.

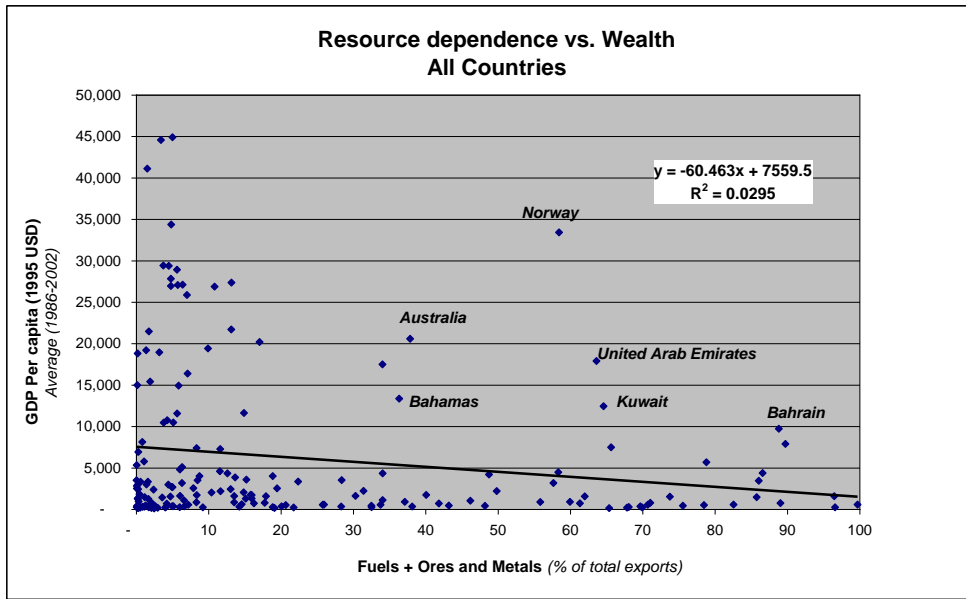


Figure 4-7 Resource dependence vs. wealth (all countries)

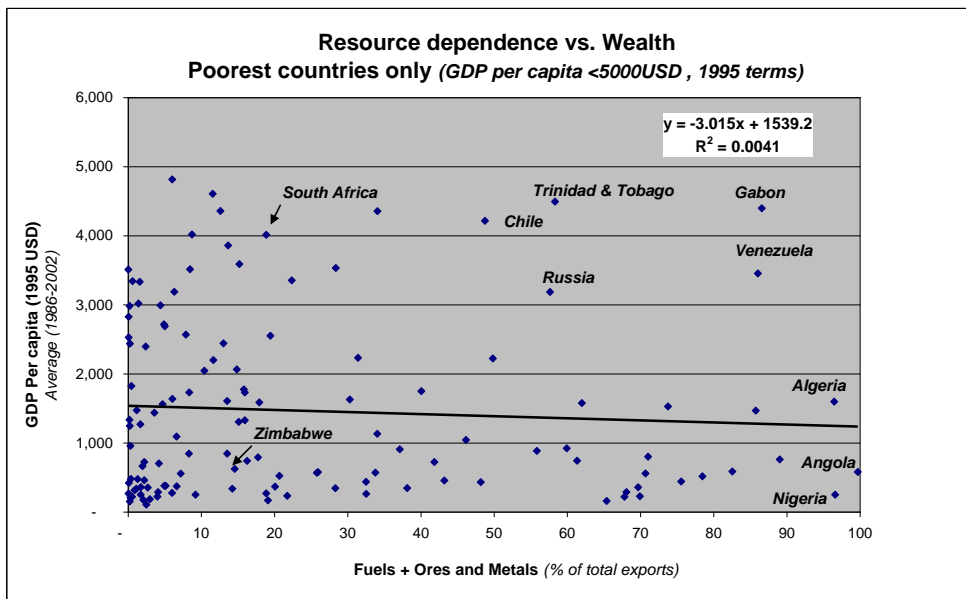


Figure 4-8 Resource dependence vs. wealth (poorest countries only)

The above two figures examined in conjunction with the following set of figures (4-9 and 4-10, gross national income (GNI) versus intensity of natural resources in total exports) indicates that in certain

cases, resource dependent nations can achieve relatively high levels of wealth. It is also important to gain insight regarding if those countries that are achieving high levels of wealth, while also being heavily reliant on natural resources are also experiencing high levels of growth; i.e. are these countries breaking away from the resource curse by investing their wealth into high return activities? Or, is the wealth from natural resources distracting government and postponing the implementation of policies which will deliver high growth rates?

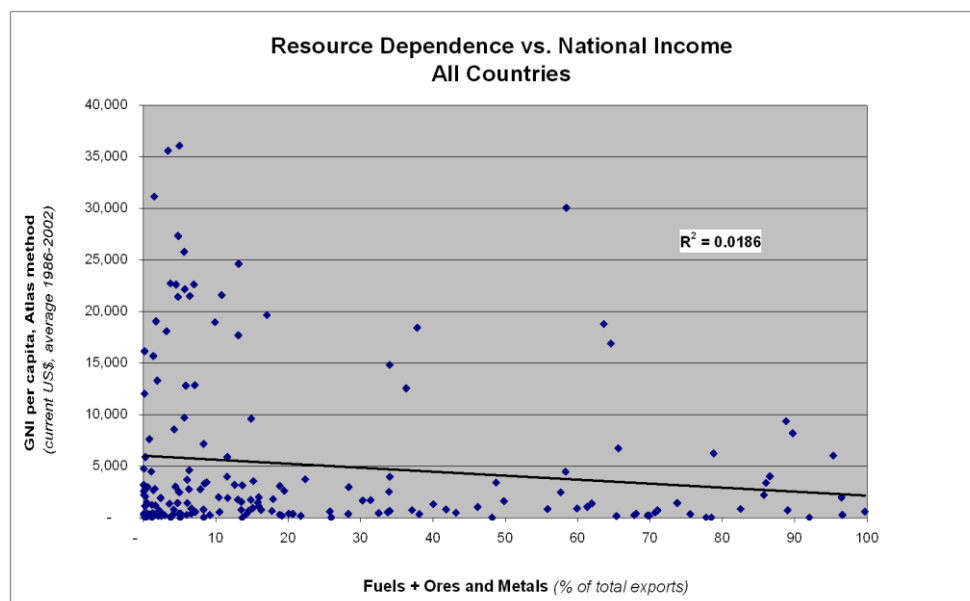


Figure 4-9 Resource dependence vs. national income (all countries)

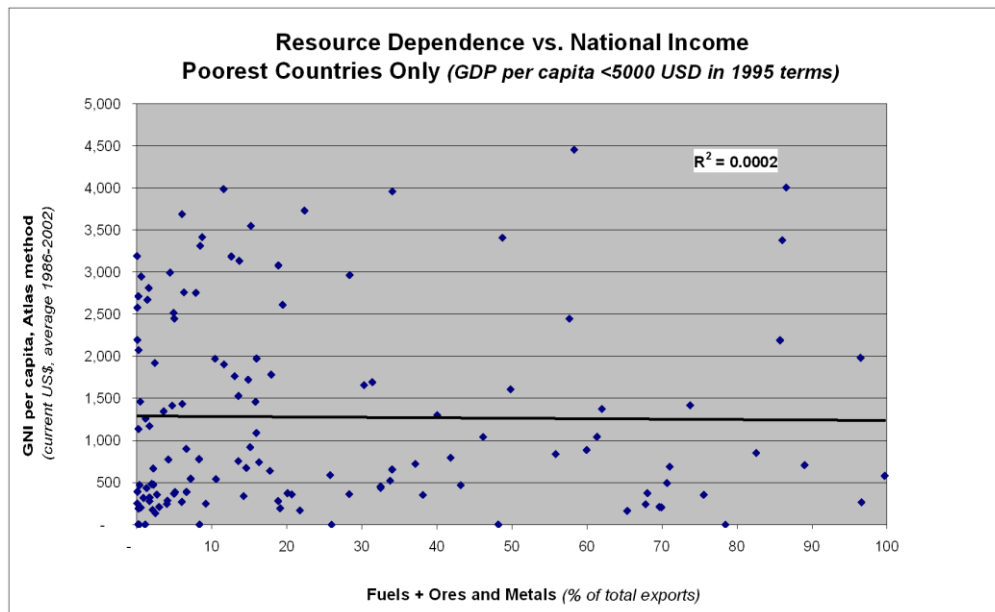


Figure 4-10 Resource dependence vs. national income (poorest countries only)

As can be seen from figure 4-10, when examining this subset of the world's poorest countries, wealth is very much evenly distributed between resource 'rich' and resource 'poor' countries. Examining the sub-set to determine if wealth may delay growth, the same data is split into varying degrees of resource dependence and measured against economic growth (figure 4-11). Countries were split into four categories based on GNI per capita. Those with a GNI per capita of less than 450 USD, countries ranging between 450 and 1000 USD, countries ranging between 1000 and 2000 and finally those with a GNI per capita between 2000 and 5000. The data was split such that an equal amount of countries fell within each category. As can be seen, although economic growth of these 'poorest' countries over the 16 year period was approximately the same, there were very few of

the poorest countries (GNI per capita < 450) in the heavily resource dependent section of the graph. Only one country, Iran, fell into this section of the chart, indicating that resource dependent countries enjoy relatively high levels of wealth (GNI per capita) when compared against the world's poorest economies. Furthermore, the heavily resource dependent section of the chart (+50% component of natural resource in exports) did not achieve growth rates higher than those of the less dependent countries. Figure 4-11, shows that real growth for these highly resource dependent countries over the 16 years examined was -5% while the growth rate for the resource poor countries was 33%.

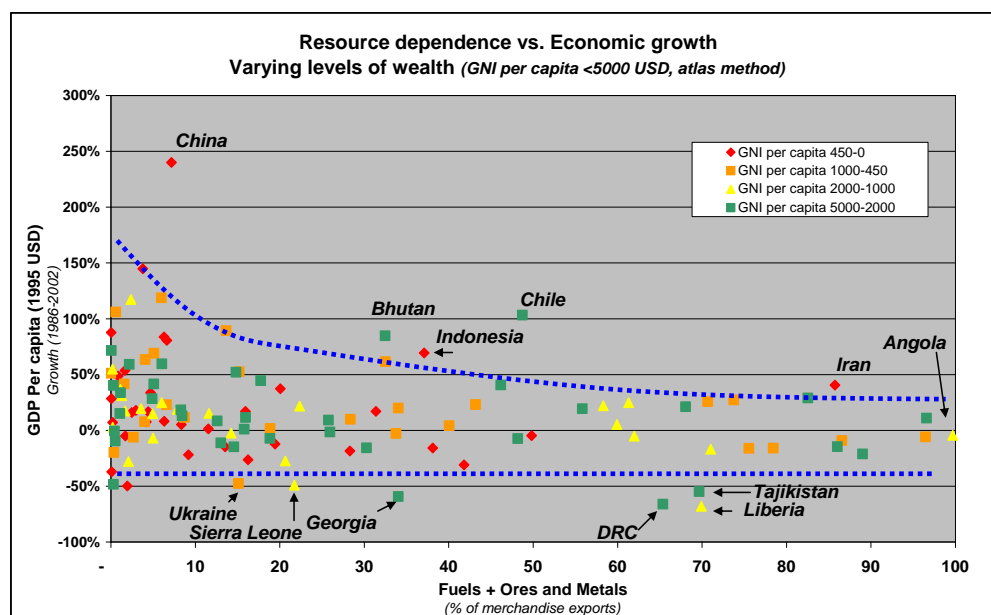


Figure 4-11 Resource dependence vs. economic growth (split by levels of GNI per capita)

It would appear that the analysis once again supports the literature review: resource rich countries enjoy higher levels of wealth

(measured in terms of GNI per capita) than resource poor countries (at least when limiting the sample to the developing world) and that this in-turn is linked to low levels of growth. The mechanisms for this outcome are however not evident from the cross-country analysis and at this stage causality can only be a matter of speculation. Further country analysis on a case by case basis would be required to support any conclusion that suggests that resource rich countries postpone the proper policies required for high growth rates due to relatively high levels of 'comfort' afforded to them by their resource base.

The data does however suggest, with relative certainty, that without their strong base of natural resources, the resource rich countries would have relatively low levels of income per capita, and low levels of GDP. It has been touted in the literature that one possible solution for 'breaking' the resource curse is for resource rich countries to turn a blind eye to their natural resources (i.e. leave them in the ground). The data does not suggest that this would lead to a successful development strategy – rather, the analysis merely suggests that focusing solely on a strong base of natural resources is not likely to form the basis of a successful development strategy either.

Given the relatively high levels of GNI per capital experienced in natural resource intense economies, natural resources form a base for the economy and raise the livelihoods of people within the economy. Therefore natural resources have a critical role to play in economic development since without them, many countries would lack the ability to attract FDI, much needed employment, infrastructure development and a source of foreign exchange – much of which is provided by natural resource development. It must be recognised however, that these benefits are only temporary and, if not guarded against, can cause major disruption in an economy in the form of Dutch disease, corruption, rent-seeking and other unproductive activities. Rather than adopting a myopic view to natural resource development, Governments should rather aim to diversify their economies away from their resource base by adopting policies that lead to industrialisation (not necessarily resource based industrialisation). The natural resources should rather be considered as an endowment which is bidding them time. As the literature suggests, governments need to strategically identify sectors in which they wish to specialise and compete. They must then in turn, nurture these sectors with appropriate industrial, fiscal and monetary policies. These ‘strategically identified’ sectors may be developed from a strong natural resource base, or not. The crux is the identification of those sectors based on a more robust and holistic analysis than simply turning domestically extracted minerals into various

beneficiated products. Resource based industrialisation may initially seem to be the 'easier' route but it is not necessarily the sustainable route. As mentioned previously in this research report, an economy which is dependent on its natural resources is as finite as the resources themselves.

