Why do Resource Dependent Countries Have Authoritarian Governments?[*]

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Abstract

This paper explores the impact of natural resource dependence on democratic governance and political instability. I show that when the state institutions are weak and budget procedures either lack transparency or are discretionary, resource windfalls tend to generate and consolidate incumbency advantage and to increase socio-political instability. There is a strong empirical support for my theoretical predictions. I find that a robust and statistically significant impact of resource dependence on the probability of "authoritarianism" Since Norway is an outlier according to my statistical findings, I explain why oil discoveries generated incumbency advantage and political instability in Nigeria but not in Norway.

[*]Preliminary. Comments welcome

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I. INTRODUCTION

This paper investigates the following surprising and troubling empirical regularity: natural resource dependence and rentier economies tend to generate authoritarian governments and socio-political instability. The empirical observation is particularly valid in Africa. All African petrostates 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. The evidence presented in this paper suggests that Africa is not an exception. I find that a one percent increase in resource dependence as measured by the ratio of primary exports to GDP leads to nearly 8 percent increase in the probability of authoritarianism.

There are however a few noticeable exceptions to these perverse effects of resource dependence on democratic governance: Botswana, Venezuela and Norway. This raises the following questions: 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 in order 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 levels of GDP, levels of education or income inequality?[1]

The economic implications of resource dependence have been extensively investigated in the literature. Case studies presented in Auty [1990], Gelb [1988], and Nankani [1980] show the adverse effects of resource abundance on growth. The most comprehensive and worldwide study of this question is provided by Sachs and Warner [1997]. They show that those countries with exports concentrated in the natural resource sector in 1970, tended to grow relatively slowly during the subsequent 20 years. The results hold even after controlling for initial income levels and trade policies, among other variables. For example, resource-rich countries such as Nigeria, Argentina and Venezuela have been outperformed by resource-poor countries such as

[1] Lam and Wantchekon [1999] ask similar questions but the goal of that paper was to explain slow growth and the consolidation of dictatorships not the breakdown of democracy or socio-political instability in resource dependent countries.

Korea and Taiwan. In particular, despite huge oil windfalls, Venezuela has su¤ered a decline in per capita output of 28% from 1970 to 1990 and Nigeria experienced an output contraction of 4.4% from 1980 to 1990.

The political economy literature attributes the "resource curse" to a pernicious distributive struggle for resource rents by numerous, powerful groups, which results in a decline of the level of investment and in a lower growth rate (Lane and Tornell, 1997) and to myopic or shortsighted policies by the government (Ranis [1992] and Rodrik [1999]). The "state-centered" literature adopts the view that resource dependence allows state actors to be more detached and less accountable since 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 and resource dependent countries in Africa. For Karl [1997] …scal reliance on petro-dollars weakens the states and creates political instability. In a related book, Ascher (1999) argues that resource dependent countries su¤er from poor governance because state o¢cials can easily manipulate the use of resource rents to meet unpopular or illegal objectives. Finally, Lam and Wantchekon [1999] investigates how economic growth, the distribution of income, and the allocation of political power simultaneously evolve when resources are discovered. They …nd that resource abundance is likely to increase income inequality and the consolidation of dictatorial regimes.

The literature has one important limitation: it provides no systematic analysis on the implications of resource dependence for democratic governance. Karl [1997] and Asher [1999] provide valuable evidence from selected countries (Venezuela, Algeria, Iran) that resource dependence might create political instability or poor governance. However, they provide no theory as to why this might be the case and they provide no econometric tests for their hypotheses. As Ross [1999] wrote: "unlike economic explanations, political explanations of resource curse are rarely tested, either quantitatively or with well selected qualitative case studies (p. 308)". Thus, there is no theoretical or empirical analysis of the political implications of resource dependence. The focus of the literature has been to provide policy or political explanations of development failures in resource dependent countries, not to explain the e¤ects of resource dependence on political factors such as electoral competition or the rule of law. The aim of this paper is to …ll this gap in the literature by providing an empirical test and a theory of the e¤ects of resource dependence and rentier economies on democratic governance.

