

## Political Economy Models of the Resource Curse: Implications for Policy and Research

Ivar Kolstad  
Arne Wiig

**WP 2008: 6**



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### **Indexing terms**

Resource curse

Oil

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# 1. Introduction<sup>1</sup>

Through history, natural resources have played an important role for prosperity in a number of the countries that we now characterize as developed. However, during the last 50 years, there have been relatively fewer examples of countries rich in natural resources that have grown rich. Norway and Botswana have been pointed to as examples of countries that have been able to exploit their resources in an efficient manner. However, most resource rich countries have experienced negative growth or relatively low growth in spite of their resources. This negative growth pattern, and more generally a pattern of economic and social underperformance by resource rich countries, has been termed the resource curse.

There is a vast scientific literature on the resource curse, and it has advanced considerably in recent years. However, the large literature also includes important areas of disagreement and fragmentation within the research community. This diversity takes many forms, some of which are questions of whether a resource curse really exists or not, a question that is linked to issues of choosing relevant measures of resources, which mechanisms explain a potential curse, and what policy implications to draw from theory and evidence. In this area as in other areas of social science, policy recommendation without a clear theoretical and empirical basis might lead to misplaced policy interventions. Part of the diversity is that there is one strand of the literature that largely focuses on empirical analysis and another strand of the literature that mainly focuses on theoretical analysis, often without analysing policy implications.

In this paper, we focus on political economy models of the resource curse and their research and policy implications. The purpose of the paper is not to provide new theoretical or empirical results, but rather to provide an overview of political economy based models and indicate some of their policy and research implications. We will, however, also address some of the larger debates on the resource curse in passing. A contribution of the paper is the introduction of the concept of impartiality enhancing institutions, which is useful to distinguish conditions under which negative effects of resources can be mitigated. In reaching more detailed policy recommendations, we emphasize the importance of debundling institutions in future analytical and empirical work.

The paper is structured as follows. Section 2 gives a short overview of the resource curse literature with a focus on political economy models. It distinguishes between centralized (e.g. patronage models) and decentralized models (rent seeking models), and discusses policy implications using the term of impartiality enhancing institutions. Section 3 focuses on two important donor initiatives to lift the curse and discuss to what extent these initiatives take properly into account the existing research evidence on the resource curse. A main conclusion is that these initiatives only to a limited extent capture the implications of the scientific literature on the resource curse. Section 4 discusses and suggests important areas of future research and policy analysis. This includes a look inside the black box of institutions, and a discussion of challenges in terms of generating institutional change. Section 5 concludes.

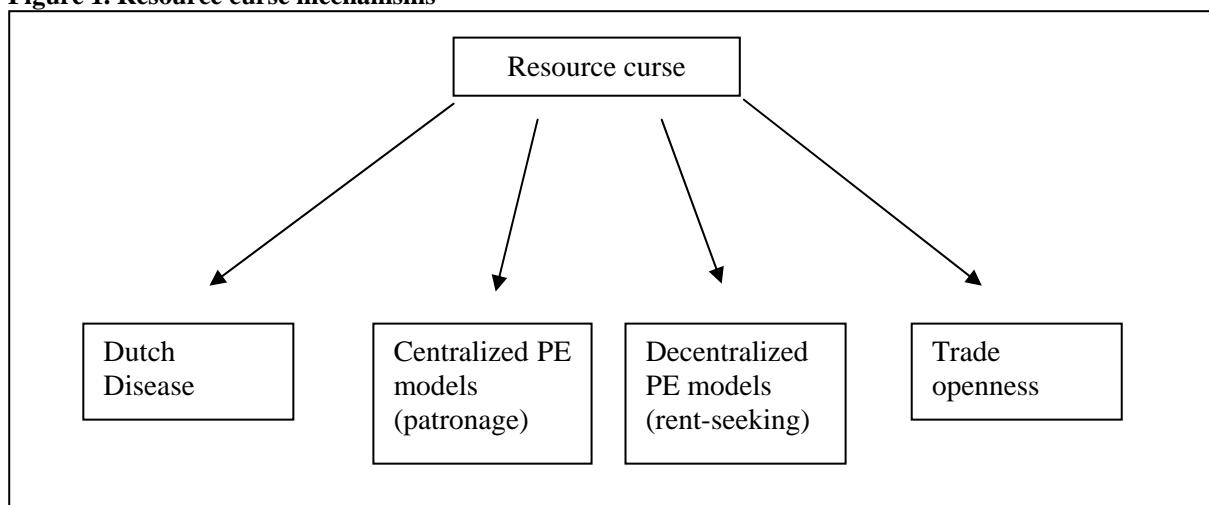
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<sup>1</sup> The authors are grateful for comments from participants at the AERC 20th Anniversary Conference on Natural Resource Management and Climate Change in Nairobi, September 2008, and at the South African Institute of International Affairs (SAIIA) conference on Governance of Africa's Natural Resources conference in Dar es Salaam, November 2008. All remaining errors and omissions are the responsibility of the authors.

