

Slackening growth, fuelling politics:
introducing the resource curse

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1) Introduction

Resource curse is the name given to a phenomenon detected and investigated by a set of studies analysing the negative relationship between natural resources and several aspects of the life of a country. It has been given various names, none of which has positive connotations: paradox, curse, King Midas' problem. A substantial body of empirical evidence demonstrates, against common sense, that natural resources tend to hinder rather than promote economic growth, and might have a negative impact on the political stability of a country. This article is an introduction to the study of the resource curse. In order to discuss the field I will first present its main features. The focus will be on the possible impact of these studies on public opinion and policy making. Then I will present some contributions to the study of the resource curse. In doing this, I will mainly relay on the exposition of Andrew Rosser (2006), whose paper constitutes a map for students wishing to approach the subject. Other papers will be presented in order to achieve a wider spectrum. Particular attention is given to the relation between natural resources and economic growth. I will present and review critiques of the Resource Curse hypothesis. I will also try to discuss the role of knowledge and innovation in understanding the resource curse. In the conclusions, some questions about how to deal with natural resources and politics will be raised.

2) What is the resource curse and why is it worth studying.

Before discussing what the resource curse is, it may be helpful to clarify what it is not. Terry Linn Karl gives a particularly effective and short definition of what the resource curse is not. The passage is an excerpt from Karl (in Tsalik, S. and Schriffin, 2005):

“The resource curse is not a claim that natural resource abundance is always or inevitably bad for economic growth or development, as some believe (...). The resource curse does not refer to the mere possession of petroleum or other minerals, but rather to countries that

are overwhelmingly dependent on oil revenues. (...) Nor is the resource curse a claim that oil and mineral exporters would be better off with smaller endowments of natural resources (...). Oil is simply a black viscous substance that can be beneficial or detrimental: what matters most is not the (...) how the wealth generated by petroleum is shared and utilized.”

This short passage touches some findings of the literature, and fights some assumptions. However, the resource curse hypothesis has been applied to more than economic growth. In his review, Andrew Rosser proposes the division of the literature on the resource curse in three sub-literatures: one focusing on economic growth; one studying the linkages between resources and civil war; and finally the study of issues related to polity and regimes. A more comprehensive definition could then be the following: the general term resource curse is used to denote *the hypothesis and empirical study of an inverse relationship between natural resource dependence and several aspects of the life of a country.*

The claim that natural resources tend to have undesirable consequences is worth studying for several reasons. At the country level, resource curse theories may generate misled and inefficient economic policies. Second, at the international level, resource curse may also lead to agreements which could worsen the situation rather than improve it. Third, arguing that natural resources are bad to countries in a variety of way may reduce or even oppose the interest in research in areas more closely linked to primary sector. In the worst scenario, this may in turn bring pauperisation and even atrophy of investments in R&D applied to primary sectors, something that could bring the hindering of good outcomes even further. Rosser (cit: 7) points out how important organisations as the World Bank, the IMF and various NGOs have already taken for granted the existence of a resource curse. It is not difficult then to imagine how malicious opinion makers or politicians may abuse the words written by Nobel laureate Joseph D. Stiglitz in *Covering Oil: Writing the very first pages about macroeconomic policies*

for oil producing countries, Stiglitz states: “If a country is unable to use the funds well, it may be preferable to leave the resources in the ground, increasing in value as resources become scarcer and prices increase” (Stiglitz, in Tsalik, S. and Schriffin, A., 2005), and “A military dictatorship might use the country’s resource wealth to repress its population and to purchase arms to fund its favourite wars, so its people may actually be worse off than they would be if the country did not have the resources” (*Ibidem*). Finally he states that “the extraction of resources lowers the wealth of a country” (*Ibidem*), what may sound as an alarming truth. Indeed, these claims add little to our knowledge of the possible bad uses of economic and political power. Moreover, it is an excerpt from a paragraph where the matters are treated in their complexity, and not in this oversimplified way. However, it would not be surprising to find exactly these few propositions reported in a newspaper article or in the speech of a politician.

3) The literature on the resource curse at a glance.