The model builds on Myerson [1993] by assuming that voters only care about distribution. Indeed, an important feature of electoral competition in a rentier economy is that ideological issues are dominated by rent distribution. Ideology matters only when it a¤ects the forms of distributive policies. Consequently, the issue space is unidimensional and voters have identical and linear preferences over the unique issue. In addition, since the incumbent has some control over the availability of rents, his or her electoral promises will be more credible than the promises made by the opposition. Thus, incumbency advantage will be more prevalent in rentier economies than in non rentier economies.

I explain the way in which an abundance of (resource) rents provide a signi…cant advantage to the incumbent. If the ability of the state to design and enforce contracts (state capacity) is weak, political actors would be willing to give the incumbent party some discretionary power to bargain with multinationals over royalties/rents and to distribute these rents to citizens/voters. This delegation of power makes the incumbent more knowledgeable about the availability of the rents. This informational advantage could prove to be decisive in democratic elections and is likely to generate incumbency advantage. When the rule of law is strong, incumbency advantage persists over several electoral cycles and leads to one party dominance without a threat of political unrest. However, when the rule of law is weak, one party dominance could incite the opposition to use illegal means such as riots or coup d'etat to compete for political power. The incumbent will anticipate this reaction of the opposition and could choose to ban the opposition party or force this party to merge with the ruling one, thereby creating an authoritarian government.

The empirical study consists on a test of my theoretical prediction that resource dependence generates authoritarian governments. It also consists on a comparative case study between an outlier according to my empirical …ndings (Norway) and a typical case (Nigeria). Even though I do not test the e¤ect on resource dependence on incumbency advantage in a democratic and fair election, I do test and …nd a robust and statistically signi…cant correlation between resource dependence measured by the ratio of primary exports to GDP and authoritarianism.

In summary, the key factors that generate authoritarian governments in rentier economies are the lack of transparency and the absence of rules in the process of rent distribution which depends on the level of centralization of the government as well as its ability to enforce the law. When the rule of law is strong and the internal organization of the government is relatively decentralized as was the case in Norway before the oil boom, the process of rent distribution will be more transparent and less discretionary. As a result, incumbency advantage will be mitigated and democratic governance will be una¤ected by resource dependence. In contrast, when the rule of law is weak and the government is centralized as was the case in Nigeria after the oil boom, resource abundance will tend to generate one party dominance and the breakdown of democracy.[2]

The paper is organized as follows. In section II, I derive incumbency advantage in a simple model of electoral competition in a rentier economy. Section III presents a test of the the correlation between resource dependence and authoritarianism. Section IV presents two cases that highlight the causal e¤ect of resource dependence of political regimes. Section V concludes.

II. A SIMPLE MODEL

An incumbent candidate I and a challenger O compete in an election for votes from a large number of voters. Voters have preferences over ideologies and over (resource) rents. I assume that the level of rents available is very high. If rents were negligible parties would then be involved in a downsian competition. There will be no advantage for either party as each wins with probability one-half (Downs [1956], Calvert [1985] and Roemer [1994]. Thus, because of the abundance of rents, I assume that neither voters nor parties care about policies or ideologies per se. Parties only care about winning the election and voters only care about how much of the (natural resources) rents is allocated to them. I therefore focus the politics of rent distribution by assuming that parties compete à la Myerson [1993]. They make promises to a special group of voters in order to win their votes and the election. As in Myerson [1993], I rule out the scenario under which a candidate could get away by promising everything to every voter by assuming full rational expectation so that candidates are

[2] Botswana constitutes an intemediate case where resource abundance generated incumbency advantage and one party dominance but not authoritarian government and socio-political instability. Since its independence in 1966, the Botswana's government was controlled by the BDP (Botswana Democratic Party). Currently, it not only controls the executive but also has 33 out of the 40 seats in the National Assembly.

required to make credible promises. However, in contrast to Myerson, the incumbent party may have private information over the level of rents to be distributed or may even control their availability.