4.3 The role of institutions in breaking the curse

If natural resources are the economic base for resource dependant nations, then it is of prime importance to determine what factors ensure that natural resources are used towards delivering sustained real growth.⁷⁶ As previously discussed, the presence of good institutions and proper governance can assist to prevent countries from falling into the trap of the resource curse. In order to determine if there is a causal link between economic growth, institutional quality, governance and natural resource dependence, data was analysed from the Governance Research Indicator Country Snapshot (GRICS) dataset,⁷⁷ the World Bank's Investment Attractiveness Survey and the World Bank's Development Indicators database. Data was aggregated and presented for various levels of

⁷⁶ This question is akin to determining what factors inhibit governments' distraction by natural resource wealth.

⁷⁷ A complete list of indicators comprising the dataset can be found in Appendix A.

resource dependence⁷⁸. The separations chosen were 10%, 30% and 50% of natural resource exports to total exports. The tabulated data can be seen in Figures 4-12 to 4-14.

		countries with less than 10% nr in exp and -ve growth	countries with less than 10% nr in exp and +ve growth	positively (green) or negatively (red) correlated	countries with greater than 10% nr in exp and -ve growth	countries with greater than 10% nr in exp and +ve growth	positively (green) or negatively (red) correlated
1	GDP Per Capital (1995 USD) Growth (1986-2002)	-0.21	0.47		-0.20	0.32	
2	WBO Investment Climate Average Score (unweighted)	22.27	24.27		23.04	30.82	
3	WBO Investment Climate - macroeconomic	44.58	35.31		38.03	53.66	
4	WBO Investment Climate - governance	26.94	29.74		25.89	35.07	
5	WBO Investment Climate - infrastructure	9.57	17.53		10.93	12.74	
6	WBO Investment Climate - red-tape	23.18	24.17		24.05	32.09	
7	WBO Investment Climate - perception of human capital	13.77	17.72		13.61	19.90	
8	World Bank GRICS-(2002) Aggregate Score	-3.10	2.66		-3.61	0.85	
9	World Bank GRICS-(2002) Average Score	-0.52	0.44		-0.60	0.14	
10	World Bank GRICS-(2002) Voice and accountability	-0.31	0.50		-0.59	0.01	
11	World Bank GRICS-(2002) Political Stability	-0.28	0.40		-0.57	0.06	
12	World Bank GRICS-(2002) Government Effectiveness	-0.74	0.40		-0.65	0.20	
13	World Bank GRICS-(2002) Regulatory Quality	-0.47	0.45		-0.55	0.15	
14	World Bank GRICS-(2002) Rule of Law	-0.67	0.44		-0.60	0.15	
15	World Bank GRICS-(2002) Control of Corruption	-0.62	0.40		-0.63	0.18	
16	World Bank GRICS-(% change 1996-2002) Voice and accountability	0.36	0.24		0.74	2.70	
17	World Bank GRICS-(% change 1996-2002) Political Stability	2.69	2.01		1.16	-0.71	
18	World Bank GRICS-(% change 1996-2002) Government Effectiveness	-2.11	0.78		0.87	22.85	
19	World Bank GRICS-(% change 1996-2002) Regulatory Quality	-0.50	0.40		1.70	-0.26	
20	World Bank GRICS-(% change 1996-2002) Rule of Law	0.89	1.63		0.37	-0.69	
21	World Bank GRICS-(% change 1996-2002) Control of Corruption	0.37	0.46		0.39	0.27	
22	Fuel exports (% of merchandise exports)	0.63	1.74		27.44	26.48	
23	Ores and metals exports (% of merchandise exports)	1.58	1.91		20.56	11.02	
24	Fuels + Ores and Metals (% of merchandise exports)	2.21	3.65		48.00	37.50	

Figure 4-12 Institutional quality and governance data categorised by +/- economic growth and natural resource intensity of exports <>10%

		countries with less than 30% nr in exp and -ve growth	countries with less than 30% nr in exp and +ve growth	positively (green) or negatively (red) correlated	countries with greater than 30% nr in exp and -ve growth	countries with greater than 30% nr in exp and +ve growth	positively (green) or negatively (red) correlated
1	GDP Per Capital (1995 USD) Growth (1986-2002)	-0.20	0.43		-0.20	0.34	
2	WBO Investment Climate Average Score (unweighted)	23.17	25.92		22.60	28.15	
3	WBO Investment Climate - macroeconomic	40.39	39.42		37.46	53.33	
4	WBO Investment Climate - governance	27.64	30.84		23.84	34.10	
5	WBO Investment Climate - infrastructure	11.05	16.20		10.18	15.71	
6	WBO Investment Climate - red-tape	25.03	26.13		22.29	26.41	
7	WBO Investment Climate - perception of human capital	14.00	18.16		13.18	20.60	
8	World Bank GRICS-(2002) Aggregate Score	-3.16	2.52		-3.81	-0.43	
9	World Bank GRICS-(2002) Average Score	-0.53	0.42		-0.64	-0.07	
10	World Bank GRICS-(2002) Voice and accountability	-0.36	0.45		-0.70	-0.29	
11	World Bank GRICS-(2002) Political Stability	-0.39	0.38		-0.61	-0.21	
12	World Bank GRICS-(2002) Government Effectiveness	-0.69	0.41		-0.67	-0.01	
13	World Bank GRICS-(2002) Regulatory Quality	-0.49	0.43		-0.58	-0.02	
14	World Bank GRICS-(2002) Rule of Law	-0.63	0.41		-0.60	-0.02	
15	World Bank GRICS-(2002) Control of Corruption	-0.61	0.39		-0.65	0.01	
16	World Bank GRICS-(% change 1996-2002) Voice and accountability	1.46	0.12		-0.24	5.53	
17	World Bank GRICS-(% change 1996-2002) Political Stability	3.52	1.05		-0.40	0.13	
18	World Bank GRICS-(% change 1996-2002) Government Effectiveness	-0.03	0.49		0.29	46.07	
19	World Bank GRICS-(% change 1996-2002) Regulatory Quality	0.03	0.25		2.37	-0.31	
20	World Bank GRICS-(% change 1996-2002) Rule of Law	0.87	0.81		0.12	0.12	
21	World Bank GRICS-(% change 1996-2002) Control of Corruption	0.39	0.23		0.38	1.01	
22	Fuel exports (% of merchandise exports)	4.21	3.33		38.23	43.27	
23	Ores and metals exports (% of merchandise exports)	6.26	3.36		25.97	13.91	
24	Fuels + Ores and Metals (% of merchandise exports)	10.47	6.69		64.20	57.18	

Figure 4-13 Institutional quality and governance data categorised by +/- economic growth and natural resource intensity of exports <>30%

⁷⁸ It is uncertain as to which level of natural resource dependency a country can be considered natural resource dependent. A rule of thumb for describing a minerals economy was one which had over 10% of GDP owing to minerals development. This rule does not simply correspond to 10% of minerals in exports.

		countries with less than 50% nr in exp and -ve growth	countries with less than 50% nr in exp and +ve growth	positively (green) or negatively (red) correlated	countries with greater than 50% nr in exp and -ve growth	countries with greater than 50% nr in exp and +ve growth	positively (green) or negatively (red) correlated
1	GDP Per Capital (1995 USD) Growth (1996-2002)	-0.19	0.43		-0.22	0.26	
2	WBO Investment Climate Average Score (unweighted)	24.20	26.08		20.34	no data	
3	WBO Investment Climate - macroeconomic	42.77	40.38		30.58	no data	
4	WBO Investment Climate - governance	30.00	31.07		16.64	no data	
5	WBO Investment Climate - infrastructure	10.68	16.16		10.72	no data	
6	WBO Investment Climate - red-tape	24.61	26.15		22.59	no data	
7	WBO Investment Climate - perception of human capital	13.43	18.32		14.05	no data	
8	World Bank GRICS-(2002) Aggregate Score	-2.67	2.23		-5.04	-0.32	
9	World Bank GRICS-(2002) Average Score	-0.45	0.37		-0.84	-0.05	
10	World Bank GRICS-(2002) Voice and accountability	-0.32	0.38		-0.92	-0.24	
11	World Bank GRICS-(2002) Political Stability	-0.35	0.32		-0.79	-0.13	
12	World Bank GRICS-(2002) Government Effectiveness	-0.57	0.38		-0.89	-0.05	
13	World Bank GRICS-(2002) Regulatory Quality	-0.37	0.40		-0.85	-0.08	
14	World Bank GRICS-(2002) Rule of Law	-0.54	0.37		-0.78	0.02	
15	World Bank GRICS-(2002) Control of Corruption	-0.54	0.36		-0.81	-0.02	
16	World Bank GRICS-(% change 1996-2002) Voice and accountability	1.17	0.17		-0.39	8.44	
17	World Bank GRICS-(% change 1996-2002) Political Stability	2.60	1.00		-0.51	-0.12	
18	World Bank GRICS-(% change 1996-2002) Government Effectiveness	0.18	1.26		0.00	69.85	
19	World Bank GRICS-(% change 1996-2002) Regulatory Quality	1.40	-0.11		0.65	1.94	
20	World Bank GRICS-(% change 1996-2002) Rule of Law	0.72	0.74		0.05	0.15	
21	World Bank GRICS-(% change 1996-2002) Control of Corruption	0.36	0.20		0.44	1.68	
22	Fuel exports (% of merchandise exports)	6.29	5.31		50.96	58.00	
23	Ores and metals exports (% of merchandise exports)	11.11	4.50		25.83	13.27	
24	Fuels + Ores and Metals (% of merchandise exports)	17.40	9.81		76.78	71.27	

Figure 4-14 Institutional quality and governance data categorised by +/- economic growth and natural resource intensity of exports <=>50%

Analysing the tables closely indicates that the negative effect of natural resource intensity on economic growth does not apply when controlling for governance and institutional quality. In all cases, regardless of the intensity of natural resources, those countries that had higher economic growth also rated higher in terms of the GRICS survey (figures 4-12 to 4-14, rows 8 to 15). This trend is consistent with the investment attractiveness survey (rows 2-7) with the exception of macroeconomic perceptions.⁷⁹

Closer analysis of the tables uncovers an interesting anomaly, when governance is controlled for, countries that had positive growth on average, had a higher content of fuel in their exports (row 22),

⁷⁹ As has been suggested in the literature, macroeconomic policy was not the primary focus of a development plan for East Asia. According to Chang,(2003c), "in East Asia, industrial upgrading, not macroeconomic stability (still less low inflation), was the overarching aim of economic policy."

while countries that had negative growth had a higher concentration of mined products in their exports. This anomaly is only noticeable when the resource intensity split is done at 30% and 50% (i.e. only in figures 4-13 and 4-14.). This could suggest that fuel (oil) might be a better primer for economic growth. This notion is difficult to intuitively accept since the oil industry is considered even more of an enclave industry than the mining sector – contributing large amounts of capital to the state in the form of rents, but contributing minimally in terms of economic linkages and employment. However when considering the large barriers to entry in the oil and gas sector due to the costs of establishing refining capacity and the global distribution channels, the control of the reserves by warlords or other corrupt individuals can be considered less likely. Furthermore, unlike gold, diamonds and other precious stones, fuel (oil) is a much less concentrated form of wealth. It cannot be easily transported to buy arms, nor can control of its industry be taken without attracting much global attention. The data is however inconclusive and sector analysis would be required to determine the underlying causes of this anomaly.

Examining the change in the governance scores over 1996 to 2002 yields further interesting insights. Those countries most dependent on natural resource exports are also positively correlated to ‘improvement’ in institutional quality (rows 16 to 21) indicating that resource dependent nations, have in the last decade been spending

considerable effort in improving the quality of their institutions. The impetus for these improvements may be due to increased awareness among developing countries to improve governance in order to achieve economic growth. Alternatively, international assistance in the form of aid may have stipulated institutional reform and hence the improvements could be due to exogenous as opposed to endogenous factors.

Figures 4-15 and 4-16 represent the absolute differences in GRICS and Investment Attractiveness Survey scores between those countries that achieved positive economic growth and those that experienced negative growth. A positive score on the charts represents that an increase in a governance indicator is positively correlated to an increase in economic growth.