The fact that resource-rich countries have underperformed both in terms of expected growth and compared with resource-poor countries, argue Jeffrey Sachs and Andrew Warner in their influential paper written in 1995, is not contemporary history. For example, in the seventeenth century, The Netherlands overtook resource-rich Spain, while “in the past thirty years, the world’s star performers have been the resource-poor Newly Industrializing Economies (NIEs) of East Asia” (Sachs and Warner, cit.:2). The authors claim that their paper is the first to have “confirmed the adverse effects of resource abundance on growth on the basis of a worldwide, comparative study” (Sachs and Warner, cit.: 3). Resource dependence is measured as the share of primary exports on GDP, while growth is measured as per capita income (*Ibidem*, 6). Their work is often referred to as a starting point for research on the resource curse. Using the same kind of quantitative techniques and large datasets, other scholars came to comparable results. Richard Auty found in 2001 that the per capita incomes of resource poor-

countries grew two to three times faster than those of resource abundant countries between 1960 and 1990 (cit. in Rosser, 2006). In 2004 Eric Neumayer argued that GDP is an erroneous measure of income for resource-intensive economies and raised the problem that GDP counts natural and other capital depreciation; he corrected the measure for depreciation thus arriving to a genuine income, again finding evidence of a resource curse (Neumayer, 2004). Other contributions have pointed out negative effects regarding, above all, export diversification, inflation, greater technological and wage dualism, corruption, high unemployment, high external indebtedness, and high export earnings instability (Rosser, cit). In addition, savings rates appear generally to be lower in resource-abundant countries than in resource-poor countries. Ross found that mineral wealth is associated with higher poverty and low human development levels (Ross, unpublished, 2003; in Rosser, cit.).

Even though the resource curse hypothesis is mainly attributed to the literature on economic growth, a series of papers suggests that natural resource abundance is associated with civil war. Paul Collier and Anke Hoeffler, investigated in a 1998 paper “whether civil wars have economic causes” (Collier and Hoeffler, 1998:1). Using a rational actor perspective, they make the assumption that civil wars are linked to natural resource dependence measured with the Sachs and Warner proxy, i.e. the ratio of primary exports to GDP. A strong, non-monotonic relationship between resources and civil war is claimed to be found: “Initially, increased natural resources increase the risk of war. We interpret this as being due to the taxable base of the economy constituting an attraction for rebels wishing to capture the state. However, at a high level, natural resources start to reduce the risk of war. We interpret this as being due to the enhanced financial capacity of the government, and hence its ability to defend itself through military expenditure, gradually coming to dominate” (Collier and Hoeffler cit.:9). A subsequent study which uses an improved version of their data set (Collier and Hoeffler 2000) confirms the results. In a study made in 2002, the same authors find

that secessionist wars are three times more likely to occur than non secessionist ones (cit. in Rosser 2006), a result consistent with the initial hypothesis that rebellions are started with the intention to either win the state or to secede from it, and that “the incentive for rebellion is the product of the probability of victory and its consequences” (Collier and Hoeffler, 1998:1), where consequences include taking control of natural resources. On the possible correlation between natural resource endowment and peace-building activities and the duration of civil war, Ross (2004:8) notes: “Since wars are generally lengthened when peace building efforts fail, their findings imply that primary commodity exports tend to increase war duration”. Ross (cit: 26) also refers to other studies which investigated the relationship between resource – related issues and civil conflicts: “Many studies tie at least one of these phenomena to the incidence of civil war: either slow economic growth (Collier and Hoeffler 2002a; Elbadawi and Sambanis 2002), high poverty rates (Collier and Hoeffler 2002a), regime type (de Nardo 1985; Muller and Weede 1990; Hegre et al. 2001), or somewhat obliquely, corruption (Reno 1995; Fearon and Laitin 2003; Le Billon 2003)”. In the branch of the literature linking resources to economic growth, many of those phenomena have recurrently been indicated either as effects of the resource curse (as reported above), or as intervening variables that have a major part in slackening development.

Finally, some scholars have examined the relationship between resources and regime type. A starting point is Wantchekon (1999): the article examines data from a large number of countries in forty years (1950-1990), and notices that “natural resource dependence and rentier economies tend to generate authoritarian governments and socio-political instability” (*Ibidem*: 2), adding that this empirical observation regards especially Africa. An astonishing result is that a one percent increase in resource dependence (measured with the Sachs and Warner proxy), increases the probability of authoritarianism by nearly 8%. Exceptions are Norway, Venezuela and Botswana. (*Ibidem*). The same claims were made in a later paper written by

Jensen and Wantchekon (2004), focusing on African regimes. Putting the clear question in his paper “Does oil hinder democracy”, Ross (2001) found that a state’s reliance on oil exports does tend to make it less democratic, both in the Middle East and elsewhere.

