Why Some Countries are Immune from the Resource Curse: The Role of Economic Norms

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This is a pre-copy edited version. Cite as:

Aytaç, S. Erdem, Michael Mousseau, Ömer Faruk Örsün. 2016. "Why Some Countries Are Immune from the Resource Curse: The Role of Economic Norms." *Democratization* 23(1): 71-92.

Abstract

The political resource curse - the antidemocratic effect of natural resource wealth on democracy - is a well-established correlate of dictatorship. A long-standing puzzle, however, is why some countries seem to be immune from it. We address this issue systematically by distinguishing two kinds of economies: contract-intensive, where individuals normally obtain their incomes in the marketplace; and patron-clientelist, where individuals normally obtain their incomes in groups that compete over state rents. We theorize that the institutionalized patronage opportunities of patron-clientelist economy are an important precondition for the resource curse, and that nations with contract-intensive economies are immune from it due to a collective interest in the rule of law. Analysis of 150 countries from 1973 to 2000 yields robust support for this view. By introducing clientelist economy as a pre-requisite for the resource curse, this study offers an important advance in understanding how nations democratize.

While many studies have confirmed the detrimental effect of natural resource wealth on political regimes, there is little consensus on the causes of the "resource curse," and more recent evidence suggests it may not even exist. The most-often cited causal mechanism is the "rentier state" hypothesis, first articulated by Hussein Mahdavy, which posits that resource-rich regimes tax less and spend more than other regimes, enabling them to resist, buy off, or more effectively repress opponents; thus destabilizing democracy and stabilizing autocracy.[1] Yet, there remains little systematic evidence for this causal path, and a more recent study using fixed effects suggests that the resource curse may be spurious, with some time-invariant factor possibly accounting for the association of regime type with resource wealth.[2]

Also worrisome for the rentier state hypothesis is the abundance of evidence that some countries seem to be immune from the resource curse. There is nothing in the rentier state hypothesis that accounts for why some countries, like Norway, have not transformed into a rentier state like Saudi Arabia. Similarly, Goldberg et al. have pointed out the historical experiences of Australia, Canada, Great Britain, and the U.S, which have displayed no symptoms of the political resource curse despite significant natural resource wealth.[3] They also note that while some suggest that the rentier state hypothesis only applies to the developing world below a certain income threshold, "…the mechanisms adduced to explain the correlation are independent of income and therefore ought to still be at work."[4] Observing that the extant studies offer an insight only on the average effect of natural resources on regime type, scholars have recently started to investigate whether the political effect of natural resources is a conditional one.[5] Ross acknowledges that "the ultimate effect of oil wealth [on democracy] will vary under different conditions and identifying these conditions lies at the frontier of research on this problem."[6] This article presents such an effort by introducing an important modification to rentier state theory, offering a novel and precise

explanation for the conditional effects of the resource curse, while additionally accounting for the immunity of some countries to it, with supporting empirical corroboration.

We draw on economic norms theory to show how patron-clientelistic economic norms that are present in most developing countries may be the crucial lynchpin linking natural resource wealth with the failure of democratic institutions.[7] When a clientelist political economy is suddenly endowed with resource rents, as happened in Iran, Libya, and Saudi Arabia, those who control the state are positioned to emerge as the largest patron in the nation, a warping of influence that can destabilize nascent democratic institutions and allow the solidification of autocratic ones. When a nation has a strong culture of contracting *before* it becomes endowed with resource rents, in contrast, prevailing interests in norms of government impartiality in the enforcement of contracts and equal rights in market access, and a lack of patronage networks, effectively block any attempt by any official seeking to convert the new found wealth into political patronage. In this way, we offer an important caveat to rentier state theory: the detrimental effects of natural resource wealth on democracy are expected to be present only in societies which lack the culture of contracting.

Prior research has shown that nations with contract intensive economies are immune to the civil conflict-inducing aspects of the resource curse.[8] Analyses here of 150 countries from 1973 to 2000 corroborate that nations with contract-intensive economies are immune to the political resource curse as well, but among nations with contract-poor economies increases in resource wealth have negative repercussions on democratic institutions. These results hold after consideration of unobserved country heterogeneity.[9] Therefore, we illuminate when and where the resource curse happens and precisely how it may work, in the process exposing the antidote: the demise of hierarchical patronage networks and the transition to equitable contract-intensive economy. Moreover, there are direct implications for understanding how wealth causes democracy, and the politics of the Middle East, where

extreme levels of autocracy, conflict, and resource wealth may all be rooted in the patron-clientelist corruption that infects most governments of the region.[10]

This article is organized as follows: the following section reviews the state of theory and evidence in the political resource curse literature. We then introduce our conditionality to rentier state theory by drawing on economic norms theory, and delineate our proposed causal mechanisms with a brief discussion on the cases of Norway and Russia. After outlining our test strategy and reporting our results, we conclude with the implications: to make a nation immune from the resource curse, the international community is advised to channel economic assistance towards making jobs widely available in developing markets, rather than towards political authorities who often use foreign assistance to solidify their grip on power through patronage networks. It is when most individuals in a society can support their families equitably in the market that they develop an interest in the democratic rule of law.

THE RESOURCE CURSE

While the discussion of the economic consequences of natural resource wealth has a relatively long history in the relevant literature,[11] the systematic investigation of the "political resource curse" began with the highly-influential article of Michael Ross, who reported that "the oil-impedes-democracy claim is both valid and statistically robust; in other words, oil *does* hurt democracy."[12] Most empirical studies have corroborated this detrimental effect of natural resource wealth on political regimes[13] while Dunning proposed that the effect of natural resources on regime type is conditional on the distribution of income.[14] Most recently, Haber and Menaldo contend that there is little evidence that resource wealth is harmful for democracy, suggesting that all previous studies may be affected by omitted-variable bias, with some time-invariant factor accounting for both resource wealth and regime type.[15] As a response, Andersen and Ross argue that Haber and Menaldo's finding is driven by two implausible assumptions that (i) resource wealth has an immediate effect on a country's

regime type, and (ii) the relationship between these two variables has not changed over the last 200 years.[16] By modifying these assumptions, they are able to show that Haber and Menaldo's core findings are uncorroborated.

The literature identifies three main mechanisms through which natural resource rents may exert a detrimental effect on democratic governance.[17] First, as natural resource rents increase to constitute a significant share of a government's revenues, the state is effectively relieved of the need to tax the population. This "taxation effect" is said to reduce citizens' interest in government accountability and thus democracy. The second mechanism has been called the "spending effect": governments that fund themselves through natural resource rents will have more resources for buying off opposition. The third mechanism, called the "repression effect", suggests that resource wealth gives governments more resources for repressing the opposition. These effects are not mutually exclusive; all could be at work simultaneously.

