

# The Constitutional Channels of the Resource Curse

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## Abstract

Recent work on the so-called resource curse has focused on the importance of the interaction between institutional quality and resource abundance. The combination of low-quality institutions and easily appropriable resources (such as oil and minerals) tend to be particularly bad for economic development. On the other hand, if institutions are good these same resources contribute more to economic growth than other types of natural wealth. While certainly pointing in the right direction this strand of literature leaves some open questions. First, it is vague on the precise channels through which institutional quality operates. Second, the empirical measures of institutions are often composite measures that arguably include measures of institutional outcomes rather than durable “rules of the game”. Using data for the period 1970-2003, this paper study the extent to which combinations of resource-types and constitutional setup determine the degree of appropriative activity in a country. Our results show that parliamentary regimes and majoritarian electoral systems are associated with less (or no) resource curse-effect than are presidential and proportional electoral systems. These effects are particularly strong in countries having much ores, metals and fuels.

*Keywords:* natural resources, constitutions, cross-country data

## Introduction

In a seminal paper Jeffrey Sachs and Andrew Warner (1995) found that natural resource abundance has, on average, been harmful for a country’s economic development. While history and common sense tell us that this should not be the case, growth statistics over the recent past indicate differently. In the last decades of the 20<sup>th</sup> century, natural resource-poor countries like Thailand, Singapore,

and Taiwan have experienced sustained levels of development, while resource abundant countries like Nigeria, Ecuador and Indonesia have not scored as well in terms of economic growth.

In order for a country to be cursed by resources, two characteristics were soon shown to be important: type of resources and institutional quality. Regarding type of resources, some natural resources have been shown to be potentially more problematic than others – see Auty (1997), Woolcock et al (2001) and Isham et al (2005). More precisely, the more valuable the resource is and the easier it is to extract – that is the more *appropriable* the resource is – the more interesting it is for different groups to get control over the resource. This can lead to increases in corruption and rent-seeking or even outright conflicts – see Collier and Hoeffler (1998, 2004), Lane and Tornell (1999) and Torvik (2002). However, it is *not* the case that certain types of resources deterministically lead to economic havoc. Rather, the economic effect of natural resource dependence depends on the quality of institutions in a country, as suggested by e.g. Mehlum et al (2006). The better are institutions, the less likely it is that a country is cursed by their natural resource abundance. Boschini, Pettersson and Roine (2007) have shown that it is indeed the interplay of types of natural resources and institutional quality that determines the economic impact of having plenty of resources.

This paper takes a step further in understanding the mechanisms behind the so called resource curse by using novel institutional measures. In fact, one criticism that has been raised against previous studies is that they to some extent suffer from the fact that institutions not only influence economic growth, but are also determined by it. This dual causality between institutional quality and economic development make it difficult to separate the effect of institutional quality on growth from that of a generally underdeveloped economy. The idea here is to exploit countries' constitutional features. Constitutions have undoubtedly the advantage over other institutional measures – as will be discussed below – of being more stable over time. Moreover, there are predictions from political science as well as political economics regarding their effects on for example rent-seeking and corruption. So far, constitutional measures have only been used in Andersen and Aslaksen (2007); they however use an aggregate measure of resource dependence, namely the share of primary exports in GDP, and a short sample period.

In this study we investigate the constitutional channels of the resource curse in a sample of 54 democracies over the period 1970 to 2003. On the one hand, we divide countries according to their form of government (presidential or parliamentary) and electoral system (majoritarian or proportional). On the other hand, we distinguish between different types of resources, namely agricultural produces,

ores and metals, and fuels. The predictions are that, after controlling for other factors, countries with more appropriable natural resources and constitutional features that keep corruption to a minimum (parliamentary systems and majoritarian electoral rules), have a higher GDP per capita growth than countries with alternative constitutional features and highly appropriable resources.

### Using constitutions to measure institutions

Most institutional measures that are used in the economics literature can be criticized for being “outcome measures” rather than indicators of “the rules of the game” (e.g. Glaeser *et al*, 2004). An “outcome measure” of institutional quality means that the assessed quality of the institution in question depends on performance. For example, the often used variable *risk of expropriation* is determined on the basis of past events of expropriations. This is clearly unsatisfactory as a measure of the *rules* surrounding expropriation. Thus, it is important to search for institutional measures that are “rule-based”, that is are defined *ex ante* and are relatively stable over time. Both these criteria are fulfilled by constitutions.