Many researchers have tried to explain why natural resources seem to be accompanied by bad performance. In Sachs and Warner (1995), it is possible to individuate six possible explanations. The relationship could be purely spurious or due to failing or missing values. An alternative approach is individuated in a social problem: easy riches promote lazy management. Another case may be that promoted by the field of political economy (Lane and Tornell, 1995; Gelb, 1988; Auty, 1990, all discussed in Sachs and Warner, cit:4). According to these authors, resource booms promote rent-seeking behaviours which in turn lead to the creation of factional fights for the control over resources. The fifth hypothesis is that world prices of primary commodities tend to decline (Prebisch, 1950; in Sachs and Warner, cit), and the resource curse would then be an automatic effect of this tendency. Finally, the hypothesis on which also Sachs and Warner rely is that the division of labour is lacking or too simple in resource-based economies, thus hindering the creation of forward and backward linkages between the primary sector and other sectors of the economy. Hirschman (1958) suggested that this happened because multinational enterprises in the sector tended to repatriate profits rather than reinvest them in the local economy (Sachs and Warner 1995:5, Rosser, 2006:14). A formalisation of this approach is found in van Wijnbergen (1984), and Matsuyama (1992), the latter extended “in a more realistic and general setting, using the framework of the Dutch disease model” by Sachs and Warner (cit:6). In this model, what harms the economies are purely economic forces. However, this explanation seems to be progressively losing credit among scholars. Rosser reports that “both economists and political scientists have agreed that the immediate cause of poor economic performance in resource abundant countries has been poor economic management” (Rosser, 2006:14). Recently,

a series of papers written by Norwegian economists give support to this thesis (Torvik, R. Melhum, H. Moene, K. O., 2006a,b; Torvik, R. and Alsaksen, S., forthcoming; Robinson, J. A. Torvik, R. Verdier, T., 2006).

4) To curse or not to curse? This may not be a problem.

Critics of the resource curse hypothesis claims that both theories and measures used by researchers can lead to false results. First, some authors have noticed that measuring resource abundance (or dependency) in different ways leads to different results. As we have seen above, many scholars used the Sachs and Warner proxy. It is not straightforward that this measure should be the best to measure natural resource abundance, or dependency.

Writing about the relationship between resource wealth and civil war, Cramer (2002) goes as far as defining Collier and Hoeffler's findings as the results of "proxy wars", meaning that the choice of the variables itself determines the outcome of analysis (*Ibidem*, 1850 ff.) and therefore raising questions of content validity. A more mildly inclined Ross (2004:7) points to the divergence experienced by researchers, dependent on the different databases used when trying to replicating Collier and Hoeffler's results. Ross (cit.:6) also underlines that "efforts by other scholars to replicate the primary commodities-civil war correlation have often failed, and suggest that one reason may be that the "primary commodities" variable is excessively broad, as it includes a wide range of raw materials, some of which may be uncorrelated with conflict", pointing out that oil is linked to civil war. The study of the resource curse should thus be based upon a discrimination of primary commodities. Rosser (Cit.), reports that several researchers have stressed the difference between point source (i.e. concentrated) and diffuse natural resources. These claims are consistent with Ross' (2001) claims that oil wealth influences regime type, but the results are different in regard to civil war. The main conclusions in Ross (2004) are that oil (point source resource) influences the onset on civil war, while the duration is influenced by "lootable" resources as diamonds and drugs.

He also notices that agricultural commodities are not linked to civil war. Some limited evidence (Davis 1995, cit. in Rosser 2006:12) points to a beneficial effect of natural resource wealth on development performance, measured by a variety of parameters as GNP per capita, infant mortality, life expectancy, calories supply per capita and United Nations' HDI. Rosser points to another problem related to the analysis of the resource curse: the direction of causation is rarely illustrated in an unequivocal way. On the contrary, it tends to be quite ambiguous. Is the resource curse a symptom of underdevelopment rather than the cause? Finally, there is a certain probability that not all the variables have been taken into account. Generally, it seems that the position of Rosser (2006) is sound: he points out that despite the existence of strong evidence supporting the resource curse hypothesis, it is not conclusive. However, a better look at some problems related to the economic tradition may help understanding the problem. While the resource curse hypothesis seems to be gripping the large audience, and many international organisations, it has been exposed to critique by many scholars, both from the empirical and theoretical front. Empirically, the critique is generally directed against the operationalisation of concept, the choice of measures, and the data set used. The short review above has introduced some of those issues. Osmel Manzano and Roberto Rigobon (2001), starting from two econometric weaknesses found in Sachs and Warner (cit.), find that the resource curse appears to be a debt overhang when the model is corrected for those issues. More precisely, they argue that both GDP measures and the cross-country design, may have had an impact on regression coefficient estimates. Moreover, total GDP includes the resource sector, which affects total growth especially when the share of primary exports is high. Their analysis corrects for these issues, and confronts the cross-country data with panel data of the same period, finding that the relationship is no longer significant. Their explanation is that Sachs and Warner's findings may be due to omitted variable biases. Moreover, they find that both degree of development and quality