The game has five stages. At the first stage, parties make campaign promises. At the second stage there is an election. Then the losing party may choose whether to abide by the outcome. Finally, the winning party implements its distributive policies. In cases where the incumbent has discretionary power over distributive policies, there is an initial stage (stage 0), at which the incumbent can invest in a pre-electoral, revenue-generating project. I will study the case where the rule of law is strong and the discretionary power of the incumbent over revenue allocation is limited, and then move to the case where the rule of law is weak and/or the incumbent has discretionary power. Also, for the sake of tractability, I will focus on the case where only the opposition can create political unrest.

Preferences and strategies. A continuum of voters located in the interval $[0;1]$ participates in the election. Voters have a priori no party preference. Define by R the level of rents to be distributed. A pure strategy for either party is a function

$$s : [0;1] \to \Re^{+}$$

such that

$$\int_V s(v)\,dv = R.$$

Voter of type v observes its offers $s_I(v)$ and $s_O(v)$, chooses to vote for candidate $i \in \{I;O\}$ if $s_i(v) > s_{-i}(v)$ and randomizes with equal probability if $s_i(v) = s_{-i}(v)$. As in Myerson [1993], I consider the case where offers made by candidate i to voters are the realizations of the same random variable with cumulative distribution function F_i.[3] In addition, since the number of voters is infinite, it turns out that F_i represents the distribution of offers in the electorate, i.e. $F_i(r)$ is the fraction of voters who receive offers of at most r by candidate i or a mixed strategy of campaign promises by candidate i. Finally, each candidate budget constraint is expressed as the average offer that he or she can credibly promise to a voter. That is, each offer distribution must have a mean of $\frac{R}{2}$. In addition, F_i must satisfy $F_i(r) = 0$ for $r < 0$, $F_i(r) = 1$ for $r > R$ and $\int_0^{\infty} r\,dF_i(r) = \frac{R}{2}$ for $0 \leq r \leq R$.

[3] As noted by Lizzeri and Persico (1999), the fact that offers to voters by candidates are realizations of the same random variable does not mean that each voter gets the same offer

In order to endogenize socio-political instability, I assume that the opposition party might not abide by the electoral outcome and could create political unrest with probability q. When it occurs, political unrest generates a payoff of c_i for party i and c for all voters. When the rule of law is strong, the cost of political unrest on the losing party is very high. When the rule of law is weak, the cost is moderate and private information. Finally, when the incumbent has discretionary power over revenue allocation, I will assume that the incumbent can invest part of the rent, $x \in [0; R]$ in a project whose value is totally realized only after the election. The value of the investment for each voter is $g_i(x; \theta_i)$ where θ_i is a party-specific human capital.

Payoffs. Voters' utility functions depend on (1) its allocation of the rent $s(.)$, (2) the value of the project initiated by the incumbent, $g_i(.; \theta_i)$ (3) the cost of political unrest and (4) the probability of political unrest. Thus, voter v's utility if the rule of law is strong and the incumbent has very little discretion over revenue allocation is $s(v)$. When the rule of law is weak and the incumbent has discretionary power over revenue allocation, the payoff of voter v is given by

$$s(v) + g_i(x; \theta_i) - qc$$

Parties preferences are downsian in the sense that they only value winning per se. However, like voters, their payoffs depend on the cost or the benefit of political unrest and the probability of political unrest. Thus, the payoff of party i is $-qc_i$ if it loses and

$$G - qc_i$$

if it wins. I first analyze the case where the availability of the rents is public information and the rule of law is strong. That is, for all i, $c_i > R$ which implies that either party always abide the electoral outcomes.

Proposition 1 The unique equilibrium offer distribution is such that for each i;

$$F_i(r) = \begin{cases} 0 & \text{for} \quad r < 0 \\ \dfrac{r}{R} & \text{for} \quad 0 \le r \le R \\ 1 & \text{for} \quad r > R. \end{cases}$$

Given these offers, each party wins with probability $\frac{1}{2}$.