A country’s constitution defines citizens’ fundamental rights as well as establishes structure, procedures, powers and duties of a government. We will focus on two important aspects regulated in constitutions, namely a country’s form of government and its type of electoral system. There are two main forms of government, presidential regimes where the citizens directly elect the top executive and parliamentary regimes where an elected parliament elects the government. Here we use the classification of forms of government from Persson and Tabellini (2003, p. 97). They define a parliamentary system as a system in which the government can be discharged by the legislature by a vote of no-confidence. Correspondingly, a presidential system is defined as one in which the executive is independent of legislative support once elected. There are also two basic forms of electoral rules: proportional (seats in the legislative assembly are assigned in proportion to electoral votes) and majoritarian (in its extreme expression the party with most votes obtains all the seats in the assembly).

What makes constitutional features particularly interesting as measures of institutional quality is that different rules have been shown to have different policy implications. More precisely, Kunicova and Rose-Ackerman (2005) suggest that proportional electoral rules are more prone to rent-seeking and corruption than majoritarian rules. Furthermore, Gerring and Thacker (2004) and Kunicova and Rose-Ackerman (2005) argue that presidential systems have higher levels of corruption than parliamentary systems.<sup>1</sup> According to their theory we should expect natural resources-dependent democracies with proportional rule to be more

negatively affected by resources than majoritarian countries, especially if they have highly appropriable resources like oil, ores or metals. Also, presidential systems should have a negative effect in comparison with parliamentary systems.

### Empirical specification and data

Our empirical test attempts to explain differences in the growth of GDP per capita between democracies (autocracies either do not have or do not apply a constitution). Our growth regression spans the period 1970 to 2003 and uses as explanatory factors differences in constitutional features and natural resource dependence together with a number of control variables (other factors important for differences in growth). Our basic specification can be written as:

$$growth_i = X_i' \alpha + \beta_1 NR_i + \beta_2 Const_i + \beta_3 (NR_i \times Const_i) + \varepsilon_i$$

where *growth* is the average yearly growth rate of GDP between 1970 and 2003, *X* is a vector of controls (GDP per capita in 1970, trade openness and investment ratio, dummy variables for Sub-Saharan Africa and Latin America respectively and a constant) all taken from Penn World Tables, Mark 6.1. *NR* is a measure of natural resource dependence; more specifically we have four different measures of natural resources, the share of agricultural goods and foods as share of GDP (*agri & food*), the share of ores and metals in GDP (*ores & metals*), the share of fuels in GDP (*fuels*), and the share of ores, metals and fuels in GDP (*oil & metals*), all taken from the World Development Indicators. *Const* is a dummy variable (a variable taking the value one or zero) for, in turn, one of the two constitutional dimension we are interested in: it either takes the value one if the country in question is a presidential system, *PRES* (and hence the value zero for parliamentary system) or it takes the value one if the country has a majoritarian electoral rule, *MAJ* (countries with proportional rule then have a zero). The 54

Table 1. Sample according to constitutional characteristics

		Form of government	
		Presidential	Parliamentary
Electoral rule	Majoritarian	Chile, Cyprus, Gambia, Philippines, South Korea, United States	Australia, Botswana, Canada, France, Ghana, India, Jamaica, Japan, Malaysia, New Zealand, Sierra Leone, South Africa, Sri Lanka, Thailand, Trinidad & Tobago, United Kingdom
	Proportional	Argentina, Bolivia, Brazil, Colombia, Costa Rica, Dominican Rep, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Paraguay, Peru, Switzerland, Uruguay, Venezuela	Austria, Belgium, Denmark, Finland, Germany, Greece, Iceland, Ireland, Israel, Italy, Netherlands, Norway, Sweden, Turkey

democracies in the sample (limited due to data availability) are listed in Table 1 according to these two constitutional characteristics. *NR* times *Const* is the interaction between natural resources and constitutional features.

This regression equation has the advantage of capturing our basic idea: it is the interaction of type of resource and constitutional features that matter. We expect  $\beta_1$  (the regression coefficient of natural resources) to be all the more negative, the more appropriate the resource.  $\beta_2$  should be negative if the country is a presidential system according to Gerring and Thacker (2004) and Kunicova and Rose-Ackerman (2005) and positive if it has a majoritarian electoral rule. The interaction term  $\beta_3$  should be positive (and larger than  $\beta_1$ ) if the constitutional feature keeps corruption low, that is if the country has an majoritarian electoral systems and/or a parliamentary system.

### Our results

Our results are reported in Table 2. Columns (1) and (2) show the estimation of our regression equation when the constitutional feature we control for (*institution*) is presidential versus parliamentary system (*PRES*); columns (3) and (4) do the same thing but for majoritarian versus non-majoritarian rule (*MAJ*).

