Why do Resource Abundant Countries Have Authoritarian Governments?

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Abstract

This article provides a theoretical and empirical investigation of the correlation between resource wealth and authoritarianism. Building on the rentier state literature, I argue that resource wealth facilitates the consolidation of an already established authoritarian government. Resource wealth also generates a breakdown of democratic regimes due to a combination of incumbency advantage, political instability, and political repression. There is strong empirical support for the theoretical argument. Controlling for GDP, human capital, income inequality and other possible determinants, I find a robust and statistically significant association between resource dependence measured by the ratio of fuel and mineral exports as a percentage of total exports and authoritarianism.

I. INTRODUCTION

This study investigates the following surprising and troubling empirical regularity: natural resource dependence and rentier economies tend to undermine democratic governance and generate authoritarian governments. Although the correlation between dictatorships and resource dependence has been mentioned in various case studies, there has never been an empirical or a theoretical investigation of such correlation.[1] There are, however, a few noticeable exceptions to these perverse effects of resource dependence on democratic governance such as Botswana, Venezuela, and Norway. This raises several questions. For instance, why did resource dependence undermine democracy in Nigeria and Indonesia but not in Botswana and Norway? How should the ongoing reform of the Nigerian oil industry be conducted to facilitate the emergence of democratic governance? These questions lead to an even broader empirical question: Is economic *structure* a more crucial determinant of political performance than economic characteristics such as income inequality or the levels of GDP or education?

I argue that when state institutions are weak so that budget procedures either lack transparency or are discretionary, resource windfalls tend (1) to help consolidate an already established authoritarian government and (2) generate incumbency advantage in democratic elections, which could incite the opposition to resort to political violence in competing for political power, thereby generating political instability and authoritarian governments. My empirical results suggest that a crucial determinant of many Third World political regimes is their level of dependence on natural resources revenues.

Much of the literature on the rentier states has investigated the political implications of resource dependence (Mahdavy 1970 and Beblawi and Luciani 1987). A rentier state is characterized by a high dependence on external

[1]Some case studies include Madhavi (1970), Karl (1996) and Asher (1999]. Ross [1999] states that "unlike economic explanations, political explanations of resource curse are rarely tested, either quantitatively or with well selected qualitative case studies" (p. 308).

rents produced by a few economic actors. Rents are typically generated from the exploitation of natural resources, not from production (labor), investment (interest), or management of risk (profit). The common conclusion is that rentier states tend to be autonomous in the sense that natural resource rents allow them to be more detached and less accountable because they do not need to levy taxes. Mahdavy (1970) uses this argument to explain the lack of pressure (from below) for democratic change in the Middle East. In related books, Ascher (1999) and Yates (1996) argue that rentier states suffer from poor governance because state officials can more easily use resource rents to meet unpopular or illegal objectives. For Karl (1996), fiscal reliance on petro-dollars weakens the state and creates political instability. Finally, Lam and Wantchekon (1999) investigate how economic growth, the distribution of income, and the allocation of political power simultaneously evolve when resources are discovered. They find that resource abundance is likely to increase income inequality and the consolidation of dictatorial regimes.

A key shortcoming of the rentier state literature is that it is based on selected case studies of wealthy petro-states (Venezuela, Algeria, Iran among others) and has never been tested in a cross-section or a panel setting.[2] In addition, although the literature explains quite well the *consolidation* of authoritarian regimes in the Gulf region and elsewhere, it does not explain how resource dependence could lead to the breakdown of democracy and the *emergence* of authoritarian governments. Furthermore, the state autonomy argument discussed above (Mahdavi 1970, Karl 1996 and others) lacks empirical support and predictive power. First, civil societies are weak in most developing countries (Diamond and Linz 1989). Thus, petro-states are no exception. Second, as Gwenn Okruhlik (1999) suggests, throughout the Middle-East and North Africa, in both oil and non oil states there are

[2]See Crystal (1990) for a case study on Koweit and Quatar, Brand (1992) on Jordan, Karl (1996) on Venezuela among others. See Ross (1999) and Chaudhry (1997) for a critical review of the literature.

demands for social justice and political reforms (p. 296). In Saudi Arabia for example, political opposition to the ruling family is fueled by the fact that "prosperity of private citizens is dependent upon the acquisition of government wealth, with access to contracts, information, jobs in the public sector or infrastructure governed by family relations, friendship, religious branch and regional affiliation" (p. 297). In the present study, I provide an alternative argument on the effect of resource dependence on political regimes focussing on the effect of resource rents on political competition and an empirical test of the correlation between resource dependence and authoritarianism.

Beside the rentier state literature, there is a large literature on the economic implications of resource dependence, which shows the adverse effects of resource abundance on growth (Auty 1990, Gelb 1988, Nankani 1980, Sachs and Warner 1995, Ranis and Mahmood 1992). This literature focuses on exchange rate appreciation and sectoral shifts in the economy as potential explanations for the poor economic performance of resource dependent countries. I intend to focus not on economic challenges but on the political challenges that resource dependence creates. I argue that democracy is less likely to survive in resource rich countries. However, these countries can improve democratic governance by adopting affective mechanisms of vertical and horizontal accountability within the state.