Proof: Assume the incumbent chooses a uniform offer distribution, that is $F_I = \frac{r}{R}$ for $0 \leq r \leq R$, and that the opposition choose an offer distribution F_O such that $\int_0^\infty r dF_O(r) = \frac{R}{2}$. The vote share of the opposition is given by:

$$S(F_I; F_O) = \int_0^\infty F_I dF_O(r) \leq \int_0^\infty \frac{r}{R} dF_O(r) = \frac{1}{2}$$

Thus, when the incumbent is choosing the uniform offer distribution, the opposition's best response is to do the same. A proof of the uniqueness of this equilibrium is contained in Myerson [1993] and Lizzeri [1997].Q.E.D.

The result concerning the equilibrium offer distribution is a version of Theorem 1 in Myerson [1993]. The logic is similar to the well known downsian platform convergence result (Downs [1956]; Calvert, [1985]). It shows that when the process of rent distribution is transparent and rule-oriented, two-party political competition leads candidates to make identical campaign promises. As a result, they have equal chances of winning the election.

Incumbency Advantage

I next derive incumbency advantage by assuming either that the level of rents available for distribution is private information (Proposition 2) or that the incumbent has discretionary power over distributive policies (Proposition 3). For the private information case, I will assume for the sake of simplicity that R is a random variable that takes the value R_1 with probability p or R_2 with probability $(1 - p)$ where $R_1 > R_2$. As before, parties are required to commit to their platforms, which means that there is an infinite cost of lying for both the incumbent and the opposition. A strategy for the incumbent is $F_I(r_1)$ when the $R = R_1$ and $F_I(r_2)$ when $R = R_2$. A strategy for the opposition is $F_O(r)$:

Proposition 2 The equilibrium offer distribution is such that type l of the incumbent offers $F_I(r_l) = \frac{r_l}{R_l}$ for $R = R_l$ and $r_l \in [0; R_l]$ while the opposition offers $F_O(r) = \frac{r}{R_2}$ for $r \in [0; R_2]$. Given these offers, the incumbent candidate wins the election with probability $p + \frac{1}{2}(1 - p) > \frac{1}{2}$. Incumbency advantage disappears if the opposition can make a state-contingent offer to the electorate.

Proof: I first consider the case where parties are required to make non state contingent offers. Assume there is an equilibrium in which the opposition chooses r such that $\int_0^1 r dF_l\,(r) = \frac{R_1}{2}$ where F_l is uniformly distributed in the interval $[0; R_1]$. In such an equilibrium the opposition wins with probability $1/2$ and earns a payoff of $G/2$ if $R = R_1$ and a payoff of -1 if $R = R_2$. The opposition will deviate and choose r such that $\int_0^1 r dF_l\,(r) = \frac{R_2}{2}$. If the opposition plays such a strategy, type $l = 1; 2$ of the incumbent will choose r_l such that $\int_0^1 r_l dF_l\,(r_l) = \frac{R_l}{2}$. Finally, if parties can make state contingent offers, it is straightforward that an equilibrium strategy for the opposition consists on offering uniformly to each voter at least r_l if $R = R_l$ such that $\int_0^1 r_l dF_l\,(r_l) = \frac{R_l}{2}$ is equilibrium. Q.E.D.

Lack of transparency forces the opposition either to make an ambiguous or a conditional promise such as "I will offer 20% of the available rents" or to make the "minimal" offer. If voters "dislike" ambiguity or conditionality, then the incumbent (the informed party) wins with a higher probability. Electoral competition is restored only if the opposition can tailor its offer to the realized level of rents, or if the opposition can somehow tailor its offer to the incumbent's offer.

I next show a stronger incumbency advantage result by assuming 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 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).