Although numerous studies have relied on the taxation and spending effects that lie at the core of the rentier state hypothesis, very few have actually examined these causal mechanisms. An exception comes from Ross, who found that both a lower percentage of tax revenues in the government budget and more government spending are associated with authoritarian regimes.[18] In a subsequent study that revisits the analysis in Ross, the introduction of a more exogenous measure of oil wealth and extension of the dataset enables to present evidence that oil wealth strongly inhibits democratic transition in authoritarian states.[19] Moreover, Ross argues that the only causal mechanism that seems to matter is the rentier effect – "the combination of low taxes and high government spending that seems to dampen support for democratic transitions."[20]

Perhaps the greatest challenge to the resource curse hypothesis comes from the observation that none of the proposed causal arguments offer an explanation for the abundant

anecdotal evidence that the resource curse does not apply to consolidated democracies or rich countries.[21] For instance, Norway is the world's seventh-largest oil and second-largest natural gas exporter, and its economy is highly dependent on the petroleum sector which accounts for the largest portion of export revenue and about 20% of government revenue.[22] Yet, the country has been able to maintain the highest possible Polity regime score (+10) since the discovery of resource wealth almost three decades ago.[23] In addition, Goldberg et al. point out to the historical experiences of countries such as the U.S., Canada, Australia, and Great Britain, none of which have displayed symptoms of the resource curse despite significant natural resource wealth.[24]

Despite the observation that the resource curse does not seem to apply to consolidated democracies or rich countries,[25] little attention has been given to explaining it. An exception is the study of Dunning, who identified how low income inequality may exacerbate the resource curse since the demand for redistribution should be lower in more equal compared with more unequal societies, and thus rents more effective in buying off or repressing the opposition.[26] One potential problem with this argument is the assumption that there are no exogenous constraints on the government to buy off or repress the opposition: if we consider the cases of Norway and Russia as stylized examples, the theory assumes that the strategy of buying off or repressing the opposition is equally feasible in both countries. Such an assumption would not be plausible to most observers since the socioeconomic structures of societies place different constraints on which strategies are feasible for leaders.

In short, with the exception of Dunning, none of the assertions in the literature about the immunity of some countries to the detrimental effects of resource wealth are backed with a coherent theoretical explanation. As discussed in the following section, economic norms theory offers one such alternative.

ECONOMICS NORMS THEORY AND THE RESOURCE CURSE

It is well-documented that through most of civilization—and in most developing countries today—economies have been integrated less with markets than with personalized forms of exchange, such as favors exchanged among friends and family linked with groups,[27] a form of political economy often referred to as patron-clientelism.[28] While the familiar approach towards patron-clientelism has been to consider it a "holdover from traditional societies" that would cease to exist upon the transition to modernity, by the 1970s and 1980s it became clear that clientelistic exchange was not disappearing in many countries.[29] Patron-clientelist economy must be contrasted with contract-intensive economy, which prevails in Western Europe, Scandinavia, North America, and some countries of the Pacific Rim, where individuals normally obtain their incomes from strangers located in a market in the form of contracts dependent on third-party enforcement.[30]

According to economics norms theory, contractualist and clientelist economies differ primarily in the manner in which most individuals obtain and hold their economic securities. Where incomes and securities are normally held in contracts, there is widespread dependency on a third party—government—for the enforcement of contracts. Since democracy is the best known system for ensuring that a state generally acts as an impartial arbiter of contracts, contract-intensive economy can legitimate democracy from below. Clientelist economy, in contrast, promotes autocracy as patronage networks yield leaders a loyal following of clients who are economically dependent on them. Clients are loyal to persons, not to the state, and they want their leaders to be linked to the state for the purposes of undermining its impartiality with corrupt linkages that yield privileged access to state rents. Economic type is primarily treated exogenously in economic norms theory: while under certain conditions states can impact economic type and feedback loops can emerge linking states and markets,

the core of the theory is on how economic type impacts the individual-level preference for a strong functional state that enforces the democratic rule of law.[31]

It is easy to see how natural resource wealth may be detrimental for democracy in clientelist but not contractualist economies. Where the property right norm is clientelist and natural resources belong to the state, a rise in natural resource wealth endows authorities with greater capacity for distributing rents with partiality in exchange for loyalty. Clientelist institutionalization means that patronage networks are well-established: with a rise in resource rents few are likely to expect the state to distribute the wealth impartially; many will instead strategically switch their loyalty to patrons who are linked to state coffers. In addition to this "spending" effect, there is also the "repression" effect: as the increased revenues can be devoted to distributing rents to larger numbers of groups, newly-included clients and their patrons readily help in the repression and discrimination of out-groups. If natural resource wealth is large enough to include all groups (or if repressive capacity is large enough), stable autocracy results as even those in less-favored groups have strong incentives to appear steadfastly loyal to the personalist state.

In a contract-intensive economy, in contrast, it is hard to see how there can be a negative effect of natural resource wealth on democracy. In economic norms theory the "taxation" effect—a concept that has never been observed directly—does not exist, as democracy is legitimated from below, not by a state's dependence on taxing voters, but rather by voters' dependency on the state acting as an impartial arbiter of contracts. There can be no "repression" effect, as the state's capacity to repress the public is restricted, not by existing revenue, but by the public's interest in the freedom to contract and the impartial rule of law. Likewise, there can be no "spending" effect, because the lack of existing patronage channels means there are few avenues with which a regime can divert rents.

In these ways, economic norms theory offers an important conditionality to the resource curse: it should be limited to nations with clientelist political economies. The spending and repression effects of natural resource wealth may be detrimental for democracy as outlined in prior studies, but may be limited to patron-clientelist political economies where prevailing norms are to seek wealth in patronage networks that compete for political influence. Where prevailing norms are contract-intensive some patronage probably occurs, but its adverse effects are contained as most members of the electorate, habitually obtaining their incomes in the market, insist on the democratic rule of law for the impartial enforcement of contracts.

A brief discussion of the cases of Norway and Russia would be useful to illustrate the proposed causal mechanisms. Norway became a producer of oil and natural gas from 1973 onwards and today its economy is heavily dependent on the petroleum sector.[32] This dominance of natural resource rents in the Norwegian economy, however, did not prevent the country from maintaining its highly democratic regime after the oil boom (as reflected in its highest possible Polity regime score), contrary to the resource curse hypothesis. Thus, it is not surprising that in the relevant literature the case of Norway is usually considered as an anomaly.

From the perspective of economic norms theory, on the other hand, the observation that Norway has been immune to the detrimental political effects of resource wealth is expected. Oil production in Norway did not provide net income until the early 1980s and by that time the country had a contract-intensive political economy.[33] Accordingly, by the time significant resource rents began to flow into the state treasury Norwegians had already direct interests in their government enforcing contracts impartially, reliably and efficiently. In such a context we would expect that politically-motivated distribution of rents would be highly

unlikely since, as outlined above, it would be disruptive to the working of contract-intensive economy and against the prevailing heuristics of decision makers.