My empirical study consists of a comparative analysis of outlier, according to my empirical findings, (Norway and Botswana) and a typical case (Nigeria). It also tests of the "rentier authoritarianism" hypothesis. I find a robust and statistically significant correlation between resource dependence, measured by the ratio of mineral exports to total exports, and authoritarianism.

My theoretical argument builds on Myerson (1993) by assuming that voters care *only* about redistribution. Indeed, as the rentier state literature suggests, the only meaningful role of the government in a resource dependent country is revenue allocation.[3] An important feature of electoral competition in such a country is that ideological issues are dominated by rent distribution. Ideology matters only when it affects the forms of distributive policies. Consequently, the issue space is unidimensional and voters have identical and linear preferences over the unique issue.

The premise of the argument is that resource abundance generates dependence by government budget on tax revenues and royalties from natural resource rents. For instance, Indonesia's profit-sharing contracts reserve up to 90% of oil profits for the government, Venezuela's energy information administration takes 85-94% of oil profits and 60% of Mobil's earnings in Nigeria accrue to the federal government. In addition, in the year 1998, mineral revenues represented 50% government revenues in Venezuela, 64% in Gabon and 72% in Nigeria. (See Table I in appendix, Economist Intelligence Unit Country Reports 1997-98 and Barnes 1995).[4]The validity of the theoretical argument extends naturally to any rentier economy, whether the rents are generated by natural resources, by geographic location (e.g. Egypt with the Suez canal) or by foreign aid (e.g. Jordan).

The next section presents a theoretical argument to explain the correlation between resource dependence, incumbency advantage and authoritarianism. The third section presents three case studies and section IV an empirical test of positive association between resource dependence and authoritarianism. Section V concludes.

II. THE THEORETICAL ARGUMENT

Why do resource abundant countries have authoritarian governments? When state capacities are low and the abilities of the electorate to monitor and control government activities are weak, natural resources abundance

[3] Mahdavi (1970).

[4] Jones and Weinthal (2000)suggests that in Kazakhstan, the government chose to privatize the oil industry to acquire large discretionary funds with which to counter opposition and nationalist forces (p. 23)

increases competition for control of the state. This leads to political violence and the use of resource rents by those who control the state to maintain their hold on political power. In contrast, when a country is resource poor, there is less competition for state control which favors elite cooperation and the maintenance of democratic governance.[5] The logic of the argument follows.

Consider a political environment in which an incumbent with or without an opposition interacts with a large number of voters. The political environment could be a one-party or no-party state in which the incumbent faces no opposition. It could also be a multiparty democracy in which the incumbent faces one or more opposition parties. Assume that voters have preferences over ideologies and (resource) rents and that the level of rents available is very high. Because of the abundance of rents, no political agent cares about ideologies *per se*. Parties care only about political power and voters only care about how much of the (natural resources) rents is allocated to them. I rule out the scenario under which the incumbent or the opposition could get away by promising everything to every voter by assuming full rational expectation so that the incumbent is required to make credible promises. I assume that when the incumbent faces an opposition, candidates compete in a Downsian fashion and make (rent) offers to candidates to win their votes. When the incumbent faces no opposition, he or she makes promises to a special group of voters in order to win their political or electoral support.[6]

First note that in a one party or no party setting, resource abundance allows the incumbent to increase its political support and consolidate its

[5] One could also argue that resource rich (poor) countries are less (more) reliant on tax revenues, which results in the strengthening of the civil society and democratic governance (Chaudhry 1997, Crystal 1990, Brand 1992, Acemoglu and Robinson 1999, Tilly 1975 and North and Weingast 1989). Here, I present an argument that focusses on elite competition or cooperation.

[6] I assume that the incumbent cares about the political legitimacy that election provides. This assumption could be justified by noting that even autocratic or one-party states such as Indonesia, Gabon, Libya, or Iran hold regular elections to evaluate the level of popular support enjoyed by the government.

hold on political power.[7] The more rents there are, the larger the electoral support for the incumbent government. The interesting case arises when the incumbent faces an opposition in a democratic political competition. In that case, abundance of resource rents may have crucial effects on the outcome of democratic elections and on democratic governance.

The logic of the argument is as follows: if the ability of the state to enforce the law (state capacity) is weak, the incumbent government will tend to have some discretionary power to generate (natural resource) rents and to distribute these rents to citizens or/and voters. This delegation of power provides an informational advantage to the incumbent over the availability of the rents and allows the incumbent to alter the structure of the budget for electoral gains. Informational advantage and politicization of the budget can prove to be decisive in democratic elections and are likely to enhance incumbency advantage. If the opposition is unable to resort to non-constitutional means such as political unrest to compete for political power, incumbency advantage persists over several electoral cycles and leads to one party dominance. This is the case in Bostwana (see details below). However, when the opposition can use political unrest, one party dominance could incite the opposition to use illegal means such as riots or coups to compete for political power. The incumbent, anticipating this reaction of the opposition can choose to ban the opposition party or force this party to merge with the ruling party, thereby creating an authoritarian government.[8]

The key assumption is that the incumbent has discretionary power over the distributive policies. The assumption relies on the following observation made by Rogoff (1990) (among others) in the context of American politics: "during election years, governments at all levels often engage in

[7] See Lam and Wantchekon (1999) for a complete treatment of this case.