The outcome is in line with our expectations: i) *agri & food* does not help to explain GDP per capita growth (while the interaction between *PRES* and *agri and food* (*instXagrif*) is weakly statistically significant in the first column, it is not robust to small changes in specification); ii) *presidential* systems face a resource curse especially if they export fuels (the negative effect for fuels, ores and metals in presidential systems (*instXoil*) in column (1) is fully explained by the effect from fuel exports (*instXfuels*), as seen in the disaggregation in column (2)); iii) democracies with *majoritarian* rule are not negatively affected by their resource dependence; instead, exporting fuels, ores and metals enhances their economic development compared to democracies with proportional rule (the positive effect on the interaction term in column (3) is partly explained by fuels, partly by ores and metals, as seen from the disaggregation in column (4)).

In the last four columns of Table 2, we divide the sample according to our two constitutional dimensions. First, column (5) only contains countries that are presidential systems and column (6) only parliamentary systems. Second, column (7) only contains countries with majoritarian electoral rule; and column (8) only countries that have *not* majoritarian electoral rules (*NON-MAJ*), i.e. both pure proportional electoral rules and countries with a mix of majoritarian and proportional rule. (Notice that in these equations we have only one constitutional characteristic per sample and hence do not use an interaction term. The effect

Table 2: Constitutional effects on economic growth 1970-2003.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Type of institution	PRES	PRES	MAJ	MAJ	PRES	PARL	MAJ	NON-MAJ
<i>initial GDPpc</i>	-0.568***	-0.545***	-0.544***	-0.524***	-0.900*	-0.521***	-0.477***	-0.431*
	(0.12)	(0.11)	(0.13)	(0.13)	(0.45)	(0.12)	(0.16)	(0.25)
<i>investment</i>	0.196***	0.197***	0.196***	0.186***	0.124	0.225***	0.232***	0.0615
	(0.047)	(0.045)	(0.050)	(0.048)	(0.079)	(0.058)	(0.065)	(0.052)
<i>openness</i>	0.0154	0.0126	0.0130	0.00662	0.0339	0.0194	0.0107	0.0134
	(0.0097)	(0.013)	(0.011)	(0.012)	(0.031)	(0.013)	(0.019)	(0.014)
<i>institution</i>	1.158	1.189	0.00209	-0.329				
	(0.76)	(0.77)	(0.46)	(0.55)				
<i>agri &amp; food</i>	-2.440	-1.859	-3.752	-2.185	-20.74	-3.315	-6.082	-4.601
	(3.30)	(3.24)	(5.28)	(5.37)	(12.9)	(3.27)	(5.78)	(6.41)
<i>inst X agrif</i>	-7.414*	-7.978	-3.535	-2.909				
	(3.71)	(4.83)	(4.60)	(4.99)				
<i>oil &amp; metals</i>	1.173		-9.203**					
	(1.87)		(3.85)					
<i>inst X oilm</i>	-11.51***		10.76***					
	(3.23)		(2.97)					
<i>ores &amp; met</i>		2.372		-5.773	-13.35	-0.251	13.42	-6.609
		(10.4)		(5.30)	(9.70)	(11.2)	(14.6)	(5.65)
<i>inst X oresm</i>		-8.893		19.47**				
		(8.91)		(8.93)				
<i>fuels</i>		1.382		-9.794***	-18.44***	4.644***	3.613	-10.68***
		(2.01)		(3.16)	(5.78)	(1.23)	(3.23)	(3.09)
<i>inst X fuels</i>		-15.97***		11.98***				
		(2.66)		(2.09)				
<i>Obs</i>	54	54	54	54	24	30	22	32
<i>R-squared</i>	0.65	0.66	0.63	0.64	0.63	0.77	0.81	0.47

Note: The dependent variable in all regressions is the growth rate of GDP per capita over the period 1970-2003. Included (but not reported in the table) were dummies for Sub-Saharan Africa and Latin America and a constant. \*\*\*, \*\*, and \* denotes significance at the 1, 5, and 10 per cent level respectively.

instead is interpreted directly from the resources measures.) Columns (5)-(8) convey the same general picture as the first columns in the table: fuel exporting countries having either presidential or non-majoritarian systems are suggested to face a resource curse, while the others are not.

## Concluding remarks

The results in this paper are surprisingly stark given the relatively rough constitutional features taken to measure institutional quality. The basic result found in Boschini, Pettersson and Roine (2007) is reaffirmed; it is the interaction of type of natural resources and institutional quality that matters for whether or not a country is affected by the so called resource curse. While our results suggest that constitutional features can help explain this relation (and, since constitutions are more durable than other measures of institutions, these results are arguably less subject to reverse causality - economic growth affecting institutions) we still do not understand the precise mechanisms. In other words, our results suggests that with respect to their effects on natural resources presidential systems and non-majoritarian electoral rules are less growth enhancing than parliamentary and majoritarian rules, we cannot say why. Developing a better understanding of this is clearly an avenue for future research.

## Notes

<sup>1</sup> Persson and Tabellini (2003) emphasize different aspects of electoral rules in what determines the level of corruption.

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