Scholarly accounts on the management of Norwegian oil rents provide empirical support for this interpretation. Mehlum et al. note that oil rents in Norway stimulated productive forces rather than grabber activities as a result of the high quality of institutions such as the rule of law, property rights, and a well-functioning state bureaucracy.[34] Additionally, all the proceeds from the petroleum sector to the state enter into the Norwegian Petroleum Fund which renders the sector's contribution to public finances transparent. Eifert et al. emphasize that mechanisms to distribute rents should be part of a transparent budget process to prevent rent-seeking behavior, and this is exactly what is observed in Norway.[35] They also note that "Norway has been successful in using its highly consensus-oriented…institutions as well as the involvement of interest groups representing business and labor to reconcile competing claims over oil rents with long-term objectives and stabilization goals."[36]

Like Norway, Russia is an extremely rich country in natural energy resources. As of 2011, Russia was the world's leading oil producer and the second-largest producer of natural gas.[37] Thanks to rising energy prices during the last decade, the Russian government revenues from the energy sector increased almost tenfold (in US dollars) between 2003 and 2008, making up close to a half of federal budget revenues, while fuels and mining products constituted about 70% of all merchandise exports by value.[38]

While Russia could be considered quite similar to Norway in terms of its exceptional resource endowment, it cannot be more distant in terms of political regime. Fish designates the Russian polity effectively as an oligarchy where electoral fraud, monitoring and harassment of regime opponents are common, while there is a strict state control over public communication and sources of information in the media.[39] Similarly, Way notes that while

the period of 1994 to 1999 could be characterized as a case of 'moderate executive control' in Russia, since the early 2000s the country has become increasingly autocratic.[40] Thus, it is not surprising that while Russia was considered as "Partly Free" after the demise of the Soviet Union in 1991, it slipped to the category of "Not Free" after 2003.[41]

Again, economic norms theory offers a coherent explanation why natural resource windfalls were partly responsible for Russia's trajectory towards oligarchy from the early 2000s onwards. By the time substantial rents started to accrue to the Russian government's treasury, the country had a clientelist political economy where patronage networks served as mechanisms of exchange of loyalty of public officials, governors and mayors to the regime in return for resources to sustain their own networks of clients and followers.[42] Before the 2000s, such networks were of limited scope due to the scarcity of funds, but the commodity boom of the 2000s provided the Putin government with the necessary resources to expand patronage networks and establish the regime's dominance in every aspect of political life. While the increase in overall employment was just 4.7% between 2000 and 2010, the number of government officials grew at a startling rate of 22.7%.[43] A broad expansion of power of the executive branch at the expense of any independent sources of power ensued, as well a significant increase of spending by the state.[44]

One of the leading accounts of Russia's slide towards an authoritarian regime lends support to the mechanisms predicted by economic norms theory. Fish argues that there are two links between natural resource endowment and decreasing openness of the political regime.[45] First, the availability of resource rents in a country like Russia increases corruption. He notes that "in any resource-abundant country that does not have a highly developed, long-standing system of laws and effective agencies of law enforcement in place prior to the discovery and exploitation of the resources, the very reason for holding office may be nothing more (or less) than robbery."[46] These very characteristics mentioned by Fish are the *sine qua*

non of a clientelistic political economy. Corruption, in turn, engenders perverse incentives to enter politics, damages the legitimacy of the regime and increases the attractiveness of political closure by the elites. Indeed, corruption is endemic in today's Russia: the country ranks 133rd among 174 countries in the Corruption Perception Index 2012 of Transparency International, and it has been suggested that the sharp expansion of resource rents during the last decade might be responsible for pervasive corruption.[47]

Second, and perhaps more importantly, natural resource rents might have had a deleterious effect on democracy in Russia by promoting statism in the economy.[48] A high level of statism in the economy and the concomitant patronage resources of the state destroyed the socioeconomic bases required for the development of independent social and political organizations which in turn inhibited open politics and democratization. Fish presents a handful of examples in this direction including the take-over of the formerly main private television company NTV and leading public opinion firm ARCSPO by the state, control of the main trade union of the country (FITUR) and prohibition of the formation of others.[49] Again, it would be useful to contrast this picture with the case of Norway where the state also has had extensive involvement in key sectors of the economy. Thus, while significant state involvement in the economy seems to not be a concern for democracy *per se*, in a clientelistic political economy such as Russia it is a recipe for authoritarianism, since the state in such an environment becomes a vehicle for building patronage networks to dominate the political sphere.

TESTING THE CONDITIONALITY OF THE RESOURCE CURSE

The following section outlines our empirical strategy for testing whether the detrimental effects of resource wealth on democracy are conditional on the political economy type of a country. After presenting the data employed, we describe our estimation technique and discuss the results.

Data

We operationalize regime type using the Freedom in the World database.[50] Following the existing literature, we combine the Political Rights and Civil Liberties indices and transform the combined index such that it lies between 0 and 100, with 100 corresponding to the most democratic institutions. To measure resource rents, we use a dataset that is produced by the World Bank and measures the extent to which countries' income is derived from natural-resource extraction.[51] This value of natural resource depletion is calculated as the net profit per unit of natural resource (sales price minus extraction cost) times the amount of resource extracted. Next, this value is expressed as the percentage of Gross National Income (GNI) annually. This measure is frequently employed in the literature, and its advantage is that it gives a more comprehensive picture of the importance of natural resource wealth within a country's economy compared to other measures related to exports. Although the original data source includes variables that indicate the share of a country's GNI derived from the depletion of energy sources (crude oil, natural gas, and coal) as well as from other mineral resources (copper, gold, iron, etc.), we limit our examination to energy rents, following the latest contributions to the literature.[52] From a theoretical perspective it has been noted that while "petro-states" (major oil-exporting states) have many characteristics in common with mineral-exporting states, the nature of oil rents make them unique: "[Petro-states] are rentier states *par excellence*: not only does petroleum provide exceptionally high levels of rents over a long period of time, but it also facilitates international borrowing, thereby perpetuating the capacity to live beyond their means."[53] Thus, oil rents are of significant importance for the rentier state hypothesis. We smooth extreme values by log transforming the measure, and call the variable *Energy Rents*.

Our claim is that economic type affects governing institutions because only contract-intensive economy entails widespread dependency on state enforcement of contracts, and

democracy has emerged as the best known system for ensuring that a state generally acts as a credible, efficient, reliable, and impartial enforcer of contracts. To gauge popular dependency on the state as a third-party arbiter of an economy, we draw on direct data on contracting in life insurance securities. Life insurance contracting reliably gauges the hypothesized causality in two ways. First, life insurance contracts are unique in that the obligation of the insurance provider cannot occur until after the death of the policy holder. This means that the policy holder's trust in the credibility of the insurance company's commitments cannot rest on personal trust and the threat of personal sanction in the event of violation of such trust: since the relationship ends with the death of the policyholder, there is no reliable incentive for the insurance company to fulfill the terms of contract absent a credible third-party enforcer. Second, life insurance securities are important: since economic security is their only purpose, such a contract is clearly at the heart of a policyholder's long-term economic security strategy. This means that a high level of life insurance contracting in a nation must indicate not only widespread dependency on the state reliably enforcing contracts, but also that this dependency is of great importance to those engaging in these contracts—and thus life insurance contracting must reflect the intensity at which members of a society care about the democratic rule of law. In prior studies, the life insurance data have been used to corroborate powerful roles for contractualist economy in promoting peace and human rights within nations, and reducing conflict among them.[54]

Direct data on life insurance contracts in force (in constant U.S. dollars) have been compiled under the auspices of the World Bank, with coverage for about one-third of nations in the 1980s and 1990s, and a smaller number of nations covered over the entire time span of 1960 to 2000.[55] We treat missing data as reflecting contract-poor economy, because we have reason to believe governments of nations with contract-rich economies are more likely than contract-poor ones to produce data, and when missing data are not random in some known

way it is best to use this knowledge in estimating missing values. Governments of contract-rich societies are more likely than contract-poor ones to produce data because they have the comparatively stronger incentive of delivering the public good of market growth, and collecting, analyzing, and disseminating economic data helps in the development of successful growth policies; these states also have the bureaucratic capacity, demanded by voters for the enforcement of contracts, to collect and disseminate data. In the modern era economies that are contract-poor are patron-clientelist, and clientelist regimes have the opposite incentive of avoiding reporting data of any kind since their primary strategy of survival is in the distribution of state funds to supporters, often illegally, and thus any transparent accounting of how they handle state rents can have adverse political consequences.