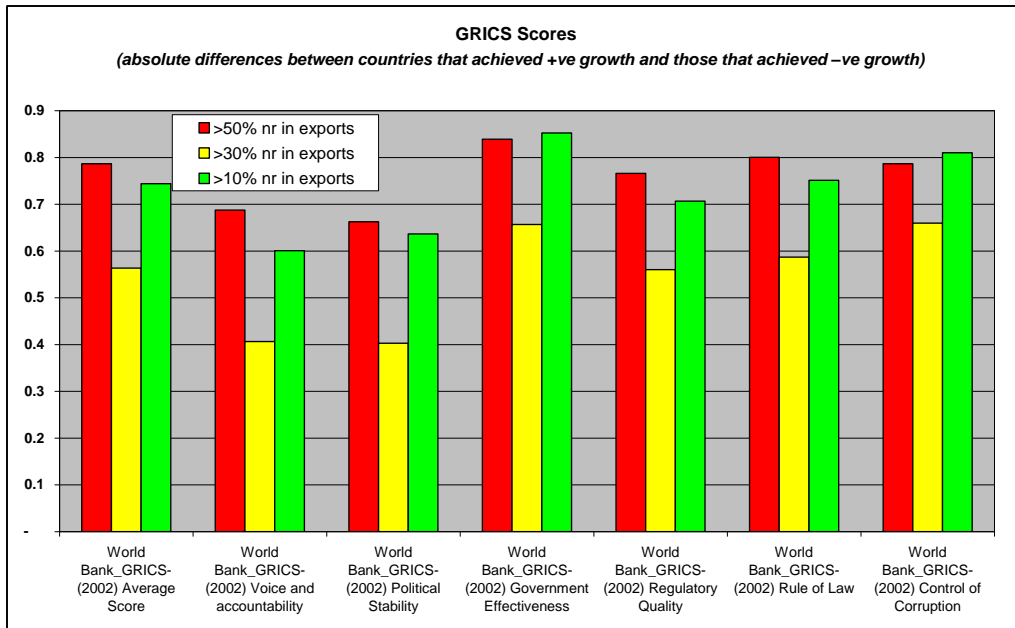


Figure 4-15 GRICS scores - absolute differences between countries that achieved +ve growth and those that achieved -ve growth

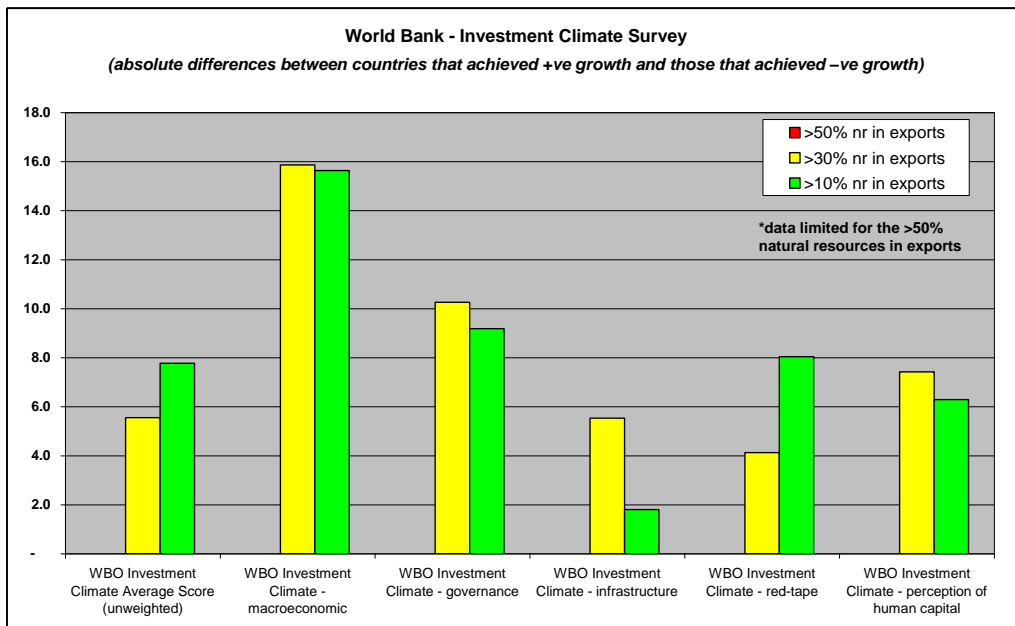


Figure 4-16 World Bank Investment Climate Survey - absolute differences between countries that achieved +ve growth and those that achieved -ve growth

For all the indicators represented, countries that achieved positive economic growth correspondingly scored higher on the

governance indicators and in the World Bank's Investment attractiveness survey. It would thus seem that institutional quality and governance are indeed a possible cure for the resource curse.

4.4 Social capital's role to underpin institutional arrangements

Although the previous section highlights the ability of institutions and good governance to break the curse, this does not necessarily mean that the adoption of democracy will ensure economic growth. Figures 4-17 and 4-18 highlight that a country's classification as a democracy is simply not enough to achieve economic development. A 'procedural' democracy is categorised as a democracy if the current government came to power through the electoral process – it does not guarantee civil and political freedom, nor does it ensure that civil society has an active role in engaging decision makers as found in 'functional' or 'substantive' democracies. In its tabulations, the GRICS dataset captures elements substantive democracy. When examining the case of African democracies (figure 4-18), the majority of countries that achieved positive economic growth greater than 2% (real) per annum had positive GRICS scores, while the majority of poor and marginal performers had negative GRICS scores. Due to the low GRICS scores achieved by African Countries, the data suggests that African countries still have several challenges ahead in

order to transform their procedural democracies into substantive democracies.

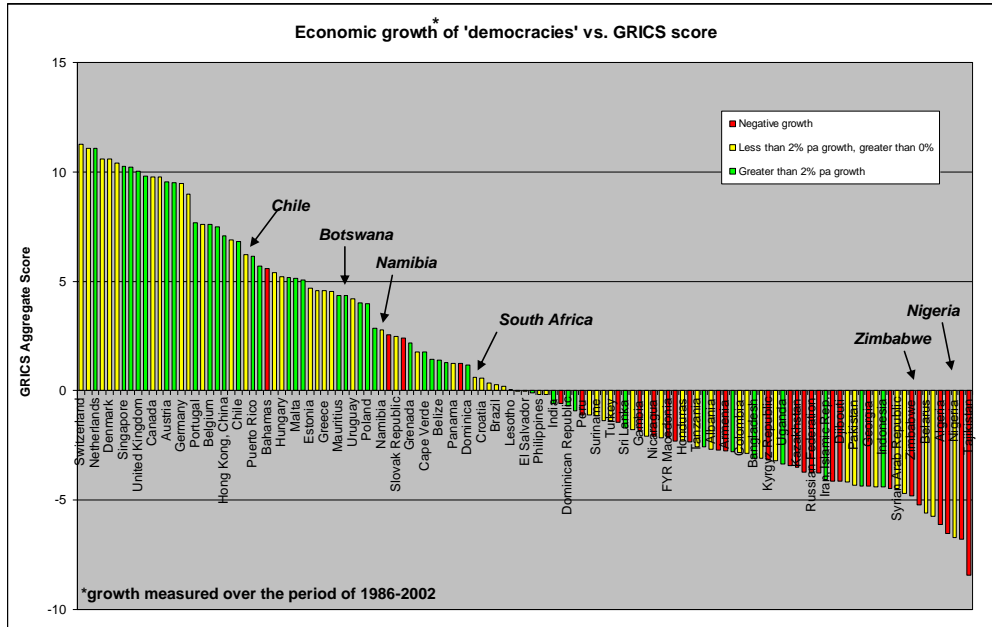


Figure 4-17 Economic growth of 'democracies' vs. GRICS score

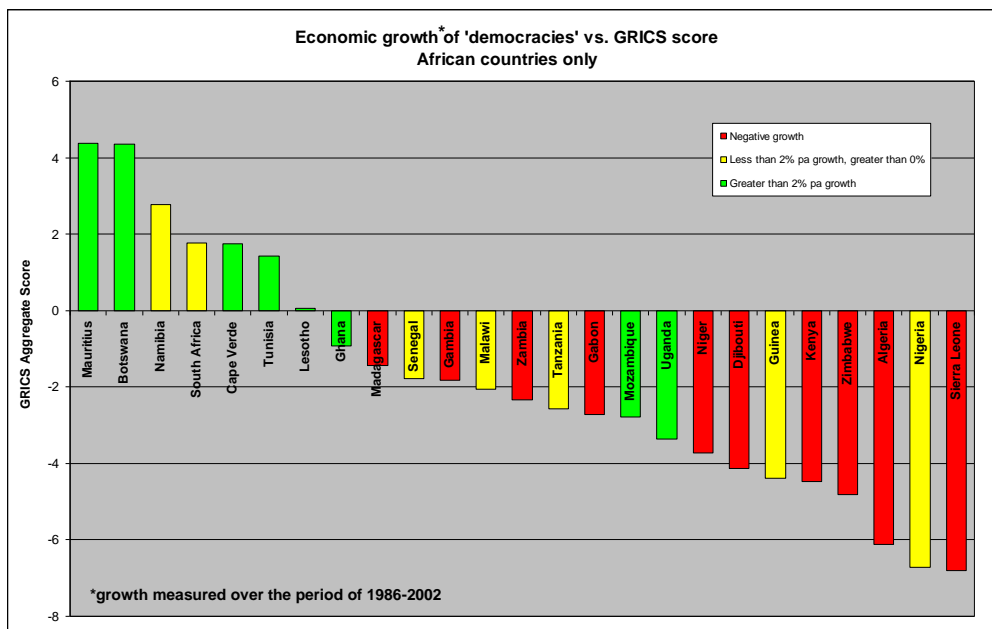


Figure 4-18 Economic growth of 'democracies' vs. GRICS score (African countries only)

Institutional arrangements are a form of social capital – however a distinction needs to be made between social capital and institutional arrangements. One could argue that before institutions can become a part of social capital they must be internalised by the society. They must become part of the culture and, in general, the majority of the citizenry need to tacitly understand the rules and procedures (both formal and informal) before one can consider the particular institutional arrangement as integrated into society. Figures 4-17 and 4-18 suggest that a lack of substantive democracies in Africa is due to a large gap between the social capital stock of Africa and its desired institutional outcome.

African neo-patrimonialism under democracy is an excellent example of a mismatch between institutions and social capital. In such a system, although the government comes to power through the electoral process, the leader is seldom openly and publicly challenged, the freedom of the press is usually limited or controlled, a system of patronage ensures the support of other national and local leaders, and furthermore under such a system it is not uncommon for tribalism to enter the political arena.

Understanding the gap between the institutions and the social capital stock is of prime importance. An analysis of the gap will

determine the type, shape and duration of transitional institutions – those crafted to close the gap. The reason why democracies fail in the poorest African countries is not because democracy as a system is flawed – it is rather that in many African countries, society does not play the engaging role it should due to a lack of social capital.

Society's role in democracy is primarily through enforcing the various checks and balances. Society, which is informed by the press, is there to critically examine the decisions of the leaders and to challenge and openly debate the issues. The west has had to step in to play this role with various multilateral and watchdog organisations such as the UN, the World Bank, Survival International, US Aid etc. Revenue transparency initiatives directed specifically at the minerals sectors such as 'publish what you pay' are enacted because of society's failure to demand the same from its government. In terms of the GRICS scoring system, the African subset of countries score an average of (-0.52) in terms of the category "Voice and Accountability", while the average of the remaining countries is 0.29. When controlling to only examine 'poor' countries (GDP per capita <5000 USD, 1995 terms), the African countries score (-0.54) while the remaining countries score (-0.09).

Distributing the data through a histogram (figure 4-19) assists to visualise how far back the African countries are in terms of this parameter. As can be seen, African countries are on average doing worse than other countries.

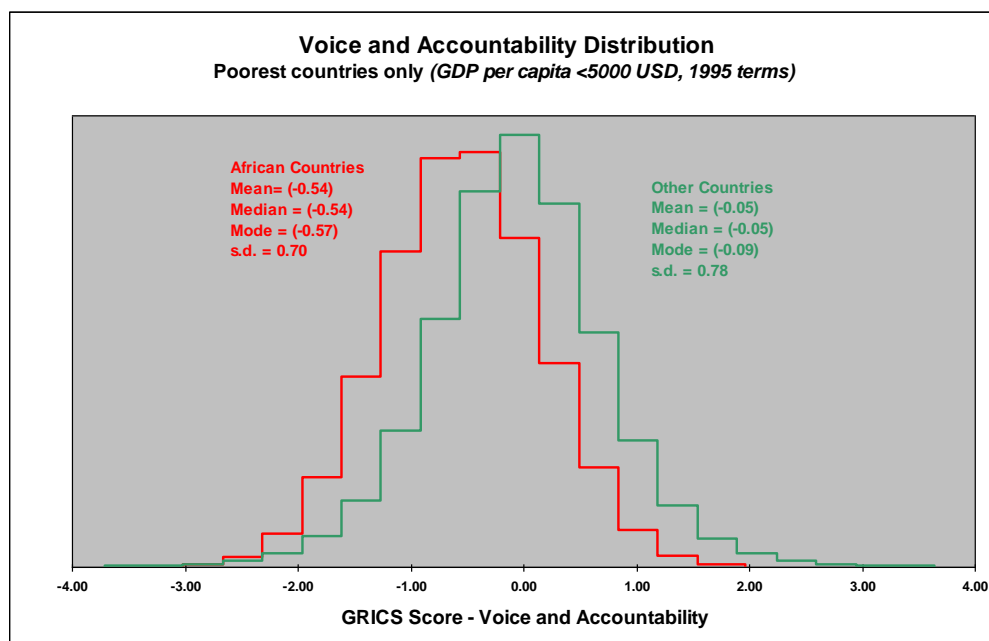


Figure 4-19 Comparison of voice and accountability measures between Africa and the rest of the World

In determining if Africa is catching up, the following histogram (figure 4-20) shows the % improvement in voice & accountability over the period 1996 to 2002. The data shows that African countries are not improving as much as other countries, although the lowest scoring African country is doing better than the lowest scoring 'other' country.