## 2. Political economy models of the resource curse

A number of suggestions have been made on why countries rich in natural resources appear to perform badly in economic terms (for reviews see Torvik (2007) or van der Ploeg (2008)). However, four mechanisms have received considerable attention in explaining the resource curse, see Figure 1. These are Dutch Disease, patronage or more generally hypotheses following from centralized political economy (PE) models, rent-seeking or mechanisms suggested by decentralized PE models, and recently trade openness.

**Figure 1. Resource curse mechanisms**



Dutch Disease models explain a negative impact of natural resources as follows: Natural resource extraction increases real wages and appreciates the real exchange rate which in turn lowers competitiveness and production of the non-resource exports sector. If learning and productivity changes mainly take place in this sector, or there are externalities of these activities, long-term economic growth might be harmed (Van Wijnbergen, 1984; Sachs and Warner, 1995, 1999, 2001; Torvik, 2001, Matsuyama, 1992). The assumption of superior learning effects in manufacturing are, however, largely unproven (Sala-i-Martin and Subramanian, 2003). Moreover, Dutch Disease does not appear to explain much of the negative growth effect once other mechanisms are controlled for.

Recently, empirical evidence has been presented that the resource curse is contingent on trade openness. In other words, countries that are less open to trade, suffer a heavier negative impact of natural resources on growth (Arezki and van der Ploeg, 2008). The exact mechanism through which trade openness affects development in resource rich economies, i.e. the theory that underlies this particular hypothesis, seems less developed, however. In the following, we will focus on political economy models of the resource curse, and not give much attention to the other two potential explanations briefly presented above. There is, however, a possibility that the trade openness results are related to the political economy mechanisms, a point we will come back to.

Below, we present the characteristics and implications of centralized and decentralized political economy models of the resource curse in turn. A distinguishing feature between these models is their unit of analysis. *Centralized* models focus on the decisions of the political elite, and how these are affected by natural resources (Caselli and Collingham, 2007). *Decentralized* models, or rent-



seeking models, by contrast, analyze the incentives of private agents and the effect of resources on their allocation of effort between activities.

## 2.1 Centralized political economy models of the resource curse

Centralized political economy models of the resource curse centre on the decisions of politicians governing resource rich economies. The decision analyzed is the allocation of resources between activities of self-enrichment, and activities that increase the productive potential of the economy. According to Caselli and Cunningham (2007), an increase in natural resource revenues has two types of effects in these kinds of models: i) it increases the value of staying in power since this means controlling greater revenues, and ii) it increases the likelihood that others will challenge the government for power.

The increased value of staying in power brought about by more valuable resources can produce two types of responses from a government. One is to spend more resources on activities that secure the position of the government, i.e. that increase its political support or its chances of being re-elected. This can be done through patronage, where for instance government jobs are allocated to political supporters. Since this creates inefficiencies in the allocation of labour, it has detrimental effects on the economy. But government popularity can also be enhanced through potentially productive means, such as reducing the level of taxation. In addition, another effect of making political office more valuable is to make the planning horizon of politicians longer, which could result in a more optimal path of resource extraction (cf. Robinson et al, 2006), or more investment in other productive activities. In sum, the effect of more valuable resources on economic activity is ambiguous.

Similarly, an increased chance of having their power contested can cause several reactions from a government. One is to spend more resources on fighting or dissuading potential challengers, which can be done in unproductive ways (repression or buying off potential opponents), or productive ways (improving profitability in the private sector to give opponents valuable outside options). In addition, a higher likelihood of being challenged also means that a government's expected tenure is reduced, which reduces its planning horizon, working in the opposite direction of the above effect. An increased chance of political challenges thus also has an ambiguous effect.

Combining the two effects (more resources make political office more valuable but also more likely to be contested), Caselli and Cunningham (2007) argue that the effect of natural resources on economic development is ambiguous in centralized political economy models. In general, these models thus predict that a country can see a negative or positive effect of natural resources; a resource curse is in other words not inevitable. At least from a policy point of view, however, more interesting than this general result is what resolves the ambiguity. What makes a country experience a predominantly positive effect as opposed to a net negative effect from windfall resources? What underlying variables determine whether a country ends up benefiting from resources or not?

What these models point to is an important distinction between means of staying in power that are special and distortive, and means that are general and productive. A government can in principle cater to the special interests of a (particularly powerful) group or subset of the population, or it can act in the interest of the general population, in order to increase its power or popularity in elections. In the case of favouritism towards certain groups, negative externalities to society as a whole are likely played down, resulting in an allocation of resources (for instance in terms of public employment) that is suboptimal, as opposed to more general means where these externalities are internalized. The extent to which a government can and will underpin its position through favouritism rather than acting more in the general interest, probably depends on several factors.