of institutions explain very little of the cross sectional results. A possible explanation is that the countries that scored bad in the analysis took advantage of “high commodity prices on the 70’s to use them as implicit collateral and found themselves on a debt overhang when commodity prices fell in the 80’s [...] Our reading of the evidence is that the curse of natural resources is not due to the particular aspect of excessively depending on natural resources what slows down the growth rates. It is the interaction between credit markets and a collateralizable good that is experiencing a bubble, what causes the problems in the end.” (Manzano and Rigobon, cit. 26).

From the theoretical point of view, the economic literature on the resource curse has been attacked on the basis of the role that knowledge and technological change in the resource sector has for economic growth. Sachs and Warner (1995) based their analysis on a theoretical model of economic growth derived by Romer’s seminal work in 1986 (see Valdés, 1999:104). Sachs and Warner (1995) assume that the primary sector does not contribute to the creation of technology in the same way as other sectors do. Czelusta (2001:2) comments this choice in the following way: “The results of some theoretical models are driven entirely by the bald assumption that resource industries neither add nor gain from a country’s accumulation of knowledge”. In a series of papers, Czelusta (2001) and Wright and Czelusta (2002 and 2003), subject the resource curse hypothesis to critical scrutiny. Their analysis is based on a set of considerations, reflected also by other critics (see above): first, minerals (and fuels in particular) cannot be treated as agricultural resources. Second, “endowment”, “abundance”, “wealth” and so on are highly misleading terms. The amount of natural resources is not fixed in the common sense of the term: resources have been progressively extended through exploration, technological progress and knowledge. The mineral sector (especially the energy branch) develops a high-tech industry. The statement of Adelman (1993), that what is in the ground has little to do with the production of fuels, is perfectly consistent with this assumption. “The impact of

technology on production of natural resources is forcefully illustrated by the development of new methods of exploration, extraction and refining” (Czelusta, 2001:2). A certain number of historical examples of how the creation of new knowledge in primary industry led to successful development strengthen this point of view, while the assumption that the primary sector influences the production of knowledge and the technological progress, and that this relationship is mutual, weakens the results of the paper of Sachs and Warner decisively.

5) Conclusions and suggestions

This article is meant as an invitation to the study of the resource curse. It is important to notice that while some evidence of a resource curse seems to exist, it depends upon a number of factors, and it is not conclusive. The economic model used to study the central link between resources and development, gives different results and seems sometimes to lead the analysis to a big nought. In addition, the outcome seems to depend from what is included in the term “natural resources”. Fuels and minerals are something else than agriculture and land, and their study requires a particular focus.

Some unaddressed questions could make the field less obscure: for example, not many researchers have studied how external forces may intervene in the resource curse. Looking at the countries only within its fragile borders restricts the viewing angle. Perhaps it may even provoke a loss of important or decisive information. Fuel industry, especially oil, is strongly related to the international market as well as political relations between countries. While states sell their goods to economic actors and foreign firms, other factors impact whether the oil fields may be developed or not, and how the oil can be transported, which borders it can traverse and so on. Further analysis of the relations between natural resources and other variables should include these considerations. The analysis of security policy, international relations and international energy policy would gain from this kind of contributions. Reciprocally, resource curse theories may be positively affected by insights in global issues. But, in

order to do this, it may be useful to cite Ross (2004:29), in addressing scholars interested in the civil war problem: “If scholars wish to produce research that contributes to better policies, they must think carefully about testing their ideas; sharing data; speaking a common conceptual language; and drawing together the findings of disparate research projects – both qualitative and quantitative – that cast light on the determinants of civil war”. This advice should be applied to all the studies related to the resource curse. As a merging of political science, economy, perhaps history and other fields is required by the complexity of the field, a particular care is to be used.

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