The observation is equally valid in rentier economies. Odedokun [1990] studies budgetary behavior of Nigerian states during the four years of civilian government (1980-83) and finds that the pattern of utilization of federal allocations changes during election years in favor of consumption expenditures and against capital expenditures. 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. In this paper, I present mechanisms through which politicization of public spending could a¤ect electoral competition. I show that discretion over when and how to spend government resources allows the incumbent to undermine the credibility of the opposition by making up-front payment to voters in the form of investment that would be realized only after the election. I now drop the private information assumption used in Proposition 2 and assume that R is public knowledge and that there are two types of project, an I-type or an O-type project. For I-type project $g_I(x;\mu_I) > g_I(x;\mu_O)$ and for O-type project $g_O(x;\mu_O) > g_O(x;\mu_I)$. If the incumbent were to invest in the I-type project, he or she would have $g_I(x;\mu_I) + (R - x)$ to o¤er to the electorate. I assume that parties make promises taking into account future return for the investment (if the investment took place). At the electoral stage, voters choose the party that promises the most.

Proposition 3 All equilibria are characterized by $0 < x^e \leq R$ with the incumbent winning the election with probability 1.

Proof: In the last subgame with investment, voters prefer the incumbent for all $x > 0$. In the subgame without investment either party wins with probability 1/2. Given this electoral behavior, the incumbent will choose to invest. Thus, there are multiple equilibria, each characterized by $0 < x \leq R$: Q.E.D.

Suppose that the incumbent is a left wing party while the opposition is a right wing party. Suppose also both parties make identical o¤ers in the subgame starting from the political campaign stage. Proposition 3 shows that the incumbent is likely to spend some of rents on a leftist project (say day care facilities) and credibly claim that those facilities will be well maintained and even upgraded if he or she is elected but that the facilities will be downgraded if the opposition is elected. Given that the day care facilities have already been created, voters will tend to prefer the incumbent. In other words, the incumbent could use its discretionary power over current government spending to create a "lock-in e¤ect" in revenue allocation and dominate the opposition in the election.[4]

[4]Note that I could have derived the result by assuming that the value of the project is stochastic with the good state being more likely if the incumbent were re-elected. Similarly, I could also have assumed that the amount of money spent by the incumbent to bribe voters is never disclosed. This could explain why in many elections in third world countries, pre-election bribes su¢ce to secure incumbency advantage.

King and Gelman [1991], Alesina and Rosenthal [1995] among others provide an empirical analysis of incumbency advantage in the context of American politics. 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 to themselves. Voters are assumed to prefer the incumbent because he or she has informational advantage over the challenger(s) in part through the seniority system in congress (Alesina and Rosenthal [1995]. Proposition 2 and 3 provide a simple game theoretical model in which incumbency advantage is derived as equilibrium behavior. While in Proposition 2, this advantage is derived from the lack of transparency in budget procedures, in Proposition 3, it is derived from discretionary power over these procedures.

The role of transparency and discretion in budget procedures has been investigated in the context of the interaction between voters and politicians by Rogo¤ [1990], Cuckerman and Metzer and Buchanan [1986] and Wagner [1977]. They show that lack of transparency makes it easier for politicians to engage in "pre-electoral …scal manipulations and more generally to favor one lobby group over the other." (Alesina and Roubini [1997]; p. 239). In other mitigate this problem, Tufte [1978] proposes a change in the timing of the congressional budget (p. 152). Even if the main contention of this paper is similar to Rogo¤ [1990] and Cuckerman and Metzer [1986], my model is exclusively focussed on distributive politics and multi-party competition and is set up to derive conditions for incumbency advantage. I show that such advantage can occur even in a political environment where parties can commit to their campaign promises and do not control already established patronage networks. The results also show 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 insulated from rent distribution. As 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. The ensuing asymmetry of political power leads to one party dominance and eventually to authoritarian governments.[5]