Importantly, however, the institutions of a country, or the rules that govern the political game, are central in this respect.

An implication of these arguments is that countries that have *impartiality enhancing institutions*, i.e. institutions that reduce the possibility or attraction of favouritism versus acting in the general public interest, will see less of the negative effects of natural resource rents. One example of impartiality enhancing institutions are functioning institutions of democratic accountability, which curb the extent to which a government can secure its power through patronage, and hence reduce the negative impacts of resources on economic development (cf. Robinson et al 2006). This also represents a key policy implication from centralized political economy models; policy makers should pursue reform that reduces the realm of the partial, and enhances that of the impartial. Moreover, this observation ties the literature on the resource curse to recent work on governance, which stresses impartiality as a key concern, though in a somewhat different sense than here (Kurer, 2005; Rothstein and Toerell, 2008).

Centralized political economy models and the concept of impartiality enhancing institutions also make sense of some recent empirical results that address nuances in the importance of political institutions on the resource curse. Andersen and Aslaksen (2008) find that presidential democratic countries suffer a resource curse whereas parliamentary democratic countries do not, and relate this to a tendency of presidential regimes to “target powerful minorities ... at the expense of broad spending programs”.

The assumptions underlying the above discussion of effects of resources on political behaviour provides an additional angle to the question of how negative effects of rents are reduced. In patronage models, a key question is why mutual promises made by politicians and voters or political supporters are credible. Why do voters keep a promise to vote for a politician after having received a favour? Or why would politicians keep a promise of future favouritism after having received the necessary votes? Robinson et al (2006) suggest that patronage in the form of public sector employment can be credible if voters belong to distinct groups (e.g. ethnic groups) and politicians care for the welfare of their own group. It seems harder to argue that more general and productive ways of generating political support (such as lowering taxes) are equally credible. A different but related point affects general policies to improve outside options for political challengers. In many cases it would appear less costly for an incumbent government to pay off likely contenders directly, through special arrangements, than to provide general incentives to everyone, likely contenders or not.

Consistent with the previous discussion, the question is then under which conditions promises of favouritism become less credible and general promises more credible. In other words, what types of arrangements ease commitment to general policies, and complicate commitment to policies that cater to special interests? This is a version of the time inconsistency problem, where what is optimal ex ante is not optimal ex post. In principle, this type of problem can be overcome in two ways, through mechanisms that restrict the opportunity set of the policy maker, or through mechanisms that change his ex post payoffs. One way to restrict the opportunity set of government officials in this context, would be to defer decisions on tax policies and public expenditures to an independent body, with a mandate and incentives closely tied to pursuing the interests of the general population. If a possibility for such a reduction of government discretion exists or can be created, a negative impact of resource rents can be reduced.

Similarly, conditions under which the relative payoffs to government officials of keeping general promises can be increased, would facilitate a more benign outcome. Democratic accountability again plays a role here, by relating the interests of a government to those of the electorate. Importantly, however, the extent to which the democratic system is broad based likely plays a

crucial role here. For instance, a political system which facilitates the formation of broad based political parties as opposed to patrimonial or ethnically based parties, would likely be essential. The basic rules that govern the fundamental organization of the political system, are therefore of import in this relation. At a more abstract level, various kinds of futures contracts that influence the payoffs of government officials in resource rich countries, should be explored for further implications.

## 2.2 Decentralized political economy models of the resource curse

Decentralized models focus on the decisions and actions of individuals outside the power elite (Caselli and Cunningham, 2007). These models are essentially rent-seeking models, where individuals choose between using their effort, time and talent on rent extracting activities, and using them on productive activities. Resource rents generally have two opposing effects in these models. Increasing resource rents increase income, but on the other side there is a displacement effect in productive sectors since more entrepreneurs choose to become rent-seekers. This negative effect of resources will be compounded further if there are external effects of rent seeking activities or increasing returns to scale in productive sectors. In the presence of the latter conditions, the result can be more than full dissipation of the income created by rents, which implies a net negative effect of resources on income.

There is a large literature on rent-seeking models applied in the context of natural resources (see for instance Torvik (2002), Tornell and Lane (1999) and more recently studies by Hodler (2006), Wick and Bulte (2006), Dalgaard and Olsson (2008) and Bulte and Damania (2008)). A main difference between these studies is how the mechanism causing more than full rent dissipation (external effects) referred to above is modeled. It is, however, beyond the scope of this paper to review all of these models in detail.

We instead briefly present the well known Mehlum et al (2006) model as a point of departure. In this model, entrepreneurs can either be producers or rent-seekers (grabbers). In the productive sector, entrepreneurs enter a modern sector where there are positive demand externalities between producers. When one producer shifts to grabbing, this reduces the profitability of the remaining producers since the demand for their products is reduced. The opportunity cost of grabbing therefore declines as entrepreneurs switch from production to grabbing. The declining opportunity cost enlarges the displacement effect, i.e. when some entrepreneurs become grabbers more follow suit.