To facilitate the treatment of missing data the variable was dichotomized at the median, with nation-years below the median (and those with missing data) deemed *Contract-Poor*. This cut-off point was chosen because the life insurance data, when logged, form a strong bimodal distribution separated almost perfectly at the median. Since there are fewer nations near the median than elsewhere, it offers the most error-free cut-off point, given that we have no other reason to choose any other point in the scale. We then corroborated the systematic difference of the missing data from the known data with validity tests, which show that most nations with low levels of private consumption and investment —roughly reflecting contract-poor economy—are not recorded in the life insurance data.[56] We test our expected conditionality of the resource curse using the interaction term *Energy Rents*Contract-Poor*.[57]

We also use additional controls to partial out our explanation from the existing democratization studies. The variable *Income* is the logarithm of GDP per capita.[58] We consider the percentage of Muslim population in a country as of 2005 with the variable *Muslim*[59], *Trade Openness* measured as the logarithm of the fraction of sum of imports and

exports in GDP,[60] the logarithm of the country's *Population*,[61] and *Inequality* measured as the share of capital in manufacturing value-added.[62] Data for most variables were obtained using the EUGene data generation program.[63] Summary statistics are presented in Table 1.

[TABLE 1 AROUND HERE]

Estimation

In accordance with the literature, we test our theory using different estimation techniques – OLS, within group estimator, and generalized method of moments (GMM). We utilize the following autoregressive distributed lag (ADL) specification to disentangle the conditionality of resource curse on the contract-intensity of a country:

$$d_{it} = a_0 + \phi d_{it-1} + \beta_0 r_{it} + \beta_1 r_{it-1} + \beta_2 CP_{it} + \beta_3 CP_{it-1} + \beta_4 CP_{it} r_{it} + \beta_5 CP_{it-1} r_{it-1}$$
$$+ \lambda \boldsymbol{x}_{it} + \zeta \boldsymbol{x}_{it-1} + \delta_t + u_{i,t}$$

where d_{it} is the democracy score of a country *i* in period *t*, r_{it} is the value of energy rents, CP_{it} is the dummy variable where one indicates that country *i* in period *t* has a contract-poor economy, $CP_{it} r_{it}$ is the multiplicative interaction term that is the main variable of interest, $\boldsymbol{x}_{i,t}$ is a vector of control variables, δ_t is the unobservable time-specific effect which captures common shocks to democracy for all countries, and $u_{i,t} = \eta_i + \varepsilon_{it}$ is the disturbance term where η_i is the unobservable country-specific, time-invariant effect.

In the specification, the unobserved time-invariant individual effect η_i is absorbed by the error term, which leads to an assumption that all the countries have the same preconditions for democratization. However, since d_{it-1} is by construction positively correlated with α_i the point estimates will be biased and inconsistent regardless of the sample size. This omitted variable bias indicates that the OLS estimator is biased upwards. The most

common approach to address this concern is to transform the equation by expressing all variables as deviations from the mean values for each country through the within groups estimator. However, the transformed lagged dependent variable $(d_{it-1} - \bar{d}_i)$ is negatively correlated with the transformed error term and this renders the within groups estimator downwardly biased.[64] Nevertheless, the fact that the OLS and the within groups estimators are biased in the opposite directions is useful as they constitute the upper and lower bounds for a consistent estimator.[65] System GMM provides much greater precision in estimates in the presence of highly persistent series by estimating the differenced and level equations simultaneously.[66] Accordingly, we use system GMM as our preferred estimation technique to test the conditional impact of resource rents on democracy and adopt. Moreover, in all GMM analyses, we use two-step robust system GMM and apply Windmeijer correction, which render two-step robust system GMM estimations more efficient than one-step robust estimations.[67]

Results

Table 2 reports the main empirical results of our dynamic specification analyzing all countries over the period 1973-2000. The first two columns, respectively, show the results from pooled OLS and within-group estimators. Even though the coefficient estimates are not informative in these two specifications, they respectively provide the upper and lower bounds of the autoregressive coefficient of democracy for a consistent estimator (Bond 2002). Columns 3-5 report the analyses from system GMM and proceed from the baseline resource curse model to our modified model to test the conditional impact of resource rents. The autoregressive coefficients of democracy in each column are within the lower and upper bounds ($0.84 < \phi < 0.96$), informing us of the consistency of the estimates. Since we adopt a dynamic specification, we are able to use the wide array of the information available from this specification and estimate the short-term effects and long-term effects of all right-hand

side variables and their corresponding median and mean lengths.[68] In the ADL specification, the short term effects of each variable are directly given by the point estimates of the coefficients for the current and previous periods. The point estimates of long-term effects for variable *k* (LTE_k) are calculated by the following adjustment:

$$LTE_k = \frac{\beta_k^t + \beta_k^{t-1}}{1-\phi}$$

Column 3 reports the baseline model of the impact of resource rents on democracy. As expected, energy rents do not have an effect on democracy in the short run, but the effect is highly significant and negative in the long-run ($LTE_{Energy\ Rents} = -10.35$, $p < 0.01$). In Column 4, we add the control for political economy type – *Contract Poor* – only. We see that the long term effects of both *Energy Rents* ($LTE_{Energy\ Rents} = -8.96$, $p = 0.02$) and *Contract-Poor* economy ($LTE_{Contract\text{-}Poor} = -36.81$, $p < 0.01$) have detrimental effects on democracy.