[8] Authoritarianism might be reinforced by political support to the incumbent by foreign powers. Since 1960, France has intervened in support on the incumbents in several oil rich African countries such as Gabon and Cameroon (see Yates 1996). Here, I focus exclusively on internal mechanisms of authoritarianism.

a consumption binge, in which taxes are cut, transfers are raised and government spending is distorted towards projects with high immediate visibility." Ames (1987) also discuses the prevalence of the politicization of public spending in Latin America. He found that Latin American presidents use one or more of the following strategies to win electoral support: (1) increase in the military's share of the expenditures, (2) recruitment of bureaucrats, (3) initiation of infrastructure projects in target towns or cities, (4) transfer to political activists (p. 212). Koehler (1968) finds that central government spending in Mexico rises in the first two post-election years, falls in the next two years and rises again in the election years. The observation is equally valid in rentier states. For instance, a study by Odedokun (1990) on budgetary behavior of Nigerian states during the four years of civilian government (1980-1983) shows that the pattern of utilization of federal allocations changes during election years in favor of consumption expenditures and against capital expenditures.

The argument draws from the literature on budgetary procedures and incumbency advantage. Extensive evidence for incumbency advantage in the context of American politics has been provided by King and Gelman (1991) and Alesina and Rosenthal (1995), among others. As in the present analysis, it is assumed that voters mostly care about the share of the resources controlled by the federal government that is allocated to their state, their congressional district, and themselves. Voters are assumed to prefer the incumbent because he or she has informational advantages over the challenger(s) in part through the seniority system in congress (Alesina and Rosenthal 1995). I argue that a transparent and "rule-oriented" process of rent distribution or budget procedures is a crucial determinant of electoral competition and ultimately of the nature of political regimes in rentier economies. When the constitution allows for an "open" and "inclusive" revenue-sharing mechanism rule, then the political process is likely to be insulated from rent distribution. As a result, the electoral process is competitive, and democratic governance is preserved. In contrast, when constitutional rule is weak or allows for a "closed" and discretionary revenue-sharing mechanism, the party in power can undermine the competitiveness of the democratic process by credibly promising more rents to more voters than the opposition can. The ensuing asymmetry of political power leads to one-party dominance and eventually authoritarian governments.[9]

Thus, authoritarianism arises because

1. one-party dominance combined with weak rule of law incites the opposition to use nonconstitutional means such as coup d'états to compete for political power and

2. the incumbent preempts such a move by repressing or banning the opposition party.

Thus, weak state capacity or weak rule of law affects political competition in two crucial ways. First, it affects budgetary procedures, especially the extent to which the executive can manipulate natural resource revenues for political gains. As the case study below shows, in a country like Norway where budgetary procedures are transparent with limited discretion of the executive, natural resource abundance does not confer incumbency advantage.[10] Second, strong state capacity increases the cost of political unrest or coup d'état to losing parties. When strong rule of law exists as it does in the case of Botswana (see details below), even perpetually losing parties opt to abide by electoral outcomes.[11]

[9] One-party dominance can be easily derived from repeated electoral competition in which the incumbent always has discretion over distributive policies.

[10] This does not mean that democracy will survive in Nigeria if it adopts the Norwegian constitution. I mean any effective measure to improve transparency in Negeria will help maintain democratic governance.

[11] Botswana constitutes an intermediate case where resource abundance generated incumbency advantage and one-party dominance but not authoritarian government and sociopolitical instability. Since its independence in 1966, Botswana's government has

There are several other possible outcomes. Instead of banning the opposition party after the election and before it can create political unrest, the incumbent might simply choose to prevent the opposition from running or might not hold elections at all. As mentioned earlier, one could rule out this case by assuming that the incumbent cares about the political legitimacy that election provides. Alternatively, instead of banning or repressing the opposition (kicking out), the incumbent could simply buy the opposition off with resource revenues. For the purpose of the present analysis, "kicking out" and "buying off" are essentially equivalent because both lead to one-party political dominance. Finally, we might also consider the case in which the incumbent is not successful in kicking the opposition out so that we do observe coups and extraconstitutional challenges by the opposition. It is clear that such a situation is likely to lead either to an open conflict or a civil war involving both parties with the opposition or the incumbent government establishing an authoritarian government. Collier and Hoeffer (1998) provides empirical support for this case. They find a (nonmonotonic) relationship between the presence of resource and the risk of civil war.[12]

In summary, resource abundance leads to authoritarianism for one of the following reasons: (1) it could allow an already dominant or authoritarian party or a coalition of parties to extend its level of popular support and consolidate its hold on political power;[13] (2) it could generate incumbency advantage and political instability, which could incite the incumbent to adopt repressive policies towards the opposition[14] (3) it could generate

been controlled by the Botswana Democratic Party (BDP). Currently, the BDP not only controls the executive but also has 33 out of the 40 seats in the National Assembly.

[12]Interestingly, they find that the level of resource wealth initially increases the risk and duration of civil war and then reduces it. In particular, they find that "at the means of other variables, a country with the least amount of natural resources has a probability of war of 0.56 as against one without natural resource of only 0.12 (p. 509).