The equilibrium allocation of entrepreneurs between production and grabbing, is determined by the relative profitability of the two activities. The relative profitability is influenced by the quality of institutions protecting property rights (or more generally the rule of law). This gives two equilibria in the model. When institutional quality is high, the equilibrium is a production equilibrium where all entrepreneurs are producers. When the institutional quality is low, the equilibrium is a grabber equilibrium, where some entrepreneurs are producers and some grabbers. More natural resources are a pure blessing in production equilibrium while more natural resources are a net curse in a grabber equilibrium. The latter is due to the declining opportunity cost of grabbing as some entrepreneurs leave the productive sector, making the total displacement effect stronger than the immediate income effect resources represent. In sum, the initial institutions matter for which equilibrium the economy is in, which in turn influences how increasing resource income influence economic growth. The institutions in question are institutions that curb the profitability of private capture relative to productive activity, and are therefore also a form of impartiality enhancing institutions.

Mehlum et al. (2006) also present empirical evidence for their theory in cross-country regressions of GDP growth on resource abundance interacted with an index of institutions. They apply an

institutional quality index based on an un-weighted average of five indices based on data from Political Risk Services: a rule of law index, a bureaucratic quality index, a corruption in government index, a risk of expropriation index, and a government repudiation of contracts index. They find a negative impact of resources on GDP growth as in Sachs and Warner (1995), but also a significantly positive interaction effect between institutions and resources. When the quality of institutions is high enough, this interaction effect is higher than the immediate resource effect. Resources are accordingly a blessing only in countries with good institutions, or to phrase it another way, they find empirical support that the curse occurs conditionally on the quality of institutions. On the other hand, Collier and Goderis (2007) present empirical evidence that these decentralized mechanisms are less important in creating a resource curse than centralized mechanisms.<sup>2</sup>

Caselli and Cunningham (2007) present a theoretical argument against decentralized models. They argue that since these models depend on externalities for their results, they must explain why the state cannot internalize or contract around these externalities. Hence, decentralized explanations require making some assumptions about the inability or unwillingness of the state to do so, which brings us back to centralized models. They thus argue that there is no such thing as a fully decentralized model. It is unclear whether this is in fact a good argument against decentralized models, as it seems that the opposite case can also be made. Centralized models require some modeling of for instance why or when individuals choose to accept government offers of public employment over private sector employment (cf. section 2). So one could equally well argue that the centralized models depend on decentralized ones.

### 2.3 Trade and impartiality enhancing institutions

As noted earlier, a few empirical studies have found that rather than being conditional on the institutions discussed in the political economy models, the resource curse depends on trade policy. By applying newer time series and instrument variables techniques controlling for the endogenous characters of the explanatory variables, Arezki and van der Ploeg (2008) find that institutions of the type discussed above do not explain the variable experiences of resource rich countries. They instead find that the interaction term of trade openness and resources has a significant impact on the curse. They therefore claim that resource rich countries like Australia, Bolivia, Barbados, Canada, Chile, Ecuador, Indonesia, Mauritius, Malaysia, and the United States have escaped a resource curse partly to a less restrictive trade policy than other countries. It is, however, noticeable that none of these countries can be characterized as significant oil exporting countries.

That trade policy may have a direct impact on economic growth is well known in the literature (see for instance Dollar and Kraay, 2004), although the exact theoretical mechanism for this is unclear and disputed (see Rodrik et al. 2004). The general mechanisms pointed to in the literature are increased competition and the improvement of firms' productivity partly due to technology transfers, access to cheaper imports or externalities/ increasing returns to scale in exports. Similar lines of argument may also be used to suggest that open countries are able to exploit their natural resources more efficiently. However, there is so far little explicit theorizing on the link between trade policies and the impact of resources on economic development.

There is, however, a possibility that the openness to trade is not a competing explanation of variable resource experiences, but closely linked to the political economy mechanisms explored above. In a sense, general openness to trade is a kind of impartiality enhancing institution. Firstly, a more open

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<sup>2</sup> There is also a large literature on how resources influence institutions through corruption and democracy. See for instance Karl (1997), Ross (2001ab), and Dalgaard and Olsson (2008), but as shown in Collier and Goderis. (2007) the curse is not explained by the destruction of institutions but is conditioned on institutions (see Kolstad and Wiig, forthcoming for a discussion).

trade regime may mean that the profitability of private sector activities is relatively higher, making rent-seeking a less profitable alternative for entrepreneurs. And secondly, openness to trade may have an effect on democratic accountability, by creating a powerful middle class or since mobility increases the costs of inefficient redistribution. It is possible, therefore, that the results on trade do not present new mechanisms behind a resource curse, but merely an additional policy measure to address the political economy mechanisms.