Political Instability and Authoritarianism

In order to investigate the effects of one party dominance on the incentive of the opposition to abide by electoral outcomes, I assume that the payoff of the opposition party when there is political unrest is private information and takes a positive value $\bar{c}$ with probability α and a negative value $\underline{c}$ with probability $(1-\alpha)$.[6] If the cost of political unrest to voters is "too" high, say $c > R$, then voters will vote for the incumbent with the hope that he can concede at least $\bar{c}$ to the opposition in order to secure "stability". The incumbent will make such a concession if $G - (1-\alpha)\bar{c} < 0$. I will focus on the non trivial and realistic case where the incumbent is not very "fearful" of political unrest and will not make any concession. That is, $G - (1-\alpha)\bar{c} \geq 0$ or

$$\alpha \leq \frac{\bar{c} - G}{\bar{c}} \tag{1}$$

Define by x^* the level of investment that maximizes the value of the project (x^* is such that $g_I'(x^*;\theta_I) = 0$). The following proposition shows that incumbency advantage disappears only if the opposition credibly threatens to create political unrest.

Proposition 4 Assume A1 holds. Then political unrest occurs with probability α and the incumbent wins only if $g_I(x^*;\theta_I) - \alpha c > 0$.

Proof: Under A1, the opposition never creates political unrest if $c_O = \underline{c}$ and can create political unrest if $c_O = \bar{c}$. Thus political unrest occurs with probability α if the opposition loses and (by assumption) there is no unrest if the incumbent loses. At the election stage, voter v prefers the incumbent if

$$g_I(x;\theta_I) + F_I(r) - \alpha c \geq F_O(r)$$

They vote for the opposition otherwise. The interesting case arises when both parties make the same offer ($F_I(r) = F_O(r)$). In that case, voters prefer the incumbent if $g_I(x;\theta_I) - \alpha c > 0$. They prefer the opposition if $g_I(x;\theta_I) - \alpha c < 0$ and randomize

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

[6] For a general model of electoral competition in conditions of political instability, see Ellman and Wantchekon (1999).

with equal probability if $g_I(x;\theta_I) - \alpha c = 0$. Given that voters are playing such a strategy, the incumbent will choose x^* such that $g_I'(x^*;\theta_I) = 0$. Thus the incumbent wins only if the value of the project is either high or the cost of unrest to voters is low. That is, $g_I(x^*;\theta_I) - \alpha c > 0$.

The result shows that when the rule of law is weak and the cost of political unrest for the opposition is not very high, the opposition can "restore" some competitiveness to the electoral process by threatening to create political unrest. Competition will again disappear if (1) the incumbent were as likely as the opposition to create political unrest or (2) the incumbent could endogenize the probability of unrest by investing $y \in [0; R]$ in a "repressive" activity such that $\alpha(y)$and $\alpha_y(y) < 0$. Competition will also disappear if, in anticipation of political unrest, the incumbent chooses either to ban the opposition party or to force this party to merge with the ruling one. According to Alvarez et al [1997], the consolidation of one party rule after the election is typical to authoritarian regimes.[7]

There are at least one testable hypothesis that can be derived from Proposition 3 and Proposition 4. They imply that authoritarian governments can be generated by the following two conditions: (1) rents are abundant; (2) the incumbent has discretionary power over distribution policies. Thus, controlling for GDP, the level of (de)centralization of the government and other variables, I will show that there is a robust and (statistically) significant effect of resource dependence on the probability of authoritarianism".[8]

III. DATA SETS AND EMPIRICAL EVIDENCE

The dependent variable of the empirical analysis is (1) strength of incumbency advantage or authoritarianism, and (2) The incumbency/ authoritarianism measure come from Alvarez, Cheibub, Limongi and Przeworski [1997]. They created a regime dummy variable where authoritarian regimes were coded as a 0 and democracies as a 1. This data set covers 141 countries from 1950, or the year of independence, to

[7] They wrote: "If the incumbents consolidated during their current tenure in office a one-party rule or a non-party rule, then the regime is considered to have been authoritarian from the moment at which the presently incumbent assumed office. (p. 8)"

[8] Propositions 3 and 4 also imply that incumbency advantage in fair and democratic elections can be geanerated by resource dependence. However, due to the unavailability of the data at this point, I can only test this hypothesis in future works.