[13]This was the case in Algeria, Gabon, Libya, Iraq among others

[14]This was the case in Nigeria (see case study below) and more recently in Kazhakstan and Azerbaijan (see Jones Luong and Weintahl 2000).

an open and extraconstitutional conflict (civil war), which could result in a dictatorship by the opposition party or the incumbent party.[15]

III. NIGERIA, NORWAY, AND BOTSWANA: A COMPARATIVE ANALYSIS

I next provide a comparative study of three countries whose economies have been profoundly transformed by resource wealth: Nigeria, Botswana, and Norway.[16] The study will provide some evidence that would clarify the causal effects of resource dependence on political regimes and sociopolitical stability. These three countries experienced their resource boom in the same decade, and were fairly democratic according to both ACLP and Polity 1998 measures. Figures I, II and VII show that whereas Nigeria's government has become increasingly authoritarian, Botswana and Norway have remained democratic.

The study highlights and illustrates the causes of these divergent political development paths. As the case studies will show, when oil was discovered, Nigeria had a weaker state capacity; as a result, the central government had more discretion over distributive policies. This discretionary power generated a more centralized federal system and incumbency advantage. Excluded or marginalized political groups reverted to nonconstitutional means of political competition that lead to political instability and repressive political rule. Meanwhile, Norway and to some extent Botswana had a strong state and a relatively decentralized government structure at the time of the oil boom. There were clear rules regarding revenue allocation between state and central governments, and the parliamentary system allowed for a more inclusive and transparent revenue allocation process. This situation is reflected

[15] The former Zaire, Congo Brazzaville, Liberia are good illustrations of this case.

[16] Ideally, one would need to complement the case studies with a time series analysis of the impact of resource windfalls on political regimes in Nigeria, Norway, and elsewhere. But there are no reliable resource dependence data for the pre-1970 period for many Third World countries.

in the times-series of the share of the total central government revenues allocated to the state or local governments.[17]

Insert Figures III, IV here

Figures III and IV show that share of revenue allocated by the central government to the state or local governments fluctuates much more in Nigeria than it does in Norway. This might be due to the fact that (1) Nigeria is more dependent on oil than Norway, and (2) the share of oil revenue in the total revenue collected by the central government fluctuates more in Nigeria than it does in Norway (see figure V). However, in my view, stability in revenue share is at the very least a good indication that there are stable rules governing revenue sharing, whereas fluctuation is an indication that the federal or central government has a higher discretionary power.[18] Another indication of the discretionary power of the federal government in the process of revenue allocation is provided by Odedokun (1990) in his study of the determinants of federal revenue allocation. He found that despite being one of the most important criteria for the division of the federal funds across states, population has no impact on federal budgetary items.

A. Nigeria.

The 1959 federal election gave birth to Nigerian parliamentary democracy nearly two years after the birth of the oil industry. Nigeria's democracy adopted a federal system with four regions: the North, the West, the East, and Lagos territory. The unity of the federation was strained by serious ethnic, religious, and political differences. The main political parties were the

[17] Karl (1997) stressed the importance of stateness in the divergent economic development trajectories of Norway and Nigeria (p. 213). In contrast to Karl's analysis, my analysis focuses not on development policy failures but on electoral competition, democratic governance and socio-political instability. In addition, my analysis does not point to the state in general as the cause of resource curse but to lack of transparency and incumbent discretion in budgetary processes.

[18] Fluctuation in transfers might be due to measurement errors. I control for such errors by comparating Nigerian Central bank data with IMF data.

Northern People Party (NPC), the National Council of Nigeria (NCC) and the Action Group. The original government was controlled by a coalition of the Northern People's Party Congress (NPC) and the National Council of Nigeria (NCC). The revenue collection and allocation mechanism was a major source of conflict between parties and regions. Post and Vickers [1973] point out that "since the early 1950s, one of the major grievances of various sections had been their wealth was being used to subsidize poorer ones, and the growing exploitation of oil deposits in the east and Mid-West in the 1960s thus only added to the fire which had been lit long before. Conversely, not only the mobilization of material resources but their distribution was an important source of inter-sectional competition and conflict, with constant accusations of unfair treatment" (p. 58). The conflict escalated in political violence: there were armed rebellions by the Tiv ethnic group in 1960 and again in 1964, coup attempt by some members of the Action group against the federal government in 1962, and the Yoruba rebellion of 1965.

The growth of the oil industry also coincides with a stronger grip of the NPC on the federal government and an increase in violent political opposition. The NPC won the 1964 election, which was marred by fraud, political assassinations, and threats of secession (Post and Vickers 1973). One year after the election, the NPC government was ousted by a coup d'état, and the prime minister Balewa was assassinated. The persistent tension over the control of the oil resources led to the secession of the Eastern Region of Biafra and to a two-year civil war. (Khan 1994)

As the share of oil revenues in the Nigeria's GDP increased from 1 % in 1960 and 30 % in 1964 to more than 90 % after 1979, its government has become increasingly centralized. This phenomenon was further facilitated by decree No. 13 of 1970, which reduced mining rents and royalties to oil producing states, and decree no. 9 of 1975, which transferred all mining rents and royalties from the states of origin to the federal government. Later, the 1989 constitution strengthened the discretionary power of the federal government over the process of revenue allocation to the states: the constitution states that "the federal government may make grants to a state or a local government to supplement the revenue of that state or local government in such a sum and subject to such terms and conditions as may prescribed by the National Assembly" (section 162 (1))(from Yekini 1992, 49).