### 3. Does current donor policy reflect available evidence?

The dismal performance of many resource rich developing countries, has led to a number of donor initiatives aimed at improving the situation. Among these are initiatives to increase transparency in resource rich countries, and initiatives that focus on capacity building. This section critically examines two particular initiatives supported and implemented by the donor community, the Extractive Industry Transparency Initiative (EITI), and the Norwegian Oil for Development programme. A main conclusion is that these initiatives only to a limited extent capture the implications of the scientific literature on the resource curse. Though some critical work on these initiatives has emerged (Kolstad and Wiig, forthcoming; Kolstad et al, forthcoming), they have not been systematically evaluated nor adequately scrutinized by scientists. One risks, therefore, that they remain political window dressing initiatives rather than initiatives that address the key problems resource rich countries actually face.

#### 3.1 The Extractive Industries Transparency Initiative (EITI)<sup>3</sup>

The Extractive Industries Transparency Initiative (EITI) is an initiative that supports improved governance in resource-rich countries through the verification and full publication of company payments and government revenues from oil, gas and mining. Accession to the EITI is voluntary, and 23 candidate countries have so far committed to the EITI process. To progress from being an EITI candidate to being EITI compliant, countries have to complete steps of preparation (establishing a multi-stakeholder committee and reporting procedures), disclosure (verifying company and government disclosure) and dissemination (agreeing on quality of dissemination), and finally undertake external independent validation to assess whether the country has met 20 implementation indicators. The full validation process was agreed on in March 2008, and no country has yet has time to complete an EITI validation, but only one country (Azerbaijan) is in the process of being validated. The reach of the initiative is somewhat limited; candidate countries only comprise 6.4 per cent of global oil production and 7.6 per cent of proven global oil reserves.<sup>4</sup>

While transparency is potentially important in many areas, the EITI focuses on transparency in revenue collection only. It does not address transparency in other important activities, such as procurement, nor does it cover the distribution of income and public expenditure stemming from the extractive industry revenues. The EITI provides a partial basis for accountability in the management of revenue flows from oil and other extractive industries. By comparing the payments made to governments by companies, with the payments received by governments, the revenues to governments are subjected to closer verification than would otherwise be the case. Since substantial amounts are otherwise believed to disappear in the process of collection, this is no doubt important. The EITI also underscores the importance transparency plays in governance, and represents an international standard on transparency and good governance in the area in question.

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<sup>3</sup> This section draws on Kolstad and Wiig (forthcoming).

<sup>4</sup> Information in the paragraph updated as of June 2008.

Based on the arguments presented in section 2, however, it is not immediately apparent that the EITI addresses the key challenges in resource rich countries. The EITI is an initiative that focuses on revenues from extractive industries in resource rich countries. This implies a narrow take on transparency, as only a small section of the public sector is covered. Importantly, the initiative does not address transparency in the use of public resource, i.e. the expenditure side. The expenditure side is clearly central to many of the political economy perspectives on the resource curse. Patronage politics, whereby funds or positions are transferred to supporters, is clearly about the expenditure side. The study by Robinson et al (2006) suggests that accountability in the use of public resources, is the key to avoiding the resource curse. There is, therefore, a possibility that the EITI initiative is not only narrow, but that it also gives priority to the wrong set of issues in resource rich countries.

Moreover, the EITI includes the construction of a multi-stakeholder group to participate in the validation process. While this has the potential of improving accountability and participation in revenue management, there is also a risk that the group can become another arena for rent-seeking and patronage. Though civil society is to be represented in the multi-stakeholder group, civil society is not one thing nor necessarily representative of the population. Civil society in many resource rich developing countries is also weak. Since the multi-stakeholder group is to be appointed by the government, there is a chance that it will be peopled with government supporters. Or along the lines of rentier state arguments, a government may use its power of appointment to undermine the existence of social groups independent of the government. Moreover, fractionalistic stakeholder groups may use their potential leverage in the EITI, to acquire a greater proportion of resource rents. This suggests the need for a critical analysis of the composition and behaviour of the multi-stakeholder system of the EITI, to assess the commitment of the government to real reform in the area of transparency.

There are also challenges in terms of implementation of EITI principles, which provide a bridge to the discussion in section 4 on policy challenges. EITI membership is voluntary for states and companies. This means that countries and companies may choose whether or not to accede to the initiative, and whether to wholeheartedly follow up on it if they do join. For instance, a country such as Angola has opted not to join the EITI. Whether or not a government chooses to accede to an initiative of this kind most likely depends on what it has to gain and its compliance costs by doing so. As corrupt government officials may have vested interests in not promoting transparency in their country, expanding EITI membership and implementation is likely to remain a problem. Unless membership status is linked to effective sanctioning mechanisms there is a low cost of non-accession or non-compliance with the validation criteria.