[TABLE 2 AROUND HERE]

Model 5 provides novel insight by testing the hypothesis that the institutionalized patronage opportunities are an important precondition for the detrimental effects of resource rents on democracy, and nations with contract-intensive economies are immune from it. We test this conditional hypothesis with the interaction term *Energy Rents*Contract Poor*. Given that the model includes an interaction term, the coefficients are not illuminating on their own, and we have to calculate substantively meaningful marginal effects and standard errors for each specification. Following the practice suggested by Kam and Franzese we report the effect of *Energy Rents* on democracy when $CP = 1$ and $CP = 0$ for all specifications.[69] The first and second conditional short-run effects of *Energy Rents* are analytically calculated as

$$\frac{\partial d_{it}}{\partial r_{it}} = \beta_0 + \beta_4 CP_{it}$$

$$\frac{\partial d_{it}}{\partial r_{it-1}} = \beta_1 + \beta_4 CP_{it-1}$$

while the long term effect is calculated as

$$\frac{1}{1-\phi}\left(\frac{\partial d_{it}}{\partial r_{it}} + \frac{\partial d_{it}}{\partial r_{it-1}}\right) = \frac{\beta_0 + \beta_4 CP_{it} + \beta_1 + \beta_4 CP_{it-1}}{1-\phi}$$

For contract-rich economies ($CP_{it} = 0$ and $CP_{it-1} = 0$), the effect of *Energy Rents* is negative but statistically insignificant ($LTE_{Energy\ Rents} = -0.51$, $p = 0.93$). In contrast, for contract-poor economies ($CP_{it} = 1$ and $CP_{it-1} = 1$), the effect is negative and statistically significant ($LTE_{Energy\ Rents} = -9.33$, $p = 0.01$).[70] The results provide broad support for our hypothesis that the detrimental effect of natural resource rents on democracy is conditional on the prevailing economy type, and contract-rich countries are immune from the resource curse. Figure 1 presents the distribution of the marginal cumulative effect of *Energy Rents* on democracy for contract-poor countries over time.

[FIGURE 1 AROUND HERE]

Finally, Table 3a and 3b introduce additional control variables from democratization studies to our main specification in Column 5 of Table 2, and Table 3a shows that almost no explanatory variable has any short-run effect on democracy. Table 3b reports their long term effects. Across all specifications the long term effect of *Energy Rents* on democracy is

statistically insignificant for contract-rich economies but negative and statistically significant for contract-poor economies, again providing strong evidence for our hypothesis. Among the additional controls considered, only *Income* ($LTE_{Income} = 19.36$, $p < 0.01$) and *Muslim* ($LTE_{Muslim} = 5.61$, $p < 0.01$) have statistically significant long term effects on democracy.

[TABLE 3A AROUND HERE]

[TABLE 3B AROUND HERE]

Conclusion

We began this study with recognition that while the negative impact of natural resource wealth on democracy is widely and rightly accepted as an accurate observation, existing theories cannot explain why some countries have been immune to it. We have sought to address this puzzle by drawing insights from economic norms theory.[71] When a contract-intensive society becomes endowed with resource wealth, prevailing norms of impartiality and respect for the rule of law ensure that the new-found wealth is distributed to citizens largely impartially and transparently, and the resource rents have no negative repercussions on democratic institutions. In modern economies the predominantly alternative form of economic integration is patron-clientelism, where individuals normally rely on patrons for physical and economic securities in exchange for political support. When a patron-clientelist political economy becomes endowed with resource wealth, the prevailing culture of clientelism causes a regime to distribute the wealth with partiality in exchange for support, and as a result the prospect for democracy is undermined and the power of the regime solidified. Analyses herein of most countries from 1973 to 2000 yields substantial additional support for our hypothesis: resource rents are detrimental for democracy only in nations with

contract-poor economies. For nations with contract-rich economies, resource rents have no discernible impact on governing institutions.

There are four major implications of this study. First, we have offered an important qualification to rentier state theory: a necessary condition for a rentier state is a contract poor, clientelist political economy. Second, numerous studies have confirmed a linkage of wealth with democracy, but there is little consensus on how wealth causes democracy. The economic norms explanation informs us that the answer may lie in contract-intensive economy and its culture of contracting, which may cause both advanced economy and democracy. Third, this study has direct implications for grasping the Middle East, a region rife with resource rent dependence, autocracy, and conflict. We have shown how one factor – the contract poor norms of patron-clientelism that are known to corrupt most governments in the region[72] – may substantially account for all three of these patterns.

Finally, in contrast to prior explanations for the resource curse, the economic norms explanation offers an antidote for it: immunity from the resource curse of conflict and dictatorship is achieved when most citizens in a nation can normally find jobs and feed their families in the marketplace rather than through connections with rent-seeking groups. A pro-democracy regime in a resource-rich country is advised to use the resource wealth to promote the public good of market growth, including equal access in the marketplace, over the politically-safe alternative of distributing private goods for political support. The task for the international community seeking to reduce global tensions could hardly be clearer: the oil-importing nations must substantially reduce their dependence on oil. In this way, the price of oil may drop and the "First Law of Petropolitics" can be broken[73], giving democracy and peace a chance to take root in the Middle East and in other oil exporting regions.

Notes

[1] Mahdavy, 'The Patterns and Problems of Economic Development in Rentier States'.

[2] Haber and Menaldo, 'Do Natural Resources Fuel Authoritarianism?'

[3] Goldberg et al., 'Lessons from Strange Cases'.

[4] Ibid., 479.

[5] Dunning, 'Crude Democracy'.

[6] Ross, 'Oil and Democracy Revisited', 25.

[7] Mousseau, 'Market Prosperity, Democratic Consolidation, and Democratic Peace'; Mousseau, 'The Social Market Roots of Democratic Peace'; Güneş-Ayata, 'Clientelism'; Roniger, 'The Comparative Study of Clientelism'.

[8] Mousseau, 'Capitalist Development and Civil War'.

[9] Haber and Menaldo, 'Do Natural Resources Fuel Authoritarianism?'

[10] Lipset, 'Some Social Requisites of Democracy'; Hamzeh, 'Clientalism, Lebanon'.

[11] Delacroix, 'The Export of Raw Materials and Economic Growth'; Karl, *The Paradox of Plenty*.

[12] Ross, 'Does Oil Hinder Democracy?', 356.

[13] Jensen and Wantchekon, 'Resource Wealth and Political Regimes in Africa'; Smith, 'Oil Wealth and Regime Survival in the Developing World'; Ulfelder, 'Resource Wealth and the Survival of Autocracy'; Ross, 'Oil and Democracy Revisited'; Aslaksen, 'Oil and Democracy'; Ramsay, 'Revisiting the Resource Curse'; cf. Herb, 'No Representation without Taxation?'

[14] Dunning, 'Crude Democracy'.

[15] Haber and Menaldo, 'Do Natural Resources Fuel Authoritarianism?'

[16] Andersen and Ross, ‘The Big Oil Change’.

[17] Ross, ‘Does Oil Hinder Democracy?’

[18] Ibid.

[19] Ross, ‘Oil and Democracy Revisited’.

[20] Ibid., 2.

[21] Goldberg et al., ‘Lessons from Strange Cases’, 479.

[22] U.S. Central Intelligence Agency, *The World Factbook 2012.*

[23] Marshall and Jaggers, *Polity IV Project*.

[24] Goldberg et al., ‘Lessons from Strange Cases’.

[25] Ross, ‘Does Oil Hinder Democracy?’, 343-44; Herb, ‘No Representation without Taxation?’, 8; Ulfelder, ‘Resource Wealth and the Survival of Autocracy’, 999.

[26] Dunning, ‘Crude Democracy’.

[27] Mauss, *Gift*; Polanyi, *The Great Transformation.*

[28] Güneş-Ayata, ‘Clientelism’; Roniger, ‘The Comparative Study of Clientelism’.

[29] Güneş-Ayata, ‘Clientelism’, 20-21.

[30] Mousseau,‘Capitalist Development and Civil War’. The contract intensity of a society should not be confused with familiar notions of economic freedom or contract enforcement (e.g. Clague et al., ‘Contract-intensive money’.) A nation can be highly contract-intensive even as contracts are highly regulated, and contract-poor even if the state enforces them well.