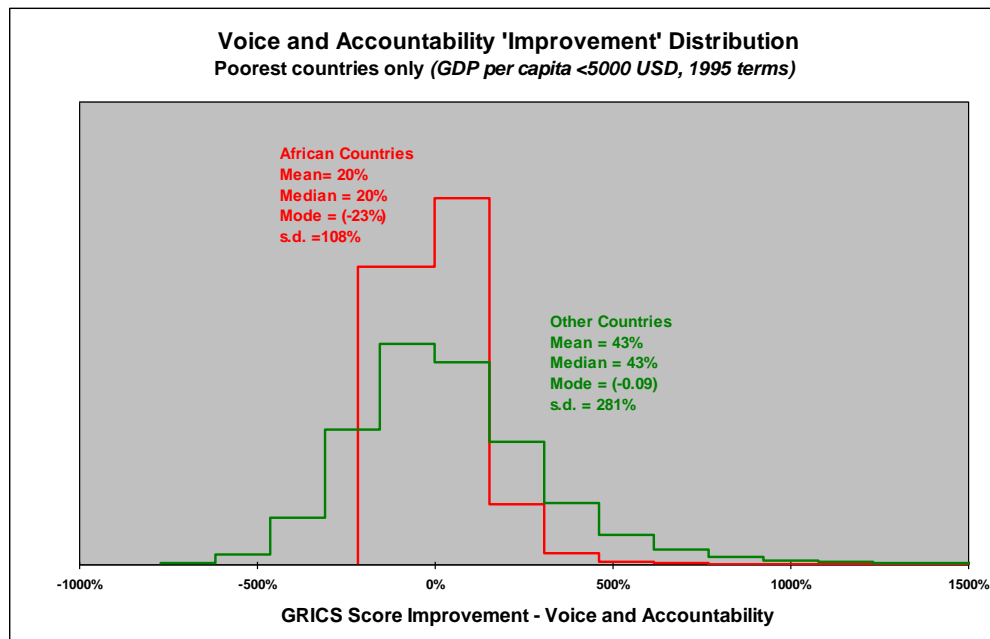


Figure 4-20 Comparison of improvement in voice and accountability measures between Africa and the rest of the World

This shortfall in measures of voice and accountability, which can be considered a proxy for the role of society, is not likely due to placid support for the government and political leaders to do what they wish, but rather because of a general lack of 'knowledge' as to the role which society should play. Knowledge can however be gained and transferred through society via human capital accumulation.

4.5 Human capital as a pre-requisite for institutions

As customs, procedures, norms, informal and formal rules must be taught by some mechanism, before they are stored in social capital they must first be internalised in the human capital stock. This section examines the role of human capital accumulation as a pre-

requisite for institutions and also the various correlations between human capital and economic growth and development.

The following set of figures set the context. (Figures 4-21 to 4-23) It is of no great surprise that the 'richer' or more developed countries achieve higher levels of human capital than poorer countries. However one must determine the direction of causality – is it higher levels of human capital which allows for their level of development, or is it rather the level of development which allows for higher levels of human capital? Evidence supports the conclusion that the direction of causality runs in both directions and can be seen to behave as a virtuous cycle. Higher levels of physical human capital, allow for longer lives, which in turn allows for higher levels of intellectual human capital accumulation which manifests itself in the economy through better decision making and allocation of resources. This in turn allows for higher returns and a higher level of development and wealth. Higher levels of wealth in turn, affords for better medical care and quality of education thus extending livelihoods, improving intellectual human capital and decision making even further.

Figures 4-21 to 4-23 show the relationship between wealth and human capital (physical and intellectual). In this case, health

expenditure per capita and life expectancy are used as proxies for physical human capital, while literacy rates are used as a proxy for intellectual human capital.

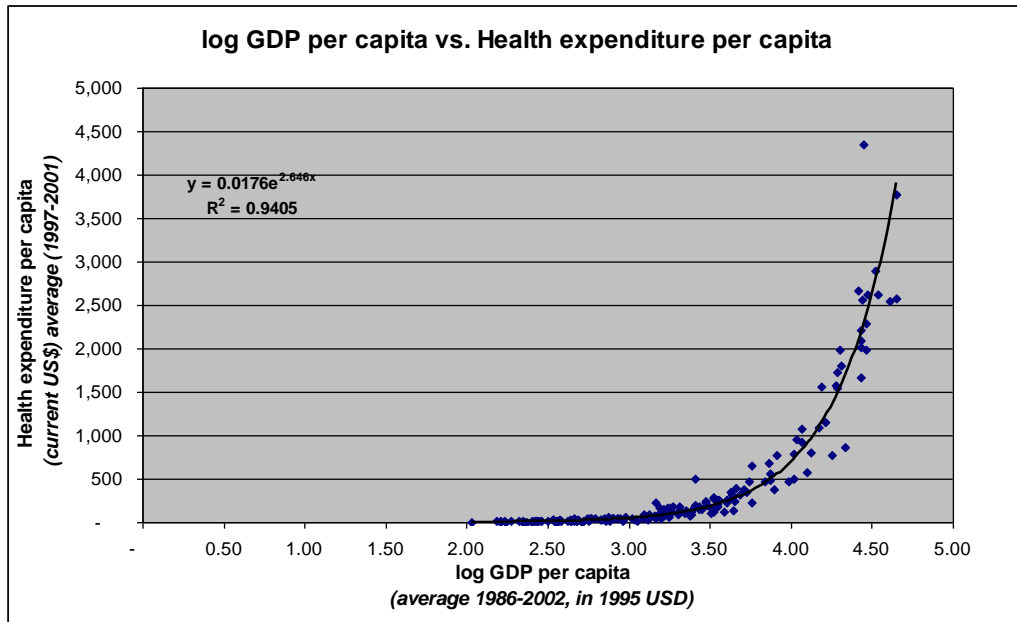


Figure 4-21 Wealth vs. health expenditure per capita

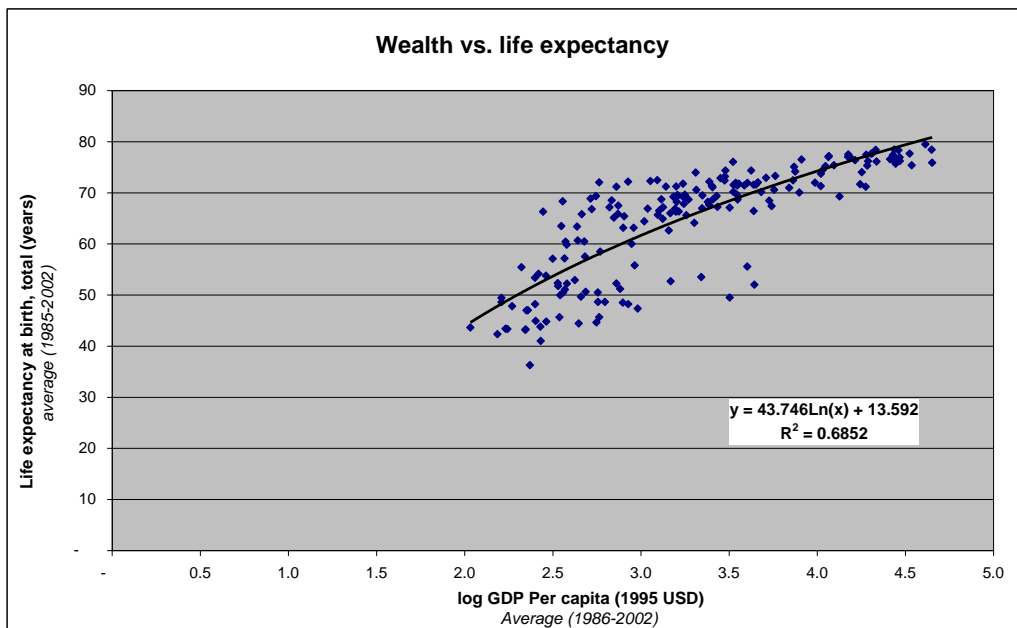


Figure 4-22 Wealth vs. life expectancy at birth

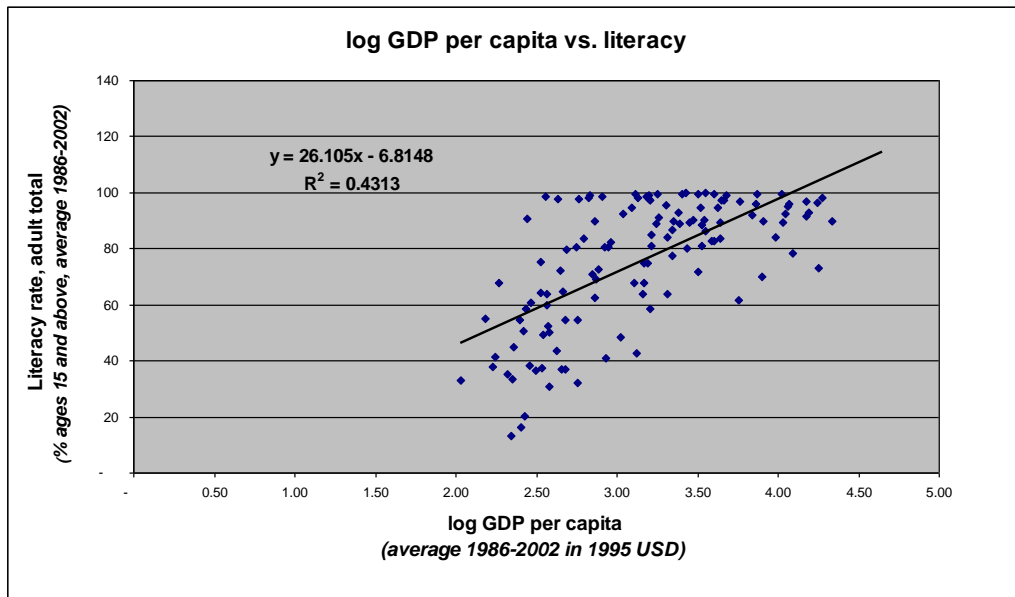


Figure 4-23 Wealth vs. literacy

When controlling the sample to determine if intellectual human capital (measured through literacy) plays a role in increasing wealth, Figure 4-24 demonstrates that wealth (GDP per capita) does exhibit a small shift to the right, indicating an increase in GDP per capita. The data is however poorly correlated against a positive change in literacy, concluding that literacy in itself is likely not a determinate of economic growth. This outcome is however not surprising, since as is the case with natural capital (in the form of natural resources), it is not the quantum of human capital which is necessarily the determinate for economic performance, but rather it is how this capital is put to work. The lack of direct correlation between human intellectual capital and economic growth could rather be a symptom

of a lack of a proper development plan or poor institutional quality which fails to channel the human capital into productive activities. More work would need to be done to ascertain the possible reasons for the lack of a more robust correlation.

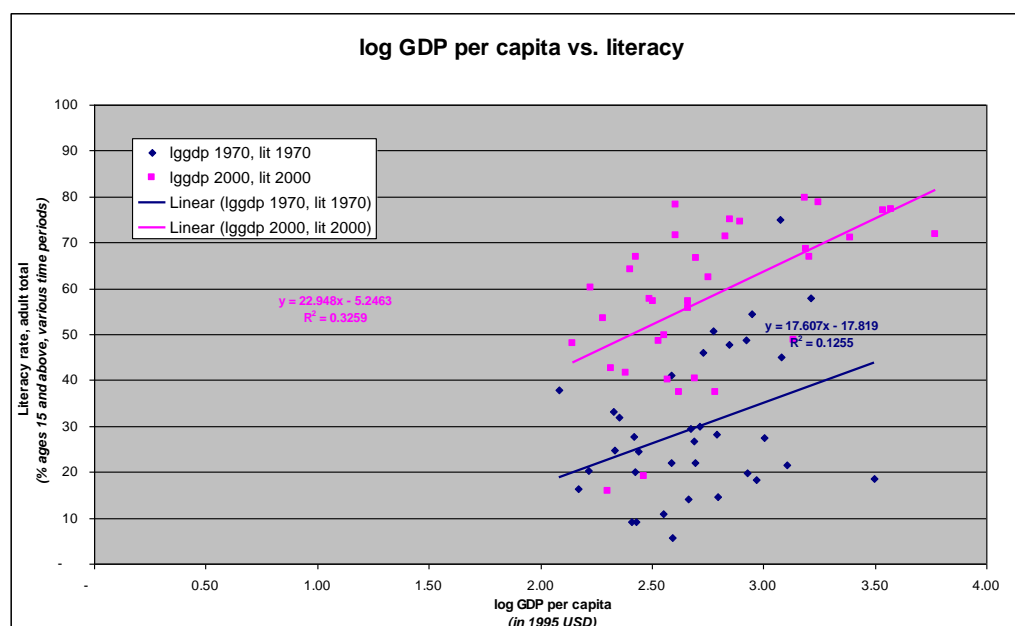


Figure 4-24 Wealth vs. literacy (comparison between 1970 and 2000)

Although human capital stock is not a driver of economic growth in itself, a broad base of human capital remains a necessary foundation for economic development since, as previously described, it is a prerequisite to enable economic agents to maximise utility and thus begin the virtuous cycle between human capital and economic growth. Given this pre-requisite, it is then of interest to determine if wealthy and poor countries alike are investing equally in maintaining and building human capital stock. Figures 4-25 and 4-26 analyse the effort placed on building human capital stock (measured through

expenditure per student) and participation by society in forming human capital (measured as % secondary enrollment).