Centralization generated financially dependent states and the politicization of revenue allocation. The percentage of government revenues allocated to the states that stood at 40.8 % in 1966 sharply declined over the subsequent years. In the meantime, the share of the federal government increased from 59.2% in 1966 to 73.4% in 1980 (Yekini 1992, 47). From 1967 to 1980, most states were running budget deficits while the federal government had a surplus budget and "was therefore in a comfortable position to act like "Father Christmas" to the states" (Yekini 1992, 47). This resulted in regional and ethnic competitions for oil revenues, which contributed to the institution of patronage in Nigeria's political system. For instance, Bendel State seems to have gone out of favor with the federal government and experienced a sharp decline in federal transfers. As figure VI suggests, despite being a major oil-producing state, Bendel state received 19.6% of the total transfers to the states in 1966 and only 9.5 % in 1980.

Insert Figure VI here

B. Norway.

When the North Sea oil reserves were discovered in 1962, Norway had 150 years of democratic experience and what Elder et al (1982) called an "ideal Weberian state." The public administration was known to be remarkably autonomous, and depoliticized. Strong mechanisms of accountability in place since the 18th century, such as special courts and public access to documents, made arbitrary intervention by political leaders in public administration very difficult (Karl 1996, 217). A chancellor of justice or ombudsman, first appointed in 1962, is given the independent authority to monitor and supervise the legality of the state administration. The ombudsman, is elected or re-elected by each new parliament but the MPs do not play any role in the filtering and the channeling of the complaints.

Besides its high degree of state transparency, Norwegian democracy is highly participatory and corporatist. The process of public policy making involves continuous bargains and negotiations between the state, interest groups and representative of the civil society such as associations of workers, employers, farmers, fishermen. Elder et al (1982) point out that "the dominant policy making style is extraordinarily deliberative, rationalistic, open (in the sense that all parties are consulted in advance of decision) and consensual (the agreement of all is sought). When the Labor Party in Norway had a clear majority, its enactment commanded a wide measure of cross-party assent" (p. 182).

Transparency and inclusiveness play a major role in the management of the government petroleum fund that was established in 1990 and in 1998 contained about 15.2% of the G.D.P. The income derived from the fund comprises the net cash flow from petroleum activities and the return from the funds' investment. According to the ministry of oil, the main purpose of the fund is to allow greater room for manoeuvering in economic policy should the oil price and economic activities in the mainland economy decline. Inclusiveness and transparency prevented strategic political manipulation of the process of revenue allocation. Figure IV shows that the revenue share of local governments has been quite stable since 1978. Interestingly, the gap between state and government revenues remained constant between 1978 and 1995. In my view, this indicates that there are stable rules of revenue allocation between the state and central government, and the latter has very little discretionary power.

Finally, in sharp contrast to Nigeria, the political process in Norway became more competitive after the oil boom. From 1935 to 1981, Norway was governed by Labor Party excepted for three periods (1963, 1965 to 1971 and 1972 to 1973). From 1981 to 1997 the government alternated between

Labor minority governments and Conservative-led governments.

C. BOTSWANA

Botswana constitutes an intermediate case in which resource abundance generated incumbency advantage and one party dominance but not authoritarian government and sociopolitical instability. Botswana became one of the top diamond producers in the world after the discovery of three diamond mines by DeBeers between 1969 and 1982. The country also has a rich copper-nickel mine. Throughout the 1980s, diamonds alone made up almost half of the GDP and 75 % of the exports.

Botswana is rated a democracy by Gurr and Jaggers (Polity 1998) but an autocracy by Alvarez, Cheibub, Limongi and Przeworski (ACLP 1997). This is because, the Botswana Democratic Party (BDP) has had complete control over of the government since independence in 1966 and faced no opposition. First, the opposition was basically divided until the formation of the Botswana National Front (BNF) after the 1965 elections. Thereafter, there were only three opposition parties: the BNF, the BPP (Botswana People's Party), and the BIP (Botswana Independence Party). The problem with the BNF however, has been the incongruity of its constituency, which is composed of the left in the urban areas and the right (traditionalists) in the rural areas (Picard 1987, 151). According to Picard, the main reason for the political dominance of the BDP is the presence of resource wealth. Diamond revenues provide the BDP with the political resources necessary to win continuous support from voters.