Furthermore, transparency is, in and of itself, insufficient in improving government behaviour. In the absence of accountability, whereby other groups can hold a government to account and sanction misbehaviour, it is unclear that the EITI will have much of an effect. It is, for instance, unclear that failing to meet EITI criteria will necessarily have any repercussions on a government, in countries where accountability mechanisms are weak. Moreover, in addition to accountability, the effect of the initiative will depend on the degree to which other groups are able to process the information made available, i.e. their level of education. There are also potential free-rider problems in providing highly aggregate data that affect everyone in general but no one in particular. The EITI likely needs to be coupled with other types of reform to have an effect resource rich countries. The EITI+ initiative of the World Bank may represent a step in the right direction by extending the issue of transparency to the expenditure side of the public sector.

### 3.2 The Norwegian Oil for Development programme<sup>5</sup>

Norway launched the Oil for Development programme in 2005 in an effort to coordinate and extend its petroleum-related aid. While other donors also have petroleum related aid activities, the Norwegian programme is the only one which integrates different petroleum related aid activities into one programme. It is one of the Norwegian government's areas of priority in development cooperation, with a projected budget of about USD 45.6 million in 2008, the largest recipients of which will be Sudan, East Timor and Angola. While the points raised below relate to the Norwegian programme, it should be noted that they are also relevant to petroleum-related aid from other countries (see Kolstad et al, forthcoming).

The Oil for Development programme emphasizes three "main integrated themes":<sup>6</sup> resource management, revenue management, and environmental management and control. These three main themes account for almost 90% of country allocations, with resource management being dominant and comprising more than two-thirds of this percentage. The majority of the programme's activities are directed at enhancing the capacity of government and civil service staff. This probably reflects the programme's emphasis on being demand-driven, where demand largely means government demand. Previous evaluations of Norwegian petroleum-related aid have pointed to a lack of governance activities (Ekern, 2005), which has led to more activity in this area, but these activities are still limited. Though governance is claimed to be a cross-cutting issue in the three main themes, specific activities in main cooperating countries do little to suggest that this is in fact the case.<sup>7</sup>

The priorities of the programme thus do not really reflect the policy prescriptions of the scientific literature on resources and development. The existing focus on revenue, resource, and environmental management prevalent in petroleum-related aid is too narrow and sector-specific to address overarching problems of accountability and unfavourable incentives that are at the core of the resource curse. Nor does capacity building and technical assistance per se induce positive institutional change. While such change may be difficult to induce where key players benefit from below-par arrangements, the lack of emphasis on vertical and societal modes of accountability (democratisation, support to civil society, the free press) will do little to produce the necessary reform. Unfortunately, no systematic of the political economy of recipient countries is performed - this is done only sporadically in some cases. A recent evaluation of Norwegian petroleum-related aid to four countries concludes that "the strict petro-technical capacity building in the programmes to a high extent has been successful, in particular in the 'new' petroleum producing countries. Institutional capacity development has been less successful" (Norad, 2007:5). There is also little emphasis on improving institutions for the private sector that act as an inducement to productive activities as opposed to rent-seeking.

In addition to a lack of reflection of the literature on natural resources, the programme has received criticism for promoting Norwegian strategic or interests and extrapolating Norwegian experience to developing country contexts.<sup>8</sup> Allegations can easily be made that petroleum-related aid is provided or designed to further commercial ends of donor countries with strong domestic oil industries. Limiting the influence of donor country interests in petroleum-related aid has implications for organization of these types of programmes. Moreover, policies that work well in Norway, or in another developed country, do not necessarily work well in another social and political context. Experiences from other countries at a similar development stage might be more valuable for a

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<sup>5</sup> This section draws on Kolstad et al (forthcoming).

<sup>6</sup> [http://www.norad.no/default.asp?V\\_ITEM\\_ID=10060](http://www.norad.no/default.asp?V_ITEM_ID=10060)

<sup>7</sup> [http://www.norad.no/default.asp?V\\_ITEM\\_ID=10094](http://www.norad.no/default.asp?V_ITEM_ID=10094)

<sup>8</sup> [http://search.ft.com/ftArticle?queryText=oil+curse&y=9&aje=true&nlick\\_check=1&x=12&id=060512000548&ct=0](http://search.ft.com/ftArticle?queryText=oil+curse&y=9&aje=true&nlick_check=1&x=12&id=060512000548&ct=0)

developing country than the experience from donors like Norway. There might be alternative institutions that fit better to local institutions and are more efficient.

## 4. Research and policy implications

The literature on natural resources and economic development has advanced considerable in recent years, yet is still in the making. This means that there are a number of research challenges that should be addressed, it also means that it can be difficult to draw precise policy implications. In this section we discuss a selection of research issues that need to be addressed, and the policy implications that can be drawn from currently available political economy models of the resource curse. We also address some important issues in terms of tying research to policy.