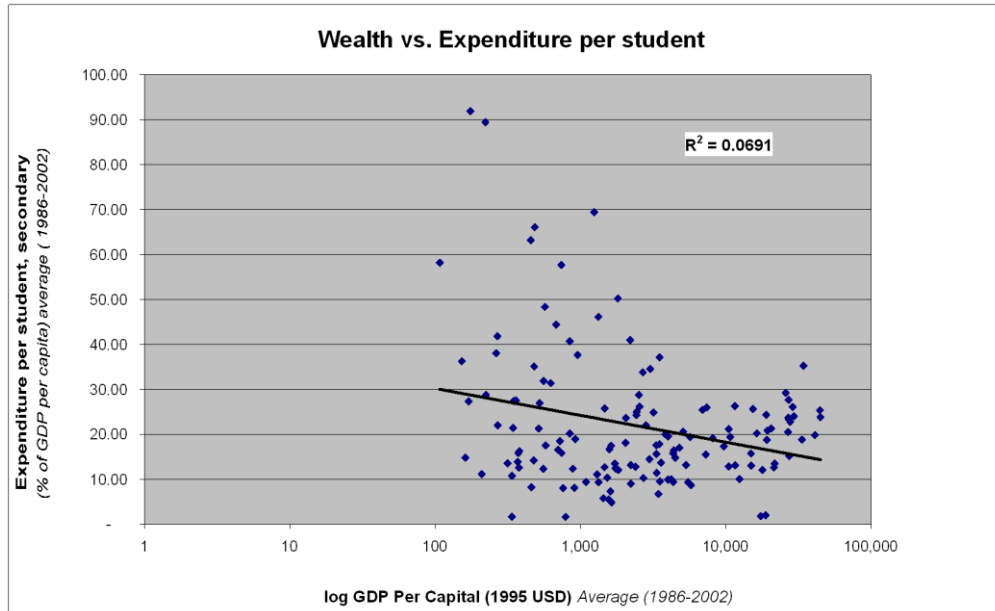


Figure 4-25 Wealth vs. expenditure per student

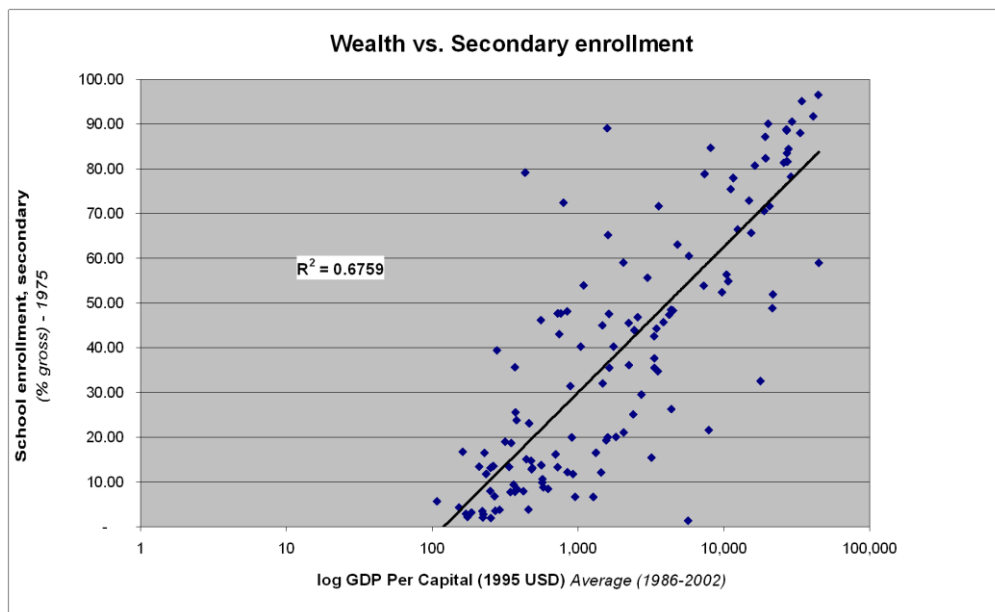


Figure 4-26 Secondary enrollment vs. wealth

Figure 4-25 shows that in general poorer countries are spending more per capita on secondary education as a % of GDP, while figure 4-26 indicates that wealthier countries are more able to participate in human capital accumulation activities as shown by secondary enrollment rates. It seems as though there may be a contradiction, however upon closer inspection the following conclusion can be drawn. The distortion or appearance of a contradiction may be in the measure of expenditure as a percentage of GDP. There may be a point where additional expenditure as a percentage of GDP yields diminishing returns. Given the large GDPs of the developed world, additional spend in this regard may be unwarranted – which gives the impression that poor countries are actually placing more effort in education than rich countries. In absolute dollar terms, the opposite is more likely true.

When examining the effect that resource dependence has on human capital accumulation (proxied through secondary enrollment), figure 4-27 demonstrates that secondary enrollment is no worse in resource dependent nations. It also however illustrates that very few resource dependent states exhibit high levels of secondary enrollment. This observation viewed in conjunction with figure 4-26 allows one to conclude that although resource dependent states exhibit lower rates secondary enrollment, this is more likely a function of wealth than of resource dependency.

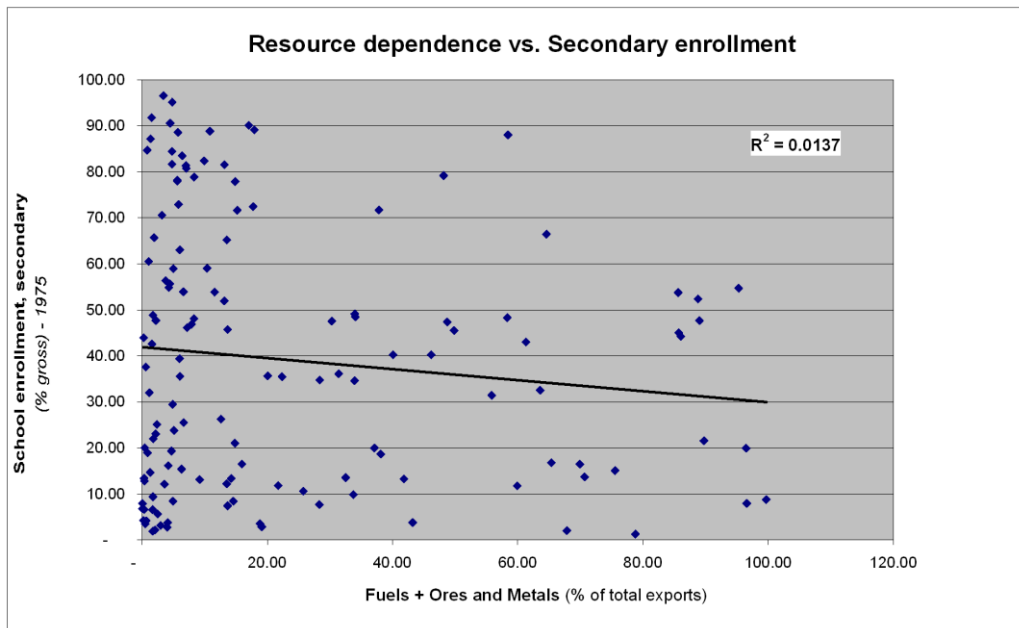


Figure 4-27 Resource dependence vs. secondary enrollment

Although secondary enrollment appears to be more a function of wealth than of resource dependency, measuring the 'effort' of government in building human capital (expenditure per student) against resource dependency (figure 4-28) shows that although resource dependent states are no worse than other states regarding expenditure on education, 'on average', they spend less effort in building human capital stock. Recalling that resource dependent states have lower levels of wealth (figure 4-7) and viewing this in comparison with figure 4-25 which indicates that wealthier states spend less effort (as a % of GDP), one can rule out that the relationship in figure 4-28 is controlled by measures of wealth. The conclusion to be drawn is that rather than resource dependent states

actually spend less effort on human capital accumulation (in terms of expenditure).

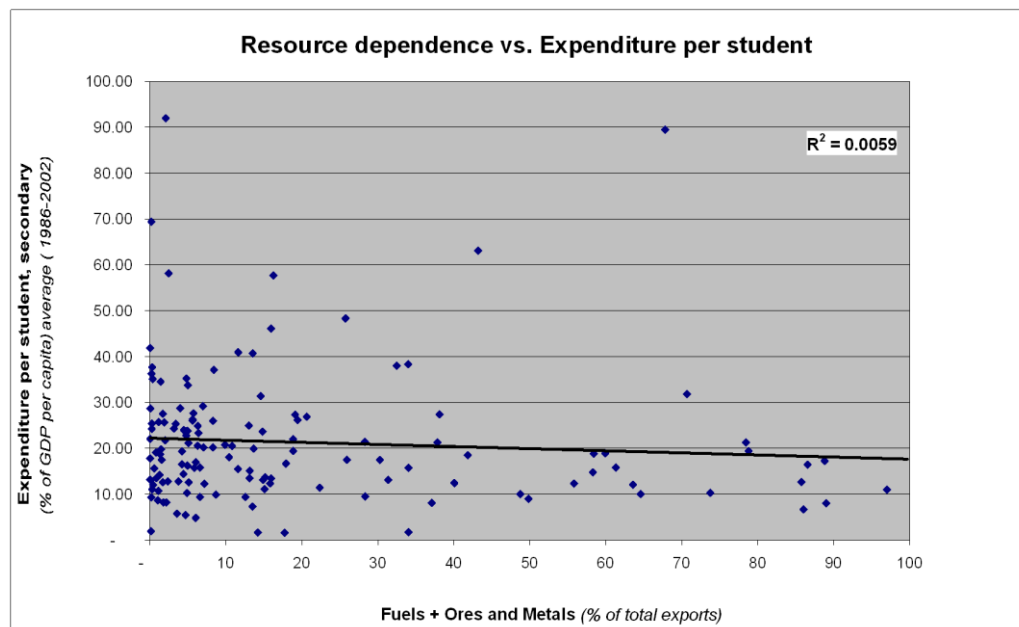


Figure 4-28 Resource dependence vs. expenditure per student

This confirms the findings of Gylfason (2001b) and disputes those of Davis (1995). That is, resource dependent states invest less in intellectual human capital. This may be due to the low levels of skills required in an undiversified minerals economy, thus governments postpone investing in higher levels of human capital. Alternatively, as proposed by Kim (1998) the cost of accumulating more 'general' human capital as opposed to 'specialised' human capital prohibits governments from investing in general human capital which could allow for a more diversified economy and greater flexibility of economic agents.

When examining the pre-requisite of human capital and its role in supporting institutional quality and governance, figure 4-29 indicates a strong positive relationship between levels of intellectual capital and institutional quality.

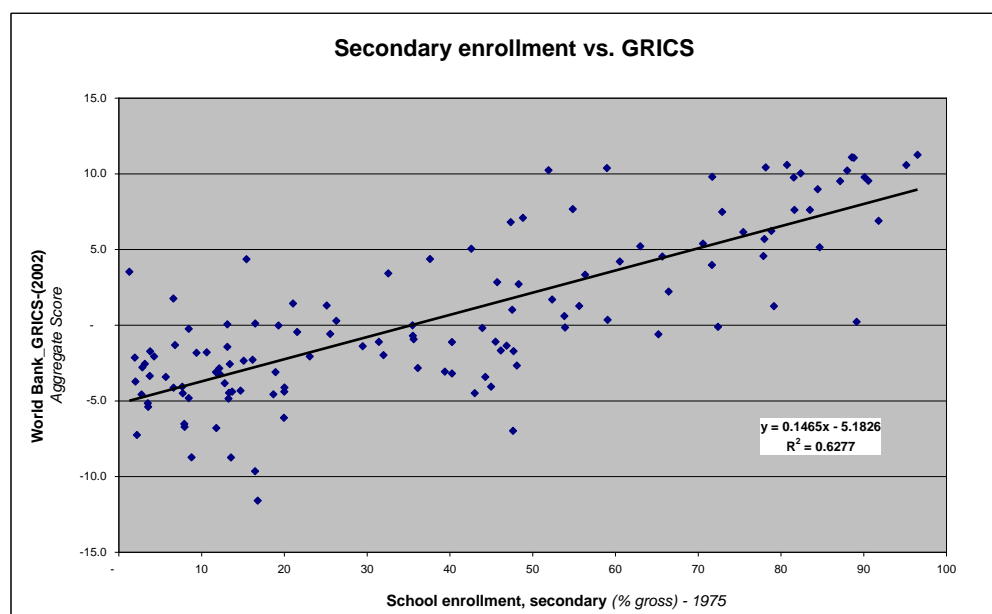


Figure 4-29 Intellectual human capital vs. institutional quality

This trend continues when aggregating various measures of human capital by using the World Bank's 'human development index' (HDI) as can be seen in figure 4-30. This data viewed in conjunction with figures 4-12 to 4-14, concludes that the development of human capital is strongly positively associated with economic development. Furthermore, since economic growth is achievable in resource dependent nations where institutional quality is controlled for⁸⁰, and

⁸⁰ As demonstrated in figures 4-12 to 4-14.

since human capital is a necessary prerequisite to 'good' institutions in resource dependent states, it is therefore a prerequisite for growth in resource dependent states.