[31] Mousseau, ‘The Social Market Roots of Democratic Peace’, 59.

[32] U.S. Central Intelligence Agency, *The World Factbook 2012.*

[33] Mousseau, ‘The Social Market Roots of Democratic Peace’. Norway’s redistributive social democracy does not mean the economy is not contract-intensive: in fact most Norwegians

normally obtain their incomes from strangers located in a market in the form of contracts dependent on third-party enforcement.

[34] Mehlum et al., 'Mineral Rents and Social Development in Norway'.

[35] Eifert et al., 'The Political Economy of Fiscal Policy and Economic Management in Oil Exporting Countries'.

[36] Ibid., 8.

[37] U.S. Central Intelligence Agency, *The World Factbook 2012.*

[38] OECD, *OECD Economic Surveys: Russian Federation 2011*.

[39] Fish, *Democracy Derailed in Russia.*

[40] Way, 'Authoritarian State Building and the Sources of Regime Competitiveness in the Fourth Wave'.

[41] Freedom House, *Freedom in the World.*

[42] Remington, 'Patronage and the Party of Power'.

[43] OECD, *OECD Economic Surveys: Russian Federation 2011*.

[44] Remington, 'Patronage and the Party of Power'.

[45] Fish, *Democracy Derailed in Russia.*

[46] Ibid., 127.

[47] OECD, *OECD Economic Surveys: Russian Federation 2011,* 77.

[48] Fish, *Democracy Derailed in Russia.*

[49] Ibid., 187-192.

[50] Freedom House, *Freedom in the World.*

[51] World Bank, *The Changing Wealth of Nations.*

[52] Haber and Menaldo, 'Do Natural Resources Fuel Authoritarianism?'; Andersen and Ross, 'The Big Oil Change'.

[53] Karl, 'The Perils of the Petro-State', 36.

[54] Mousseau, 'Capitalist Development and Civil War'; Mousseau and Mousseau, 'The Contracting Roots of Human Rights'; Mousseau, 'The Social Market Roots of Democratic Peace'. Clague et al. (1999) develop the measure Contact Intensive Money (CIM) and offer it as a measure of contract flows. In fact, CIM is simply the ratio of non-currency money to all money, and can therefore reflect contracting only if we assume that currency held outside banks is flowing in contractual exchanges. This assumption is not tenable: currency held outside banks often flow in clientelist (non-contractual) exchanges.

[55] Beck and Webb, 'Economic, Demographic, and Institutional Determinants of Life Insurance Consumption across Countries'.

[56] Heston et al., *Penn World Table Version 6.1*.

[57] All analyses were also carried out using the original and imputed data, with identical results obtained. We report the regressions using the dichotomous measure because it yields stronger results, suggesting that the binary measure is superior to the continuous one in analyses of democratization. With interaction terms a binary measure is also far easier to interpret than a continuous one.

[58] Gleditsch, 'Expanded Trade and GDP Data'.

[59] World Christian Database.

[60] Barbieri and Keshk, *Correlates of War Project*.

[61] Gleditsch, 'Expanded Trade and GDP Data'.

[62] Dunning, 'Crude Democracy'.

[63] Bennett and Stam, 'EUGene: A Conceptual Manual'.

[64] Nickell, 'Biases in Dynamic Models with Fixed Effects'.

[65] Bond, 'Dynamic Panel Data Models'.

[66] Blundell and Bond, 'Initial Conditions and Moment Restrictions in Dynamic Panel Data Models'.

[67] Windmeijer, 'A Finite Sample Correction for the Variance of Linear Efficient Two-step GMM Estimators'.

[68] De Boef and Keele, 'Taking Time Seriously'.

[69] Kam and Franzese, 'Modeling and Interpreting Interactive Hypotheses in Regression Analysis'.

[70] Andersen and Ross report that there is a time-conditional effect of resources on regime type in the sense that the resource course is present only after the year 1980. To consider this possibility, we also run a separate identical analysis with a post-1980 sample only. The long term effect of energy rents in contract-poor countries is even stronger in the post-1980 sample ($LTE_{Energy\ Rents} = -$ -10.35, $p = 0.02$).

[71] Mousseau, 'Market Prosperity, Democratic Consolidation, and Democratic Peace'.

[72] Hamzeh, 'Clientalism, Lebanon'.

[73]Friedman, 'The First Law of Petropolitics'.

Bibliography

Andersen, Jorgen J., and Michael L. Ross. "The Big Oil Change: A Closer Look at the Haber-Menaldo Analysis." *Comparative Political Studies* published online 13 June 2013, DOI: 10.1177/0010414013488557.

Aslaksen, Silje. 2010. "Oil and Democracy: More Than a Cross-country Correlation?" *Journal of Peace Research* 47 (4): 421-31.

Barbieri, Katherine and Omar Keshk. 2012. Correlates of War Project Trade Data Set Codebook, Version 3.0. Online: http://correlatesofwar.org.

Beck, Thorsten and Ian Webb. 2003. "Economic, Demographic, and Institutional Determinants of Life Insurance Consumption across Countries." *The World Bank Economic Review* 17 (1): 51-88.

Bennett, Scott D., and Allan C. Stam. 2000. "EUGene: A Conceptual Manual." *International Interactions* 26 (2): 179–204.

Blundell, Richard, and Stephen Bond. 1998. "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models." *Journal of Econometrics* 87 (1): 115-43.

Bond, Stephen R. 2002. "Dynamic Panel Data Models: A Guide to Micro Data Methods and Practice." *Portuguese Economic Journal* 1(2): 141–62.

CIA. 2012. *The World Factbook: Norway.* Updated December 5, 2012, Retrieved December 22, 2012, from https://www.cia.gov/library/publications/the-world-factbook/geos/no.html.

CIA. 2012. *The World Factbook: Russia.* Updated December 13, 2012, Retrieved December 22, 2012, from https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html.

Clague, Christopher, Philip Keefer, Stephen Knack, and Mancur Olson. 1999. "Contract-intensive money: contract enforcement, property rights, and economic performance." *Journal of Economic Growth* 4 (2): 185-211.

De Boef, Suzanna, and Luke Keele. 2008. "Taking Time Seriously." *American Journal of Political Science* 52 (1): 184–200.

Delacroix, Jacques. 1977. "The Export of Raw Materials and Economic Growth: A Cross-national Study." *American Sociological Review* 42 (5): 795-808.

Dunning, Thad. 2008. *Crude Democracy: Natural Resource Wealth and Political Regimes*. New York: Cambridge University Press.

Eifert, Benn, Alan Gelb, and Nils B. Tallroth. 2002. "The Political Economy of Fiscal Policy and Economic Management in Oil Exporting Countries." World Bank Policy Research Working Paper 2899.

Fish, M. Steven. 2005. *Democracy Derailed in Russia: The Failure of Open Politics*. New York: Cambridge University Press.

Freedom House. 2012. Freedom in the World. Westport, CT: Greenwood Press.

Friedman, Thomas L. 2006. "The First Law of Petropolitics." *Foreign Policy* 154: 28-36.