For instance, the BDP has been skillful at monitoring discontent, especially in the rural areas through the use of a colonial mechanism whereby the district commissioners (DCs) whose main function is to act as judicial magistrates are also put in charge of security matters. The DCs are to report to the government any discontent in their respective territories including formation of political groups against the government. Once such activity is noticed, the BDP dispatches funds to serve the needs of the people in that area or employs other forms of political manipulation to neutralize or recruit potential political leaders not in line with their own views (Picard 1987, 148-50). In addition, World Bank data show that military expenditures and state-owned enterprise employment increased greatly in the mid-to-late 1980s before falling to its initial levels in the mid-1990s. (Figure VII)

One-party dominance in Botswana is sustained by the presence of diamonds revenues and by the fact that state institutions in the country have the reputation for being clean and free of corruption. Civil servants are highly educated and well paid. The bureaucracy is autonomous and plays the role of policy advisor to the politicians. Thus, there is a separation of administration and politics (Picard 1987, 114). The civil service never underwent a rapid nationalization after independence. It has been based on qualification for positions, and there was no real violence or hostility between the bureaucrats and those granting them independence. According to Picard, there are two reasons why the system functions well in Botswana, (a) the civil servants are not ruled by ideology in their policy making and (b) policy research and conduct have been designed to fit the administrative capacity of the bureaucracy (Stedman 1993, 188-19).

IV. RESOURCE DEPENDENCE AND AUTHORITARIANISM: A CROSS COUNTRY REGRESSION ANALYSIS

To show that Nigeria is the rule and that Norway and, to some extent, Botswana are the exception, I now present a series of empirical tests. The econometric models are designed to complement the case studies presented in Section III, rather than support the causal argument discussed in Section II. I intend, in future works, to perform a time-series analysis and to test the causal argument in the context of specific countries such as Venezuela, Ecuador, and Indonesia, among others.[19] For now, I establish that the positive association between resource dependence and authoritarianism holds

[19] I am leaving the detailed treatment of this question for future works. I plan to build

across countries and over time, i.e., the correlation holds in a cross-section as well as in a panel setting.

Dependent Variables

The dependent variables of the empirical analysis are levels of democracy in 1998, 1990, and 1970-1998. Measures of democracy are taken from Polity 98 data sets which provide regime data for 232 countries starting as early as 1800 and ending in 1998. The data measure countries on a democratic scale from 0 to 10 and an authoritarian scale from 0 to 10. Following the standard procedure in the international relations literature, I generate a unique political regime measure in the year 1998, i.e. Reg98 by adding 10 to the difference between the level of authoritarianism in 1998 from the level of democracy in 1998. In other words, "regime 98" is defined as level of democracy in 1998 minus the level of authoritarianism in 1998 plus 10. As a result, the regime scores range from 0 to 20.

For Regime 1990, I use both Polity 1998 and a data set provided by Alvarez, Cheibub, Limongi and Przeworski (ACLP 1997). Their data set covers 141 countries from 1950, or the year of independence to 1990. Democracy is coded as a 0 and a dictatorship as a 1. According to ACLP (1997) three conditions must be fulfilled for a regime to classified as a democracy: the chief executive must be elected, the legislature must be elected, and there must be more than one ruling party. It follows that dictatorship is a political regime under which at least one of the those three conditions is not met.

Independent Variables.

The key independent variable is resource dependence for which I use the World Bank [1999] data on the sum of oil and mineral exports as a percent-

on Przeworski and Limongi's (1997) study of the conditions for survival of democracies by adding natural resource wealth as a new independent variable. At this point, such a test (dynamic probit of democratic survival or consolidation of authoritarianism) is limited by the availability of data on resource dependence prior to 1960 and sometimes prior to the end of the cold war. The test is also limited because there have been very few instances of regime change from 1963 to 1985.

age on the total merchandise exports. This measure of resource dependence seems more appropriate than the ratio of primary exports to GDP used in Sachs and Warner (1995) since it excludes agricultural products. In addition, as in all studies of the economic determinants of political regimes (Alvarez et al. (1997) and Barro (1999)), I use as control variables the log of GDP per economically active individual to control for wealth (originally taken from Summers and Heston version 5.6) and growth per economically active individual to isolate the effects of economic growth on my dependent variables (taken from Penn World Tables, version 5.6). Economically active individuals are defined as all individuals between the ages of 15 and 64. The inclusion of these standard measures of economic development are particularly important to highlight the contribution of my results to the political economy literature on the relationship between development and democracy. Because the literature is ambiguous about the possibility of democracy in poor countries, a negative and significant correlation between resource dependence and democracy would suggest that sectoral characteristics of an economy could be at least as important as the GDP or the growth rate of the GDP as explanatory variables for political regimes.

Additional controls include the level of income inequality and the level of education because they are both considered as possible determinants of democracy. According to Dahl (1971), an allocation of income, wealth, and status in a society is also an allocation of political resources that an actor can use to influence the behavior of other actors. As result,

> extreme inequalities in the distribution of such key values as income, *wealth*, status, *knowledge*, and military prowess are equivalent to extreme inequalities in political resources,...A country with extreme inequalities stands a very high chance of having extreme inequality in the exercise of power, and hence to a hegemonic regime" (p. 82).

Deininger and Squire (1996) provide measures of income inequality for

65 countries from four different sources. My income inequality variable was constructed by taking an average of the Deininger and Squire's measures for a specific country over 10 years. For example, the income inequality measure for Nigeria for 1975 to 1985 is an average of all surveys on income inequality in Nigeria between 1975 and 1985. As for measures of the level of human capital, I use the average education data from Barro and Lee (1993).