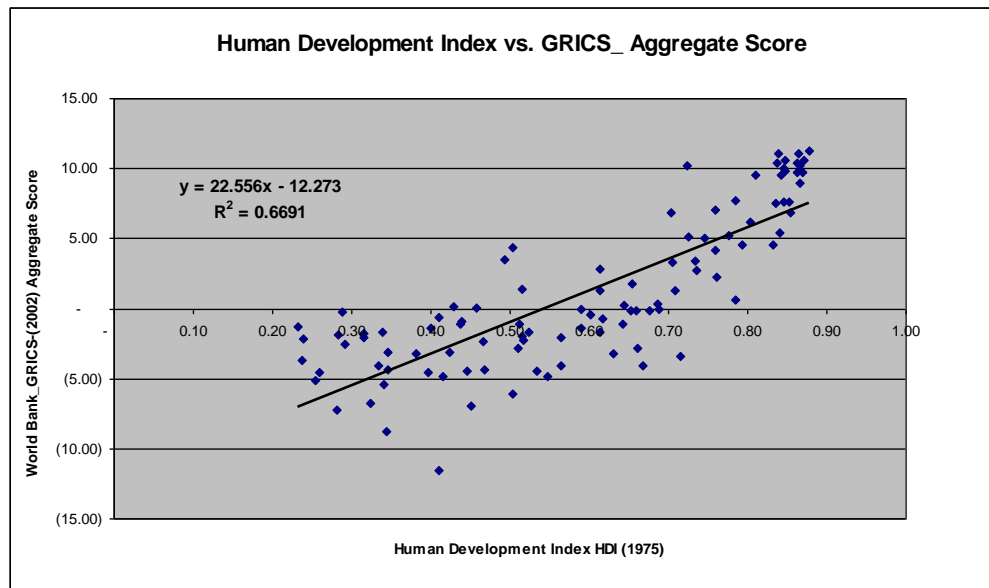


Figure 4-30 Aggregated human capital vs. Institutional quality

4.6 Economic growth, institutional quality and human capital

Figures 4-31 and 4-32 combine economic growth, institutional quality and human capital. Figure 4-31 demonstrates a strong positive correlation between human capital and institutional quality. Furthermore, as institutional quality and human capital both increase the likelihood of experiencing negative growth decreases.

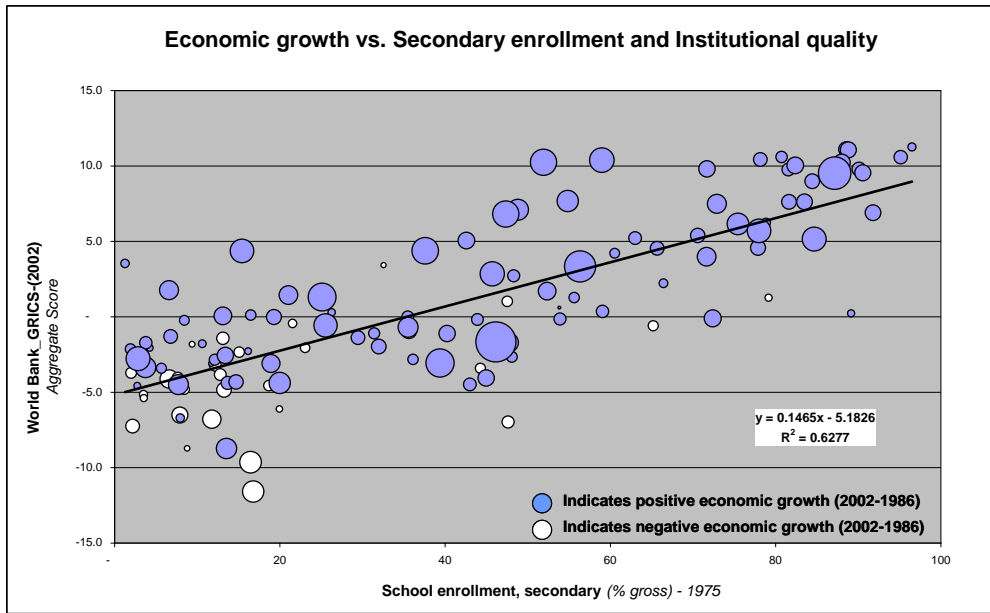


Figure 4-31 Economic growth, human capital and institutional quality (all countries)

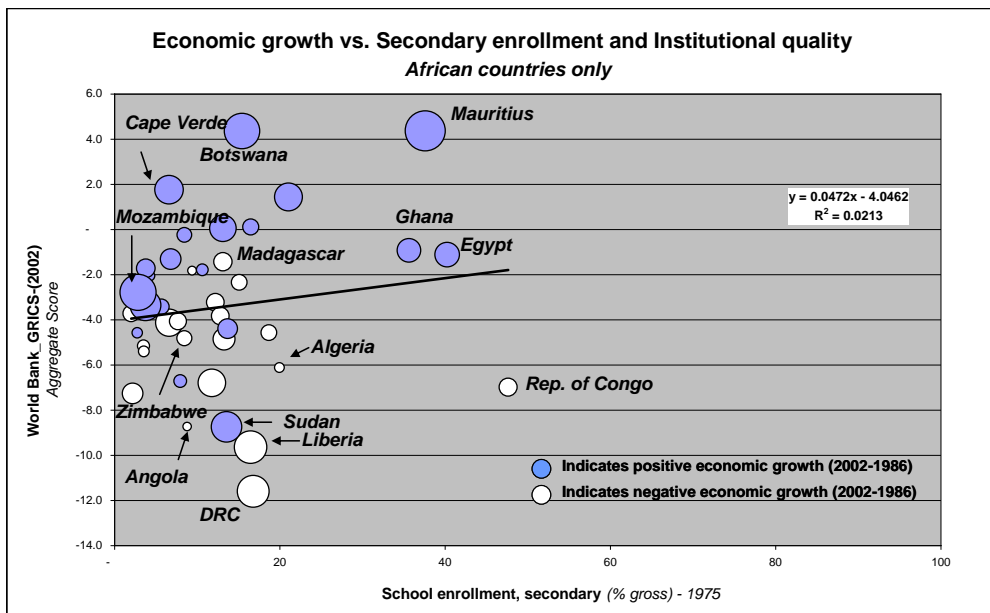


Figure 4-32 Economic growth, human capital and institutional quality (African countries only)

The results from figure 4-32 are more mixed. Africa, in general has low levels of human capital in comparison with the rest of the

world and therefore the data is clustered towards the lower levers of human capital. By extrapolating the growth lessons from the remainder of the world and applying these to Africa, it is reasonable to expect that if African countries raise their levels of human capital, they too could reduce the probabilities of experiencing negative economic growth.

Figure 4-33 once again confirms the resource curse in Africa. The data is the same as in figure 4-32, except that a distinction has been made between resource dependant and non-dependent nations. As can be seen, institutional quality is lower in resource dependent nations, while human capital accumulation is consistent with the remainder of Africa⁸¹, furthermore resource dependent African states achieved an average of -7% growth over the period of 1986 to 2002, while non-resource dependent states achieved an average growth of 13%.

⁸¹ As discussed in sections 4.5, resource dependent states invest less in human capital (expenditure per student), however secondary enrollment may be the same as in non-resource dependent states. Given the low levels of secondary enrollment in both sets of data, there is no evidence to draw any distinctions.

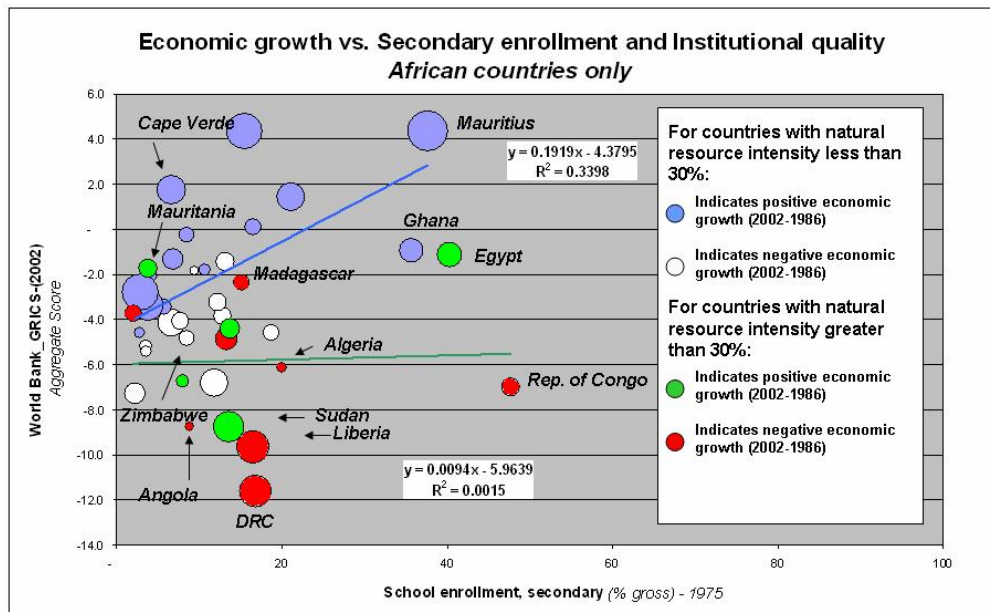


Figure 4-33 Economic growth, human capital and institutional quality (A comparison of resource dependency in African countries only)

Examining the non-resource dependent states reveals some optimism for Africa. Not only does the linear regression line yield a strong correlation to the data once resource dependent nations are excluded, but the slope of the line is steeper than the global average as depicted in figure 4-31 (slope = 0.19 vs. 0.15). This indicates that given proper institutions and the avoidance of conflict,⁸² African countries have the potential to build institutional capacity quicker than the remainder of the world through investment in human capital (i.e. the returns to education in building institutional capacity are higher in Africa than in the rest of the world). The improvement in institutional

⁸² Various incidents of conflict have plagued the resource dependent nations during the last few decades in countries such as the DRC, the Republic of Congo, Angola, Liberia and Sierra Leone. It is worth noting that although Sierra Leone's conflicts have been fuelled by the illicit trade in diamonds, Sierra Leone's 'official' exports of natural resource was calculated to be 22% - which grouped it into the non-resource dependent category (figure 4-33). Sierra Leone experienced -49% growth over the period of 1986 to 2002.

quality and governance, as well as a robust stock of human capital, in turn would change the current economic outlook for Africa. As the data suggests, such a paradigm shift from the status quo has the potential to propel Africa into a fast-growth economic trajectory.

4.7 Geographic dimensions of economic growth and resource dependence in Africa

Just as civil wars can spill over into adjacent countries, so may good practices. In order to determine if an increase in economic and cultural exchanges, represented by geographic proximity has a role in promoting good and bad practices, a geographical analysis of the data was performed. Figures 4-34 to 4-37 geographically represent African democracies & autocracies, institutional quality, human and economic growth. As these parameters have been demonstrated to be a cure to the resource curse, the following figures demonstrate in which direction the cure is travelling.

When viewing figure 4-34 in conjunction with figure 4-35, it is clear that the adoption of democracy is not necessarily commensurate with institutional quality. In terms of the regional effect of democracy, it appears that democracy has a stronghold in the South of Africa. Whilst there are many procedural democracies in

the East and West of Africa, there is no significant cluster effect to ensure their security.

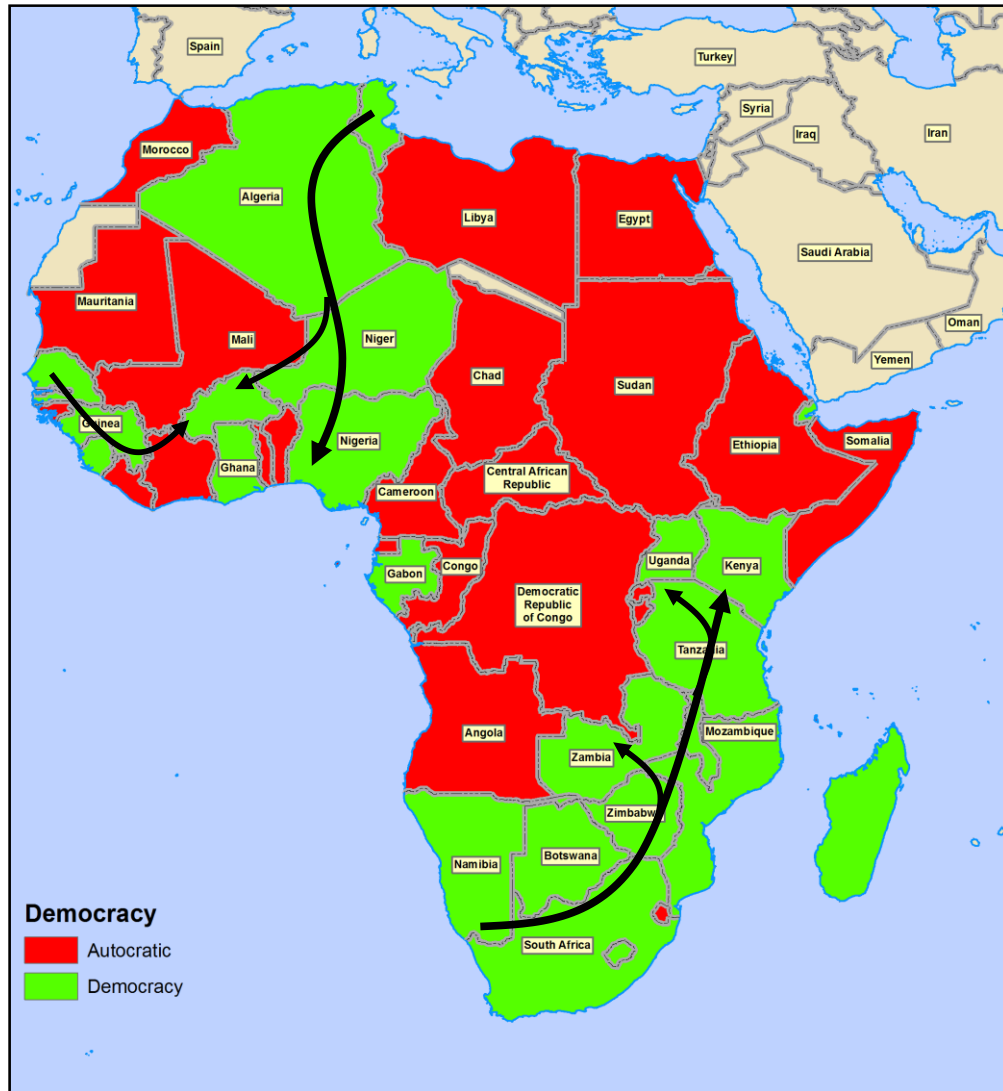


Figure 4-34 Geographical representation of 'procedural' democracies and autocracies in Africa

This risk is more evident when viewing figure 4-35. The democracies in the West and East are characterised by poor institutional quality and governance in comparison to those in the South. Given that institutional quality has been shown to be one of

the most important factors when determining economic growth from resource dependency, the East and West and especially Central African countries face the very real possibility of falling into the trap of the resource curse.