### 4.1 Resources, rents and measurement

The seminal paper by Sachs and Warner, entitled “Natural Resource Abundance and Economic Growth”, was the first to present empirical evidence that resources reduce growth (Sachs and Warner, 1995). Sachs and Warner used the share of exports of primary products in GNP as their proxy for natural resource abundance, and found it to be negatively related to economic growth. Following this result, a number of studies have argued that this proxy does not really capture resource abundance, and that other measures such as reserves or production should be used instead. Indeed, Stijns (2005) shows that using reserve and production data on resources, rather than export shares, yields no effect of natural resources on growth. Brunnschweiler (2008) employs an index of natural wealth per capita, and finds a positive relationship between resource abundance and growth. A number of different proxies have been employed to date with different results, making some refer to the resource curse as “missing” or “elusive” (Lederman and Maloney, 2008) or “a red herring” (Brunnschweiler and Bulte, 2008).

But are these studies that focus on measurement asking the right question? Is the question whether natural resource *abundance* leads to reduced growth or not? There appears to be an eerie disconnect between theories of the resource curse and the measures used to test empirically for a curse. The key theories of the resource curse outlined above, basically state that it is the revenues or *rents* natural resources give rise to that may cause problems rather than natural resources in themselves. Even in the Dutch Disease framework, the focus is on how rents from the natural resource sector make other sectors contract. And in the political economy models, it is appropriable rents that cause problems in terms of patronage or rent-seeking. Measures of resource abundance, say how much resources there are in the ground, need not be a good proxy for the rents those resources actually give rise to. Even abundance measures based on net present value of resources need not be good proxies, if agents are more preoccupied with current rents, due for instance to credit constraints and short horizons. It appears that the resource abundance term in title of the Sachs and Warner paper may have put the subsequent literature on the wrong track.

Empirical studies should instead focus testing the mechanisms proposed by the theoretical literature on resources and development. One way to proceed is to pretend the empirical literature does not exist, start from theory, and ask which is the proxy that best reflects the hypothesis in question. This depends on the particular mechanism in question. As argued above, proxies used to test Dutch Disease or political economy hypotheses should reflect rents rather than physical abundance. Given the fact that (appropriable) rents may also stem from other sources than natural resources, consideration may be given to including other types of rents as well. Another important point emphasized by Nilsson (2008), is that measures of rents reflect not only revenues but also costs of production, which can differ substantially.



## 4.2 What constitutes a resource curse?

A central tendency in both theoretical and empirical work on natural resources and development, has been to explore whether negative effects of resource rents more than outweigh the direct positive effect that resource revenues in themselves represent. For instance, rent-seeking models have to a great extent stressed the analysis of conditions under which output reductions in the productive sector more than fully dissipate the extra income that resource revenues bring. Moreover, the empirical literature tends to look for a negative aggregate or average effect of resources on economic development. Existing studies, both theoretical and empirical, thus focus on whether or not resources have a *net* negative effect on economic development.

Again, one can ask whether this is the right question to pose? What if future empirical studies should show overwhelmingly that there is no negative net effect of resources on economic development? Does this mean that resource rich countries are unimportant as an object of scientific study or do not present particular problems for policy to address? Clearly, if the net effect of resources is not negative, this reduces the urgency of the issue, and it may imply that resource rich countries should receive relatively less attention or priority than other countries compared to the case where the net effect of resources were negative. But does this necessarily mean that resource rich countries merit no attention or no priority at all? Obviously not, as there may still be negative effects inherently linked to natural resources, even though there are also positive effects that outweigh them. Even if the net effect of resources were positive, there may be disaggregate negative effects (such as from patronage or rent-seeking) that are a drag on the net outcome. In other words, resource rich countries could then perform even better if these disaggregate negative effects could be understood and addressed.

In sum, net effects are not a complete guide for research and policy priorities, individual mechanisms and effects should also be explored. The question that ought to motivate research into resources and development is not solely: Would countries have been better off without resources? The point of departure should rather be: Could resource rich countries be better off than they are, and is this related to their resources? This requires an in-depth analysis of the countervailing effects in political economy models of the resource curse, and identification of variables or measures that increase advantageous effects and reduce negative ones, such as the impartiality enhancing institutions discussed earlier. It may also require a different approach to empirical studies of natural resources and development.

## 4.3 Institutions and implications for policy and research

As elaborated on in section 2, institutions are a key variable in mediating the effect of natural resource rents on development. Institutions constitute rules of the game which influence the positive and negative effects of resource rents and their relative dominance, in both centralised and decentralised political economy models of the resource curse. As argued earlier, impartiality enhancing institutions are important in this respect, since they curb possibilities for private, costly appropriation of rents, and increase the attractiveness of alternative productive actions. In centralized and decentralized models, respectively, institutions of public accountability restrict the possibilities of capture by government officials while institutions facilitating private sector efficiency reduce the rewards of private capture.