Finally, to show that the positive association between resource dependence and authoritarianism is not a purely African and petrostates phenomenon, I include regional as well as petrostates dummies provided by Easterly (1999). I include these dummies because the empirical regularity discussed in this article seems particularly valid in Africa. For instance, all African petro-states or resource dependent countries have authoritarian governments or have experienced a very slow process of political reforms. These include Algeria, Nigeria, Libya, Gabon, Cameroon, and the former Zaire. On the other hand, besides South Africa, transition to democracy has been successful *only* in resource-poor countries such as Benin, Mali, Senegal, and Madagascar. My goal is to show that Africa is not an exception.

III-A. Cross-Section Results

I now present the cross-section results of my two political regime variables regressed on resource dependence and various control variables and discuss some robustness or sensitivity checks. Table II presents the result for the regime 1998 variable and Table III the results for regime 1990.

Insert Tables II and III

For the democracy in 1998 (reg 98) regression, I ran both OLS (see Table II) and ordered probit (not reported) and the results are very similar. This is not surprising because the dependent variable has 20 categories. The coefficients are significant with t-statistics ranging from -2.279 to -5.107, which shows that there is a negative correlation between the ratio of natural resource exports to total exports and likelihood of democracy in 1998. The study of the marginal effects suggests that one point increase in resource dependence leads to a 5 to 15 % decrease in the level of democracy in 1998. As for the level of Democracy in 1990 (Probit) regression, the coefficients have the right sign but are slightly less significant (see Table III). Interestingly, the coefficient for oil exporter dummy is negative and significant, which means that rentier authoritarianism was also a petrostate phenomenon in the 1970s and the 1980s.

That resource dependence is negatively correlates with change in level of democracy corroborate a finding by Bratton (1998) of a decline in the levels of democracy in several African countries in the post third wave period (1995-1997). According to Bratton (1998), from the founding elections that took place in the period from 1989 to 1994 to the second elections that took place in period from 1995 to 1997, there has been a decline in the rate of leadership alternation (37% to 6.6%), an increase in the rate of opposition boycott (11% to 73%), and an increase in the mean of winner's vote share (61.4% to 69.1% for presidential elections and 62.7% to 72.0% in parliamentary elections). My results suggest that such a decline could be partly attributed to natural resource dependence. For instance, an examination of Bratton's data set reveals that opposition boycott and election riggings took place mostly in petrostates or resource dependent countries such as Gabon, Cameroon, Togo, and Zambia. In other resource dependent countries such as Algeria, Congo, the former Zaire, and Sierra Leone, democratization simply sank into civil wars.

For a check of robustness, I include traditional economic determinants of political regimes such as "log of GDP per capita", GDP growth, Gini coefficient, and Education. As expected, level of GDP enters positively, which confirms the standard result that more affluent countries are more likely to be democratic.[20] Interestingly, GDP growth is negatively correlated with democracy. This could be attributed to the fact that many fast growing

[20] See Barro (1999) and Alvarez et al. (1997).

economies such as China, Thailand and other Eastern Asian countries are not democratic.[21] Indeed, that the GDP growth coefficients (Column III and IV) become insignificant when I introduce regional dummies might be used to support this explanation. Finally, neither Education nor Gini coefficient are significant. This means that cross-country differences in human capital and income inequality do not account for differences in levels of democracy in 1998. These empirical findings corroborate recent theoretical arguments by Roemer (1999) that democracy is perfectly compatible with persistent inequalities in levels of education and income.[22]

I also ran a set of regressions using a measure of authoritarianism called "incumbency" constructed by ACLP (1997). The authors created a regime dummy variable in which authoritarian regimes were coded as 0 and democracies as 1. I used the individual country scores for 1970 and 1990, in which countries were classified as democratic or nondemocratic according to the three above mentioned rules. Incumbency is represented by a dummy variable coded 1 if sometime during its current tenure in office the incumbents (person, party, military hierarchy) unconstitutionally closed the lower house of the national legislature and rewrote the rules in their favor. It is coded 0 otherwise. As in the regime 1990 regression, the key independent variables are resource dependence, income inequality, log(GDP), and GDP growth. I find that the positive correlation between resource dependence and authoritarianism remains positive and significant with the t-statistics ranging from 2.498 to 3.182.[23] In other words, incumbents in resource dependent countries are more likely to close down parliaments and alter the constitutional rule in their favor.

III.B Panel Results

[21]For example, China's average growth rate from 1965 to 1997 is 8.5% as opposed to 2.5% for the United States.

[22]I also treated the dependent variable reg98 as a continiuos variable (because it is a 20-category dependent variable) and ran an OLS instead of ordered probit. As expected, the the results remained essentially the same.

[23]The results are available upon request.

I now verify that the correlation between authoritarianism and resource dependence holds in a panel setting, that is within countries or regions and over time. For this purpose, I use pooled time series and cross-section data covering the period from 1970 to 1998. The sample is 1468 for yearly observations and 515 for five-year averages of the data. I show the results of the Ordinary Least Squares (OLS), Generalized Least Square (GLS), the Panel Corrected Standard Errors (PCSE) with random effects, regional and period dummies, which could be seen as "quasi-fixed effects".