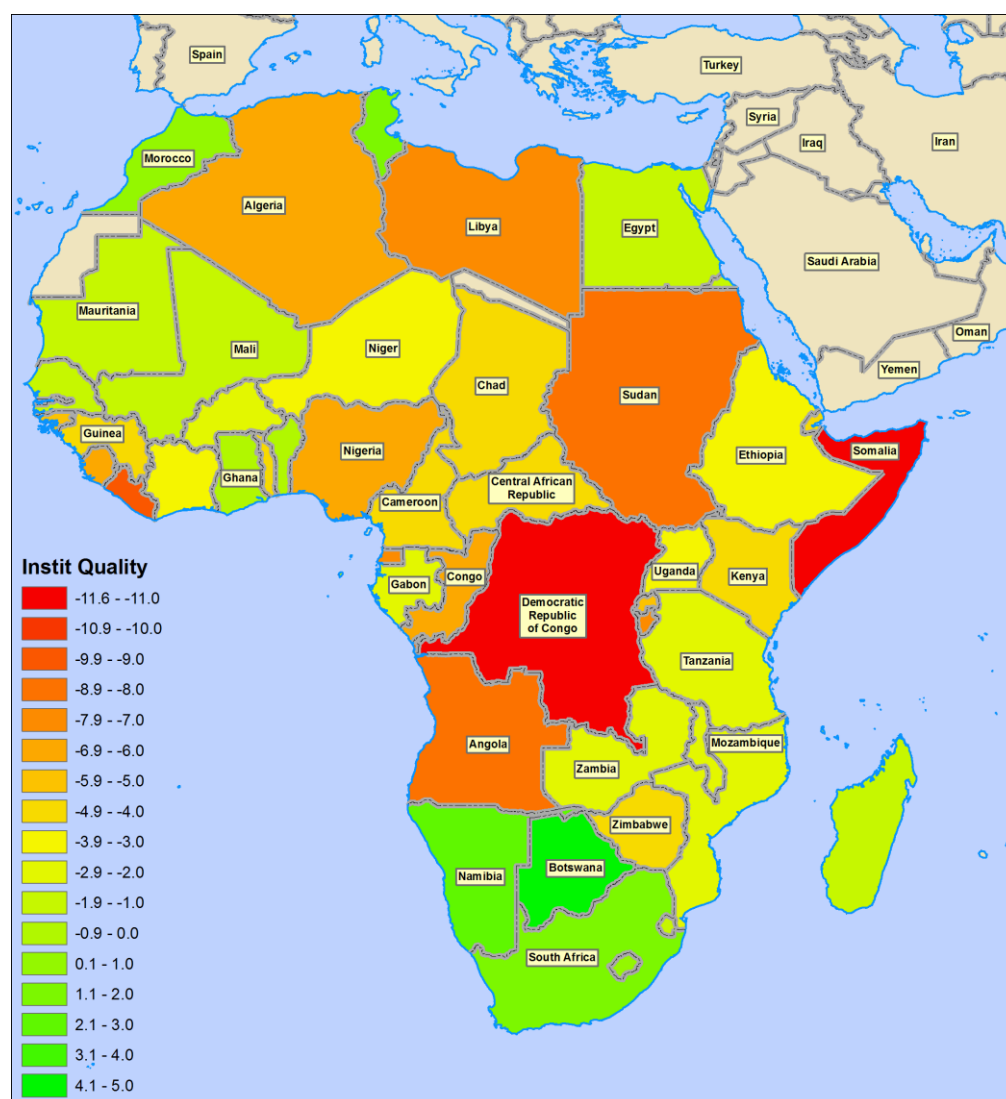


Figure 4-35 Geographical representation of institutional quality in Africa (GRICS aggregate score, 2002)

Figures 4-34 and 4-35 also demonstrate that Eastern and Western African countries are lacking much of the social capital stock required for functioning democracies. This is based on the fact that

they have the correct 'type' of institutions in place; however the social capital is not there to support their intended function manifesting itself in poor quality measurements.

As social capital and human capital are inextricably linked, figure 4-36 demonstrates that although all African countries are lacking in human capital (measured through the Human Development Index), only the Southern African countries (with the exception of Algeria) have levels of human capital high enough to build functioning social institutions.

Algeria remains somewhat of an anomaly. Given its democratic status (figure 4-34), as well as its relatively high levels of human capital (figure 4-36), the quality of its institutions remain poorer than would be expected (aggregate GRICS score of (-6.1); figure 4-35). In the case of Namibia, South Africa and Botswana, these three indices appear to be mutually re-enforced. This leads one to believe that, in Algeria, the high levels of human development experienced are primarily due to human 'physical' capital as opposed to 'intellectual' capital. This would seem to be a plausible explanation, since it is intellectual capital (through education) which can affect social capital and hence the performance of a country's institutions. In Algeria for example, secondary enrollment in 1975 was only 19%, by

comparison, Mauritius which achieved 100% growth over 1986 to 2002 had a secondary enrollment rates of 38% and an aggregate GRICS score of 4.4.

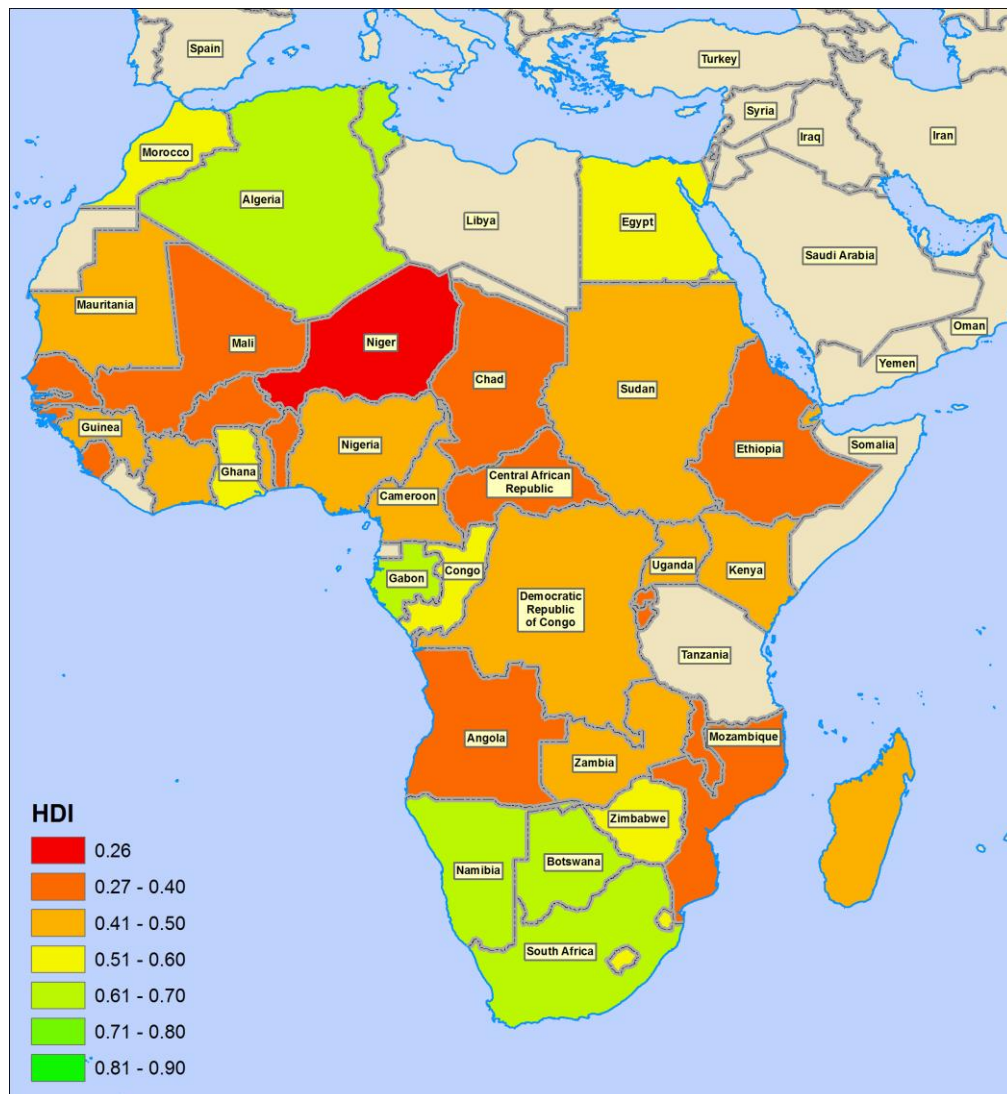


Figure 4-36 Geographical representation of human capital in Africa (Human development index, average 1975-2002)

Examining the resultant economic growth (figure 4-37) yields some interesting insights. Some countries, such as Sudan achieved

moderate growth whilst having poor institutions and low levels of human capital. Sudan experienced growth of 61% over the period of 1986 to 2002. This was largely due to fuel exports which comprised 32% of total exports. Upon closer inspection, Sudan remains one of the poorest countries in Africa with an average GDP per capita of 260 (USD, 1995 terms – 1986 to 2002) in comparison with South Africa's 4000 USD, suggesting that Sudan's growth was heavily influenced by the fact that it was starting from a relatively small base. Given the current conflict in Darfur, Sudan's mineral wealth appears to not have led to sustainable economic growth but has rather materialised itself into the resource curse. The current high prices for oil and Sudan's lack of industrialisation leads one to believe that the resource curse in Sudan is most likely a result of Sudan's political economy and not 'Dutch disease' or macro-economic instability leading to de-industrialisation.

By comparison, South Africa which scored relatively high on both human capital and institutional quality indices did not achieve significant economic growth. Over the period of 1986 to 2002, South Africa only achieved moderate growth of 2%. Controlling for the 1994 general elections and the end of apartheid does not change this outcome. In the period of 1994 to 2002, South Africa's growth was only 10%.

This analysis holds some important policy implications for South Africa's future. Development objectives since the 1994 general elections have principally focused on addressing issues of inequality. Much time and effort have been spent by the government on addressing issues of wealth and land redistribution, which can be considered to be internally focused. The government has not had a specific external or export led growth focus which would be geared at making the economy more competitive. Given this analysis, it would appear that a more external focus, oriented on outward global competition may be required to channel South Africa's relatively high levels of social and human capital.