Gleditsch, Kristian S. 2002. "Expanded Trade and GDP Data." *Journal of Conflict Resolution* 46 (5): 712-25.

Goldberg, Ellis, Erik Wibbels, and Eric Mvukiyehe. 2008. "Lessons from Strange Cases: Democracy, Development, and the Resource Curse in the US States." *Comparative Political Studies* 41 (4-5): 477-514.

Güneş-Ayata, Ayşe. 1994. "Clientelism: Premodern, Modern, Postmodern." In *Democracy, Clientelism, and Civil Society*, edited by Luis Roniger and Ayşe Güneş-Ayata, 19-28. London: Lynne Rienner Publishers.

Haber, Stephen, and Victor Menaldo. 2011. “Do Natural Resources Fuel Authoritarianism? A Reappraisal of the Resource Curse.” *American Political Science Review* 105 (1): 1-26.

Hamzeh, A. Nizar. 2001. “Clientalism, Lebanon: Roots and Trends.” *Middle Eastern Studies* 37 (3): 167-78.

Herb, Michael. 2005. “No Representation without Taxation? Rents, Development, and Democracy.” *Comparative Politics* 37 (3): 297-316.

Heston, Alan, Robert Summers, and Bettina Aten. 2002. *Penn World Table Version 6.1*. Center for International Comparisons at the University of Pennsylvania.

Jensen, Nathan, and Leonard Wantchekon. 2004. “Resource Wealth and Political Regimes in Africa.” *Comparative Political Studies* 37 (7): 816-41.

Kam, Cindy, and Robert Franzese. 2003. “Modeling and Interpreting Interactive Hypotheses in Regression Analysis: A Brief Refresher and Some Practical Advice.” Unpublished Manuscript, University of Michigan.

Karl, Terry L. 1997. *The Paradox of Plenty: Oil Booms and Petro-States*. Berkeley: University of California Press.

Karl, Terry L. 1999. “The Perils of the Petro-State: Reflections on the Paradox of Plenty.” *Journal of International Affairs* 53 (1): 31-48.

Lipset, Seymour M. 1959. “Some Social Requisites of Democracy: Economic Development and Political Legitimacy.” *American Political Science Review* 53 (1): 69-105.

Mahdavy, Hussein. 1970. “The Patterns and Problems of Economic Development in Rentier States: The Case of Iran.” In *Studies in Economic History of the Middle East*, edited by Michael Allan Cook, 428-467. London: Oxford University Press.

Marshall, Monty G. and Keith Jaggers. 2008. *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2006, Dataset Users’ Manual*. College Park: University of Maryland.

Mauss, Marcel. 2000 [1924]. *Gift: The Form and Reason for Exchange in Archaic Societies*. New York: W. W. Norton.

Mehlum, Halvor, Karl Moene, and Ragnar Torvik. 2008. "Mineral Rents and Social Development in Norway." Mimeo, Geneva, UNRISD workshop on Social Policy in Mineral-Rich Countries, 24-25 April.

Mousseau, Michael. 2000. "Market Prosperity, Democratic Consolidation, and Democratic Peace." *Journal of Conflict Resolution* 44 (4): 472-507.

Mousseau, Michael. 2009. "The Social Market Roots of Democratic Peace." *International Security* 33 (4): 52-86.

Mousseau, Michael. 2012. "Capitalist Development and Civil War." *International Studies Quarterly* 56 (3): 470-83.

Mousseau, Michael, and Demet Y. Mousseau. 2008. "The Contracting Roots of Human Rights." *Journal of Peace Research* 45 (3): 327-44.

Nickell, Stephen. 1981. "Biases in Dynamic Models with Fixed Effects." *Econometrica* 49 (6): 1417-26.

OECD. 2011. *OECD Economic Surveys: Russian Federation 2011*. OECD Publishing. http://dx.doi.org/10.1787/eco_surveys-rus-2011-en.

Polanyi, Karl. 1957 [1944]. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press.

Ramsay, Kristopher W. 2011. "Revisiting the Resource Curse: Natural Disasters, the Price of Oil, and Democracy." *International Organization* 65 (3): 507-29.

Remington, Thomas. 2008. "Patronage and the Party of Power: President – Parliament Relations Under Vladimir Putin." *Europe – Asia Studies* 60 (6): 959-87.

Roniger, Luis. 1994. "The Comparative Study of Clientelism and the Changing Nature of Civil Society in the Contemporary World." In *Democracy, Clientelism, and Civil*

Society, edited by Luis Roniger and Ayşe Güneş-Ayata, 1-18. London: Lynne Rienner Publishers.

Ross, Michael L. 2001. "Does Oil Hinder Democracy?" *World Politics* 53 (3): 325-61.

Ross, Michael L. 2009. "Oil and Democracy Revisited." Unpublished Manuscript, University of California–Los Angeles.

Smith, Benjamin. 2004. "Oil Wealth and Regime Survival in the Developing World, 1960-1999."*American Journal of Political Science* 48 (2): 232-46.

Ulfelder, Jay. 2007. "Natural-Resource Wealth and the Survival of Autocracy." *Comparative Political Studies* 40 (8): 995-1018.

Way, Lucan A. 2005. "Authoritarian State Building and the Sources of Regime Competitiveness in the Fourth Wave: The Cases of Belarus, Moldova, Russia, and Ukraine." *World Politics* 57 (2): 231-61.

Windmeijer, Frank. 2005. "A Finite Sample Correction for the Variance of Linear Efficient Two-step GMM Estimators." *Journal of econometrics* 126(1): 25–51.

World Bank. 2010. *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium*. World Bank Publications.

World Christian Database. 2008. World Christian Database. Available at http://worldchristiandatabase.org/wcd

Tables

Table 1: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Max
Democracy	4777	49.20627	34.57177	0	100
Energy Rents	4344	0.647115	1.066605	0	5.021878
Contract-Poor(CP)	4177	0.832176	0.373755	0	1
*Energy Rents*CP*	3708	0.611081	1.062095	0	5.021878
GDP per Capita	5049	8.246868	1.080635	5.639279	10.7378
Trade Openness	4864	-8.81208	1.127914	-14.5971	-3.81417
Population	5049	8.62448	1.919836	2.890372	14.04569
Muslim	4311	1.375727	2.677239	-4.60517	4.596432
Inequality	2961	58.26735	11.49436	30.03826	84.88842
Inequality^2	2961	3527.159	1337.032	902.2971	7206.044