Insert Table V here

The resource dependence estimates are remarkably significant in all regressions except one. The heteroskedasticity corrected t-statistics ranges from -2.816 to -22.130. The marginal effects of resource dependence in panel setting are similar to those for the cross-section setting. A 1 percentage point increase in resource dependence leads to a decrease in democracy ranging from 2.350 % to 7.969 %.

In addition, the coefficients for the log GDP and education are all significant. In particular, as various modernization theories would predict,[24] both GDP and education levels are positively correlated with democracy. Also, as one should expect, whereas the coefficients for the Africa, Middle-East/North Africa dummies are negative and significant, the coefficients for Western Europe and North Africa are positive and significant. Finally, the oil exporter dummy is not significant.

In summary, the negative association between resource dependence and level of democracy is not only valid in a cross-section setting, it is also valid in a panel setting. The estimates are significant even after one adds regional and petrostates dummies. I consider this result to be the main empirical result of the study.[25]

[24] See Pzreworski and Limongi [1997] for a survey of the literature.

[25] Besides the empirical investigation of the effect of resource dependence on democracy, I also regress resource dependence on the rule of law using a set of economic controls as

V. IMPLICATIONS AND CONCLUDING REMARKS

The empirical findings discussed in this study have profound implications for the study of the linkages between democracy and development. The results suggest that a crucial determinant of African and Asian political regimes is their level of dependence on natural resources revenues or the rentier nature of their economy. The case studies on Norway and Botswana suggest that improving transparency of government revenue allocation should facilitate democratic governance. More broadly, the results also suggest that resource dependence or economic structure has at least as much political significance as GDP. Because most studies of the linkages between democracy and growth are inconclusive, I suggest that the ratio fuel and mineral exports to GDP or another measure of resource dependence be used as another indicator of development in any empirical analysis of the interaction between democracy and development.[26]

There are several avenues for future research. One is to adopt a more precise measure of political dependence on rents by replacing the ratio of fuel

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independent variables (results are available upon request). The rule of law data are taken from Sachs and Warner (1995) and Knack and Keefer (1995). This measure is based on 1982 survey data in which countries were ranked from 0 to 6, where lower values are defined as "a tradition of depending on physical force or illegal means to settle claims". For the rule of law regression I include "centralization" as an independent variable to control for the federalist or unitary nature of the government. (Ideally, one should use an index of budgetary procedures around the world. But such data are not available.) Measures for the level of centralization are obtained from the Polity 98 data set. The centralization variable is coded as follows: a 1 represents a unitary state, a 2 an intermediate state, and a 3 a federal state. I find that both resource dependence and incumbency advantage have a negative and significant impact on the rule of law with t-statistics ranging from -2.328 to -2.610, which means that natural resource abundance contributes to a rise in the "use of violence to settle disputes". I also find robust and significant positive correlation between authoritarianism and rule of law. The result confirms conjectures by Karl [1996] that petro-states are more likely to experience sociopolitical instability.

[26] See Przeworski et al [1997] for a survey of the literature on the interaction between democracy and development.

and mineral exports to GDP with the percentage of government revenues that comes from mineral rents and royalties received by the government. Another way to improve on the empirical analysis would be to adopt an index of budgetary procedures instead of the level of centralization as a measure of the incumbent discretion over distributive policies. More importantly, one could formally test the causal argument in the context of specific countries such as Indonesia, Venezuela, Mexico, or Ecuador among others. At the theoretical level, one could develop a more general dynamic game theoretic model to analyze conditions for political change in rentier economies from competitive democracy to one party dominance and dictatorships.

Finally, what are the policy implications of the results presented in this study? How could the oil industry or the oil revenues be managed to promote democratic governance in Nigeria and Indonesia? Following the Norwegian experience, one would suggest that the management of the petroleum funds be monitored by an independent body directly controlled by the judicial branch of government. This approach has been justified on normative grounds by O'Donnell [1999] in his study of horizontal accountability in new democracies. He maintains "it is important that agencies that perform an essentially preemptive role, such as general accounting offices or *contralorias*, are highly professionalized, endowed with resources that are both sufficient and independent from the whim of the executive, and insulated as much as possible from the latter" (p. 44). Alternatively, one could also suggest a decentralized distributive policy like the "Great Alaskan Money Give Away Program" (Olson and O'Brien 1990). The program was established following an amendment to the state constitution in 1976, which specified that: "At least twenty-five percent of all mineral lease rentals, royalties, royalty sale proceeds, federal mineral revenue-sharing payments and bonuses received by the State shall be placed in a permanent fund, the principal of which shall be used only for those income-producing investments specifically designed by law as eligible for permanent funds investments" (Alaskan Constitution).

Following this amendment, each Alaskan resident received a total of $1000, $386, $331, and $404, for the fiscal years 1982 to 1985. According to Olson and O'Brien (1990) one important motive for the program was to place a portion of the oil revenue beyond the reach of day to day government spending.

The theoretical and empirical results in this study suggest that rentier economies tend to generate authoritarian governments. My theoretical analysis focuses on how lack of transparency and incumbency discretion increases competition for political power and incentives for the political group that controls the state to use the resource rents to maintain their hold on power. The results imply that democratization efforts in rentier states such as Nigeria, Indonesia or Kazakhstan should include major reforms of the process of revenue allocation.

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