1990. The 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. I used the individual country scores for 1970 and 1990, where countries were classified as democratic or non-democratic according to the three mentioned rules. Incumbency is represented by a dummy variable coded 1 if the following conditions hold: (a) the regime year qualifies as a democratic regime on all other criteria and (b) 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's coded 0 otherwise.

The key independent variable is "resource dependence" for which I use Sachs and Warner [1997]'s measure of primary-product exports to GDP as a proxy.[9] The other key independent variables are "decentralization" and "Income inequality". I use decentralization as a proxy for the level of incumbent discretion in public spending.[10] Measures for the level of decentralization were obtained from the Polity IIId and Polity IIIu (P) data sets which provides regime data for 232 countries starting as early as 1800 and ending in 1994 for the Polity IIId and is extended to 1996 for Polity IIIu. The decentralization variable is coded as follows: a one represents a unitary state, a two an intermediate state, and a three a federal state. 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 our dependent variables (taken from Penn World Tables, version 5.6). Economically active individuals are defined as all individuals between the ages of 15 to 64. The level of income inequality is measured by Gini coefficients constructed by Deininger and Squire (1996). The data provides measures of income inequality for 59 countries from four different sources. My income inequality measure was constructed by taking an average of the DS measures for a specific country over a set of years. For example, the income inequality measure for

[9] A perhaps better measure of resource dependence could be the proportion of the government budget financed by natural resource royalties and rents. But such information is not available for all the countries in our data set. However, Table I indicates that there is a postive correlation between "the ratio of primary exports to GDP" and the "dependence of government budget on resource rents."

[10] Ideally, one should use an index of budgetary procedures around the world. But such data is not available.

Nigeria for 1975-1985 is an average of all surveys on income inequality in Nigeria between 1975 and 1985.

The empirical analysis consists of a set of cross country regressions in which "Incumbency/Authoritarian 1990" is regressed on measures of resource dependence, centralization, Growth in 1970, "Incumbency/authoritarian 1970" and other variables. Table I presents the regression results. As I have shown in the theoretical section of the paper, resource dependence in 1970 strengthens incumbency in 1990. Centralization alone does not have a signi…cant e¤ect on the strength of the incumbent while the interaction of centralization with resource dependence has a signi…cant and positive e¤ect on the strength of the incumbent only at 90 percent level.[11] The regression also shows that incumbency advantage is persistent: the interaction of Incumbent in 1970 and resource dependence in 1970 has a signi…cant and positive e¤ect on "Authoritarianism or Incumbency in 1990". Thus, not only do rentier economies generate authoritarian governments, they make democratic political change more di¢cult. As I mentioned earlier, the observation is particularly valid in Africa: democratic transition has either failed or been particularly slow in all rentier African states. In addition, the most successful cases of democratic transitions took place in resource poor countries.

Insert Table I here

I also investigate the e¤ect of resource dependence on the rule of law using a set of economic controls as independent variables (results not reported). I …nd that both resource dependence and incumbency advantage have a negative and signi…cant impact on the rule of law.[12]

IV. EVIDENCE FROM NIGERIA AND NORWAY.

[11] The limited e¤ect of decentralization on incumbency might due to the fact decentralization is an imperfect measure of discretion.

[12] I also veri…ed Sachs and Warner' results on the negative impact of resource dependence on growth, controlling for the nature of domestic government (democracy or dictatorship; centralized or decentralized governments). Part of the results are developped in Wantchekon and Lam (1999). They show that resource dependence has a negative impact on growth (resource curse). Interestingly, when decentralization is added, resource dependence is not signi…cant. However, when one adds the interaction between decentralization and resource dependence, the coe¢cient is positive and signi…cant. Thus decentralization matters in rentier economies even if it has little impact on growth: resource curse can be mitigated through decentralization of government.