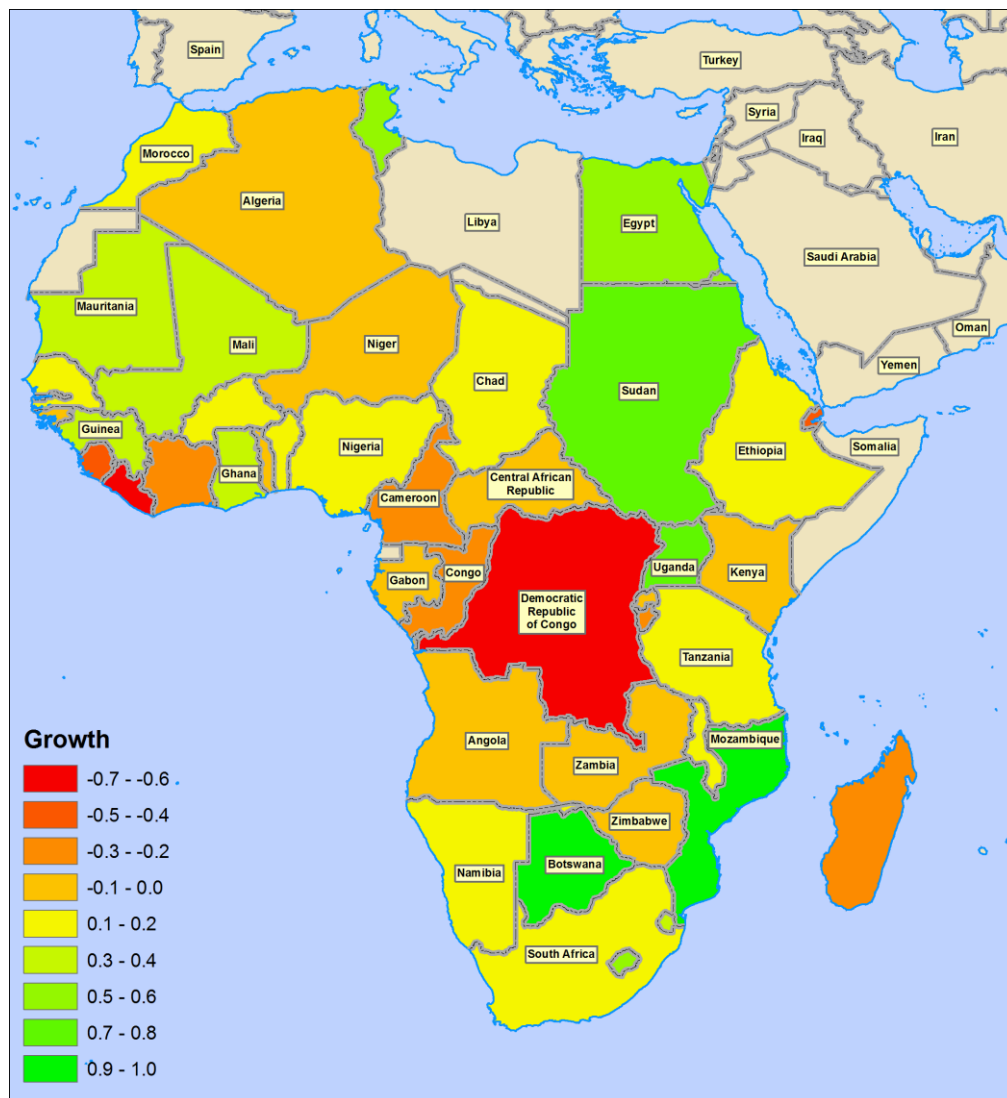


Figure 4-37 Geographical representation of economic growth in Africa (GDP per capita, 1986 - 2002)

In considering the geographical distributions of economic performance, human capital and social capital, all of the above maps depict a similar pattern. Countries with strength in institutional quality for example, tend to neighbour countries with slightly less positive scores. The scores then tend to gradually diminish as the distance from the best performing countries increases. This suggests that

increased economic and social interaction can have a positive role in spreading best practice. It thus follows that increased regionalism in Africa through institutions such as the NEPAD, the AU and SADC can assist to build economic ties, and hence spread good practice. Furthermore, due to increased regionalism and interdependency, either through trade or through multilateral organisations such as the AU, countries may develop a greater ability to influence the policies of neighbouring countries. Regionalism could have a positive effect in that the more intertwined two economies are, the more alternatives one has to put diplomatic pressure neighbouring countries when abuses occur. Thus, increases in human capital and institutional quality may be catalysed through increased regionalism, which in turn can play a significant role in promoting peace and stability in Africa.

5.0 CONCLUSIONS

The resource curse has been demonstrated to exist in this analysis through various regressions. Resource dependent economies, on average have experienced less economic growth than those economies less dependent on natural resources. Furthermore, resource dependent nations tend to have lower levels of wealth, lower levels of institutional quality, lower levels of physical human capital and invest less in intellectual human capital as a % of GDP. Natural resources have also however been shown to play a role in economic development as they currently underpin many developing economies in the world and especially in Africa. It is for this reason that governments should not turn a blind eye to their natural resources. Rather they must manage these resources wisely, as these resources are bidding them time to develop a set of developmental policies to diversify their economies.

Although somewhat controversial, as a first step, African countries should adopt democracy. History has demonstrated that autocratic leadership can produce very high growth rates due to the autonomy of the state however, the data in this analysis has shown that Africa suffers from a shortage of benevolent dictators. Rather than adopting harsh policies which will deliver long-term growth for

African countries, a great number of African dictators restrict civil and political liberties to secure power and pursue activities of self enrichment.

It has been shown that institutions are capable of 'breaking' the curse, however merely adopting democracy and importing institutions from the West are not enough. Transitional institutions are required which will develop a deep 'substantive' democracy through the current stock of social capital. Human capital needs to be developed to change and mould the social capital stock such that it can be better aligned to the global economy. Furthermore, human capital needs to be developed in order to increase the returns to economic decisions and facilitate the absorption of new technologies. The investment in human capital should target 'general' forms as opposed to 'specific' forms of human capital. This would reduce the future costs associated with the diversification of the economy. With a higher level of general human capital, the flexibility of economic agents will be improved allowing the economy to diversify into higher return activities. A wealth of natural resources wealth can assist in this objective as they provide rents which can then be re-invested toward this end.

There is no single correct formula to convert resource dependent economies, into diversified economies capable of sustainable economic growth. However one actor which should be developed in order to carry out this task is the developmental state. In determining the role of the developmental state, the government must make complete use of its economic and social development toolbox. One such tool, which has received much recent attention, is the creation of a 'good' institutional base. The institutions will ensure that revenues and rents, obtained from a nation's pre-disposition and comparatively advantaged industries are spent in activities that generate social and public returns to the country as a whole. Each form of institution: political, judicial, market, multilateral etc. will have its role to play in maximising the potential of the extractive industries and ensuring that wealth in natural resources does not detract leaders from the developmental objectives. A customised, holistic approach is required to tackle the function and shape of the institutions, which in turn will lead to appropriate policy formulation. Policies need to reflect the root of the problem, and sometimes deeply rooted economic conditions cannot be solved with a set of 'best practice' policies, but will rather require a transitional strategy and hence transitional policies. Wherever appropriate, policies and institutions should represent the underlying social fabric of a society. Institutions will function more appropriately when modelled around a society's cultural norms and values. Furthermore, as the NEPAD may

demonstrate, the customisation of institutions around African values will likely promote a deep sense of ownership of one's own destiny.

Where the social capital does not allow for the proper checks and balances from civil society in a democracy, the international community may need to play a larger role. Increased regionalism and interdependence of African economies should be encouraged. This will not only allow for the 'spill over' of good practices, but will also give African leaders greater means to peacefully influence other faltering African nations. Where African countries cannot effect appropriate change by themselves, the international community may need to involve itself through multilateral organisations such as the UN or through market based institutions. One such example is the 'publish what you pay' initiative. Such arrangements ensure that the rents from resource extraction are not being siphoned off by the political elite. Transparency initiatives also have the benefit of being easily linked to other market institutions such as stock exchange regulations. Such initiatives are however only most effective where multinational corporations are the prime vehicle for resource extraction.

From a minerals perspective, governments should effect proper institutions to smooth out resource booms to avoid 'Dutch disease'.

An example of such an institutional arrangement is the notion of revenue stabilisation funds. These appear to have had success in the case of Norway and somewhat in Chile. Where the value of natural resource exports raises the exchange rate to an uncompetitive level, monetary policies (perhaps in combination with a stabilisation mechanism) should be adopted to avoid rendering other domestic non-resource exports uncompetitive globally.

In terms of developing a natural resource strategy, a country should not adopt a myopic strategy which solely seeks to maximise the net export value of the resource and provide employment through forced beneficiation. There can be some temporary gains through this strategy, however as the case study of Chile has highlighted, the benefits are only temporary and the costs to the economy may outweigh the benefits. A long term strategy to create a climate for economic growth includes: dispelling perceptions of political risk through increased governance and improving local productivity through the development of human capital. Shifting the focus away from a short term politico economic gain towards a long-term vision of a globally integrated economy is the first and single most important step required along the developmental path.

6.0 FUTURE RESEARCH QUESTIONS

From this initial research there are several additional outstanding research questions which should be addressed to better understand the effects of the resource curse and identify solutions.

6.1 Detailed policy analysis

In order to better understand the effects of the resource curse, why some countries have escaped the curse while other have failed an in-depth country analysis should be carried out. A group of successes and failures should be considered with a specific focus on Africa, while gleaning lessons from the remainder of the world. Countries should include: Chile, Norway, Russia, China, South Africa, Botswana, Sierra Leone, Angola and the Democratic Republic of the Congo. The analysis should spend time to understand the countries specific history, their current and past mineral and other policies as well as gaining insight into the country's specific economic performance. These insights would then in turn assist to formulate specific country policy recommendations to (1) avoid the resource curse and (2) kick start economic development.

6.2 An integrated capital model

There is a need for an integrated capital model. Many of the regressions carried out in the resource curse focus on measures of GDP or GDP per capita to define economic growth. The regressions should be carried out utilising a model which considers other forms of capital – natural, physical, financial, human and social. The model should make use of ‘natural’ accounts data. For example, if wealth (financial capital) is generated through the development of natural resources, the increase in financial capital must then offset the reduction in natural capital. The reduction in natural capital would be calculated as a reduction in the mineral wealth of the nation as well as a temporary disruption of the land in the form of environmental degradation. The model must also include an improvement to physical capital (infrastructure, other man-made structures and technology), social capital and human capital (in the form of skills and skill transfers).

6.3 Effect of a resource “super-cycle”

Given the current elevated levels of global commodity prices, an analysis should be carried out to determine what measures can be implemented in the short-term to avoid the resource curse. This analysis should first analyse current country economic data and the dependency of the economy on natural resources. From there the

point of departure would be to determine the country's specific development objectives and the current levels of human and social capital. An analysis of institutional and policy arrangements should then be analysed for effectiveness considering the levels of capacity of the government and the likelihood of integration into the current social and human capital stocks.

6.4 Economic impact comparisons of oil and mining

In this study, both mining and energy exports were bundled together in the regressions. A separate analysis should consider if these two sectors have similar impacts on the host economy and the resource curse. Specific focus should be paid to the various linkages provided, the level of corruption, the levels of political contestation, the barriers to entry, levels of employment created and the level of rents generated.

6.5 Role of multinational corporations

Given that in many developing countries, the multinational corporations involved in the resource sector are often the first form of formal economic activity present in remote areas. Given this, what role do multinational corporations have in stimulating economic development? Some of the topics to be considered should include the degree of employment generated, the disruption of cultural norms

(if any) and the minimal role of the state in providing services in these remote areas. Should multinational corporations take up some of the administrative and service delivery aspects of the state in such areas? Should multinational corporations actively re-adjust business models to proactively benefit in the developing world? Such a discussion would likely be very subjective and in order to make the results more defensible, various surveys would need to be carried out in combination with an analysis of global trends.

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Appendix A – Aggregate governance indicators dataset

The following list of data sources comprises the World Bank's Governance Research Indicator Country Snapshot (GRICS) dataset.

Aggregate Governance Indicators Dataset:			
The composite governance indicators are based on data from selected variables provided by the following sources:			
Source Name:	Internet Address:	Publication:	Coverage:
Business Environment Risk Intelligence	www.beri.com	Business Risk Service	50 mostly developed countries
Business Environment Risk Intelligence	www.beri.com	Quantitative Risk Measure in Foreign Lending	115 mostly developed countries
Columbia University	www.columbia.edu/	State Capacity Project	98 developed and developing countries
Economist Intelligence Unit	www.eiu.com	Country Risk Service	115 developed and developing countries
European Bank for Reconstruction and Development	www.ebrd.com	Transition Report	26 transition economies
Freedom House	www.freedomhouse.org	Nations in Transition	27 transition economies
Freedom House	www.freedomhouse.org	Freedom in the World	192 developed and developing countries
Gallup International	www.gallup-international.com	Voice of the People Survey	46 mostly developed countries
Gallup International	www.gallup-international.com	Gallup Millennium / 50th Anniversary Survey	60/44 mostly developed countries
Heritage Foundation / Wall Street Journal	www.heritage.org	Economic Freedom Index	161 developed and developing countries
State Department / Amnesty International	http://www.state.gov/	Human Rights Report	159 developed and developing countries
Institute for Management Development	www.imd.ch	World Competitiveness Yearbook	49 mainly developed countries
Latinobarometro	www.latinobarometro.org/	Latinobarometro Surveys	17 Latin American countries
Political Risk Services	www.prsgroup.com	International Country Risk Guide	140 developed and developing countries
PriceWaterhouseCoopers	www.opacityindex.com/	Opacity Index	35 developed and developing countries
Reporters Without Borders	www.rsf.org	Press Freedom Index	138 developed and developing countries
Standard and Poor's DRI/McGraw-Hill	www.globalinsight.com	Country Risk Review	111 developed and developing countries
World Bank	www.worldbank.org	Business Enterprise Environment Survey	27 transition economies
World Bank	www.worldbank.org	Country Policy and Institutional Assessment	136 developing countries
World Bank	www.worldbank.org	World business Environment Survey	80 developed and developing countries
World Economic Forum	www.weforum.org	Global Competitiveness Survey	80 developed and developing countries
World Markets Online	www.worldmarketsanalysis.com	World Markets Country Analysis	186 developed and developing countries

Please click on the "Country selection" tab below to start using the governance dataset. [More information on Governance issues is available at: www.worldbank.org/wbi/governance/gov_data.htm](http://www.worldbank.org/wbi/governance/gov_data.htm)