Institutions are however a very broad concept, and need to be further unbundled for precise policy analyses. The argument that institutions of democratic accountability are important to curb patronage (Robinson et al 2006) has been empirically supported by Damania and Bulte (2003), and further specified in the important contribution of Andersen and Aslaksen (2008), which finds that the form of democracy may be more important than democracy in itself. Specifically, they find that

presidential regimes suffer from the resource curse but parliamentary regimes do not, which they relate to a tendency of presidential regimes to target powerful minorities in their spending. Similarly, Mehlum et al (2006) present empirical evidence for the importance of institutions promoting private sector profitability. The institutional index used in their analysis is, however, a composite one, consisting of a rule of law index, a bureaucratic quality index, a corruption in government index, a risk of expropriation index, and a government repudiation of contracts index. The composite or aggregate approach of empirical studies does not permit us to distinguish between different categories of institutions, and thus draw more precise policy conclusion.

More research is therefore needed to look into the details of the institutional design, to find the institutions most critical for alleviating a resource curse. We need to know more about what precisely needs to be done, and where to start. On the latter question of the relative importance of various mechanisms in causing a resource curse, some work has been conducted, albeit still at a fairly aggregate level. Collier and Goderis (2007) present results that indicate that centralized explanations (and hence corresponding institutions) may be more important in relation to a resource curse, than decentralized mechanisms. On the other hand, Kolstad (forthcoming) present results that point in the opposite direction, that institutions promoting profitability in the private sector may be more important than democratic accountability.

In unbundling institutions, Acemoglu and Johnson (2005) distinguish between property rights institutions (which protect citizens against expropriation by the government and powerful elites) and contracting institutions (which enable private contracts between citizens, reducing transaction costs in enforcing contracts). Contracting institutions regulate contracts between private agents, while property rights institutions regulate the relationship between the state or the politicians and the private citizens. As we have argued elsewhere, there is an overlap between these types of institutions (Kolstad et al., forthcoming), which does not make it all that useful in addressing the issues raised here. Hence, although we know at an aggregate level that the focus of domestic and international policy towards resource-rich countries should be on improving institutions, and in other ways reducing opportunities and incentives for rent-seeking and patronage, we need to know more about which specific institutions at a detailed level to support. This should be an important priority of research into natural resources and development in the near future. This included analyzing the question of whether policies that are important in one context and one country, also apply in other contexts and countries.

#### 4.4 Institutional change

Even if we knew at a detailed level which institutions are important to focus on, institutions are long-lived and hard to change (Stevens and Dietsche, 2008). Improving the institutional environment is particularly difficult where key players benefit from dysfunctional institutions. It is unlikely that corrupt government officials would support or implement reform significantly reducing their own powers of appropriation. The existing focus of donor support on capacity building, horizontal accountability, technical assistance and macro-economic management is hence unlikely to create the required institutional change in resource-rich countries. Institutions are unlikely to be altered through capacity building alone, particularly in the absence of vertical or societal accountability (Kolstad et al, forthcoming). In many cases, donors' lack information about the political and economic context of the country they are working in impairs the effectiveness of donor initiatives.

There is, however, potentially a distinction between institutions that address centralized and decentralized mechanisms. Institutions that promote the attractiveness of the private sector (including trade policy) amount to a carrot whereas institutions of democratic accountability amount to a stick. In one sense, it may therefore be easier to improve institutions that address rent-seeking

problems, as the challenge to vested interest may be less direct. Nevertheless, substantially more research is required on how to effectively promote institutional change in resource rich countries (and elsewhere). On this point, we part ways with Stevens and Dietche (2008), who argue that the study of institution and institutional change cannot be done with econometrics. As with other analysis, it should not be done through econometrics alone, but there is no inherent reason why institutional change cannot be fruitfully analyzed by means of econometric methods, using institutional variables as the dependent variable.

## 5. Concluding remarks

The scientific literature on natural resources and development has advanced considerably in recent years. And political economy models have added substantially to our understanding of the resource curse, both theoretically and empirically. This paper has stressed that a key implication of the political economy models is that improving the impact of natural resources implies a focus on impartiality enhancing institutions, i.e. institutions that reduce the possibility or attraction of favouritism versus acting in the general public interest. Current donor initiatives aimed at curbing the resource curse only to a limited extent capture the central implications from political economy models, however. And more work is also needed to identify more specifically what the broad implications of theory mean in terms of particular institutions, and how these are to be changed. To make progress on these issues, it is important that we ask the right questions, and change tracks where previous work has put us on the wrong one.

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## SUMMARY

A number of studies suggest that natural resources can have a negative impact on the developing prospects of countries. This paper reviews political economy models of the resource curse, and draws implications of these models in terms of policy and research priorities. The term impartiality enhancing institutions is introduced to distinguish conditions under which negative effects of resources can be mitigated. The paper further examines current donor policies vis-à-vis resource rich countries, and argues that these policies only to a limited extent reflect the implications of the resource curse literature. Moreover, the paper suggests that the prevalent focus of resource curse studies on resource abundance rather than rents, and on net effects of resources, has put us on the wrong track. Finally, more work is needed to identify more precise policy implications in terms of required institutions and their reform.

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