Table 2: Conditional Effect of Resource Rents on Democracy

	Model 1	Model 2	Model 3	Model 4	Model 5
	Pooled OLS	*Within Group*	*System GMM*	*System GMM*	*System GMM*
Democracy $_{t-1}$	0.96***	0.84***	0.94***	0.95***	0.95***
	(0.01)	(0.02)	(0.04)	(0.03)	(0.03)
Short Term Effects					
Contract Poor (CP)	-1.36*	-0.015		-1.47	-1.51
	(0.72)	(1.28)		(1.12)	(1.14)
Energy Rents	-0.048	-0.34	-0.49	-0.22	-0.31
	(0.52)	(0.63)	(0.76)	(0.76)	(0.67)
*Energy Rents*CP*	0.073	0.16			0.11
	(0.61)	(0.74)			(0.71)
Contract Poor $_{t-1}$	-0.034	0.17		-0.33	-0.16
	(0.74)	(1.17)		(0.98)	(1.01)
Energy Rents $_{t-1}$	0.0087	-0.24	-0.10	-0.22	0.29
	(0.52)	(0.64)	(0.72)	(0.73)	(0.72)
Energy Rents $_{t-1}$**CP* $_{t-1}$	-0.41	0.062			-0.55
	(0.63)	(0.71)			(0.74)
Long Term Effects					
Energy Rents	-	-	-10.35***	-8.96**	-
	-	-	(3.05)	(3.66)	-
Energy Rents (CP=0)	-0.90	-3.66	-	-	-0.51
	(5.75)	(5.20)	-	-	(5.97)
Energy Rents (CP=1)	-8.46***	-2.27	-	-	-9.33**
	(2.68)	(4.02)	-	-	(3.62)
Contract-Poor	-	-	-	-36.81***	-
	-	-	-	(8.67)	
Constant	4.00***	7.45***	3.91*	4.67*	4.62*
	(1.01)	(1.63)	(2.26)	(2.47)	(2.41)
Observations	3320	3320	3340	3320	3320
# of Countries	150	150	152	150	150
# of Instruments	-	-	58	60	62
Collapsed IV Matrix	-	-	Yes	Yes	Yes
AR(1) (p-val)	-	-	0.00	0.00	0.00
AR(2) (p-val)	-	-	0.87	0.80	0.80
Sargan	-	-	0.80	0.73	0.73
Hansen	-	-	0.55	0.42	0.43
Difference Hansen	-	-	0.69	0.73	0.74

Robust standard errors are in parentheses. Year dummies are included but not presented to save space. Standard errors of the long term effects are estimated using the delta method.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3a: Conditional Effect of Resource Rents on Democracy with Additional Controls

Short Term Effects	Model 1 *System GMM*	Model 2 *System GMM*	Model 3 *System GMM*	Model 4 *System GMM*	Model 5 *System GMM*	Model 6 *System GMM*
Democracy $_{t-1}$	0.94***	0.94***	0.94***	0.95***	0.94***	0.93***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Contract Poor	-0.37	-1.32	-1.74	-1.23	-2.33	-0.70
	(0.86)	(1.05)	(1.18)	(1.14)	(1.40)	(1.10)
Energy Rents	-0.28	-0.44	-0.34	-0.24	0.39	0.50
	(0.65)	(0.67)	(0.67)	(0.68)	(0.77)	(0.77)
*Energy Rents*CP*	-0.0058	0.055	0.047	0.020	-1.32	-1.69
	(0.70)	(0.73)	(0.71)	(0.71)	(0.99)	(1.05)
Contract Poor $_{t-1}$	0.57	-0.31	-0.31	-0.12	0.19	1.21
	(0.92)	(1.00)	(1.03)	(1.00)	(1.29)	(1.15)
Energy Rents $_{t-1}$	0.23	0.43	0.32	0.33	-0.28	-0.23
	(0.69)	(0.68)	(0.71)	(0.75)	(0.86)	(0.88)
Energy Rents $_{t-1}$**CP* $_{t-1}$	-0.76	-0.60	-0.52	-0.45	0.81	0.73
	(0.75)	(0.73)	(0.74)	(0.77)	(1.04)	(1.09)
Income	4.08					4.39
	(2.88)					(4.81)
Income $_{t-1}$	-2.93					-3.23
	(2.82)					(4.72)
Trade Openness		1.02				0.57
		(0.94)				(1.17)
Trade Openness $_{t-1}$		-0.79				-0.32
		(0.91)				(1.09)
Population			-12.0			-20.4
			(20.95)			(31.15)
Population $_{t-1}$			12.1			20.5
			(20.92)			(31.15)
Muslim				-0.27**		-0.27*
				(0.12)		(0.14)
Inequality					0.76	0.75
					(0.54)	(0.54)
Inequality^2					-0.01	-0.01
					(0.00)	(0.00)
Inequality $_{t-1}$					-0.71	-0.68
					(0.57)	(0.59)
Inequality^2 $_{t-1}$					0.01	-0.01
					(0.01)	(0.01)
Constant	-5.86**	6.92*	5.39*	4.60*	4.32	-5.28
	(2.73)	(3.91)	(3.01)	(2.60)	(4.45)	(7.84)
Observations	3317	3244	3317	3216	2394	2295
# of Countries	150	146	150	145	114	107
# of Instruments	64	64	64	63	66	73
AR(1) (p-val)	00.0	0.00	0.00	0.00	0.00	0.00
AR(2) (p-val)	0.80	0.81	0.83	0.60	0.90	0.95
Sargan	0.81	0.81	0.79	0.57	0.94	0.94
Hansen	0.48	0.41	0.45	0.49	0.30	0.36
Diff Hansen	0.95	0.61	0.95	0.99	0.76	0.75

Standard errors in parentheses. Year dummies are included but not presented to save space. *Muslim* $_{t-1}$ is dropped due to collinearity. Instrument Matrix is collapsed to correct for the instrument proliferation. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3b: Conditional Effect of Resource Rents on Democracy with Additional Controls

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Long Term Effects	*System GMM*	*System GMM*	*System GMM*	*System GMM*	*System GMM*	*System GMM*
Energy Rents (CP=0)	-0.841	-0.152	-0.394	1.80	1.80	3.66
	(4.92)	(5.78)	(5.18)	(5.38)	(5.80)	(4.72)
Energy Rents (CP=1)	-13.74***	-9.71***	-8.19***	-7.26**	-6.78*	-9.49***
	(3.32)	(3.21)	(3.11)	(3.49)	(3.54)	(2.98)
Income	19.36***					15.85***
	(3.34)					(5.80)
Trade Openness		4.03				3.43
		(3.53)				(5.06)
Population			0.480			0.88
			(1.71)			(2.25)
Muslim				-5.61***		-3.68***
				(1.30)		0.84
Inequality‡					0.82	1.04
					(1.88)	(1.80)
Inequality^2‡					-0.01	-0.01
					(0.02)	(0.02)
Observations	3317	3244	3317	3216	2394	2295
# of Countries	150	146	150	145	114	107
# of Instruments	64	64	64	63	66	73
Collapsed IV Matrix	Yes	Yes	Yes	Yes	Yes	Yes
AR(1) (p-val)	00.0	0.00	0.00	0.00	0.00	0.00
AR(2) (p-val)	0.80	0.81	0.83	0.60	0.90	0.95
Sargan	0.81	0.81	0.79	0.57	0.94	0.94
Hansen	0.48	0.41	0.45	0.49	0.30	0.36
Diff Hansen	0.95	0.61	0.95	0.99	0.76	0.75

Standard errors of the long term effects are estimated using the delta method, short-run coefficient estimates of which are presented in Table 3a. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. ‡ For space constraints, we do not present *Inequality* and *Inequality*^{2} 's substantively meaningful values.

Figures

Figure 1. Marginal Cumulative Effect of Energy Rents on Democracy for Contract-Poor countries