I next provide a comparative study of two countries whose economies have been profoundly transformed by oil discoveries: Norway and Nigeria. The study will provide some evidence that would clarify the causal effects of resource dependence on political regimes and socio-political stability. I choose to study these two countries because (1) both countries experienced their oil boom in the same decade, (2) they were fairly democratic according to both ACLP and Polity III measures. However, as Figure I and II indicates, while Nigeria's government has become increasingly authoritarian, Norway remained democratic.

Insert Figure I and II here

The study highlights and illustrates the causes of these divergent political development paths. 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 non-constitutional means of political competition which lead to political instability and repressive military rule. Meanwhile, Norway had a strong state and a relatively decentralized government structure at the time of the oil boom. There were clear and bright 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 in the times-series of the share of the total central government revenues allocated to the state or local governments.[13]

Insert Figures III, IV here

As Figures III and IV shows, 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

[13] 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.

central government ‡uctuates more in Nigeria than it does in Norway (See …gure 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, while ‡uctuation is an indication that the federal or central government has a higher discretionary power. [14] Another indication of the discretionary or the bargaining 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 2 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 di¤erences. The main political parties were the Northern People Party (NPC), the National Council of Nigeria (NCC) and the Action Group. The original government was controlled by a coalition of Northern People's party Congress (NPC) and the National Council of Nigeria (NCC). The revenue collection and allocation mechanism was a major source of con‡ict between parties and regions. As Post and Vickers [1973] wrote: "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 …re 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 con‡ict, with constant accusations of unfair treatment (p. 58)." The con‡ict escalated in political violence: there were the armed rebellion by the Tiv ethnic group in 1960 and 1964, the 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

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

secession (Post and Vickers [1973]). One year after the election, the NPC government was ousted by coup d'etat 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])

While the share of oil revenues in the Nigeria's GDP increased from 1 percent in 1960 and 30 percent in 1964 to more than 90 percent after 1979, its government has become increasingly centralized. This phenomenon was further facilitated by the 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: It says "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], p. 49)

Centralization generated ...nancially dependent states and the politicization of revenue allocation. The percentage of government revenues allocated to the states that stood at 40.8 percent 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], p. 47). From 1967-1980, most states were running budget de...cits 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], p. 47). This resulted in a regional and ethnic competitions for oil revenues which contributed to the institution of patronage in Nigeria's political system. For instance, Bendel State seemed to have gone out of favor with the federal government and has 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 not only 150 years of democratic experience but also 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 set up since the 18th century, such as special courts and public access to documents made arbitrary intervention by political leaders in public administration very di¢cult.(Karl [1997], p. 217). A chancellor of justice or ombudsman …rst 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 …ltering 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, …shermen. As Elder et al [1982] wrote: "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 established 1990, which by 1998 contained about 15.2% of the Gross Domestic Product. The income derived from the fund comprised of the net cash ‡ow from petroleum activities as well the return from the funds' investment. According to the Ministry of Oil, the main purpose of the funds is to allow greater room for manoeuver 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. As Figure I shows, 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 that the latter has very little discretionary power.

Finally, in sharp contrast with 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, 1965-71 and 1972-73). From 1981 to 1997 the government alternated between Labor minority governments and Conservative-led governments.

V. CONCLUSION.

The theoretical and empirical results in this paper suggest that rentier economies tend to generate incumbency advantage, undermine democratic governance and socio-political stability. My theoretical analysis focuses on the way in which lack of transparency and incumbency discretion in revenue allocation a¤ects electoral outcomes when voters only care about redistribution. I explain how incumbency advantage or one party dominance could induce the opposition to resort to political violence to compete for political power and therefore generate political instability and authoritarian governments.

The results suggest that a crucial determinant of African and Asian political regimes is their level of dependence on natural resources revenues. As the case study on Norway would suggest, improving transparency of government revenue allocation should facilitate democratic governance. More broadly, the results also suggest that resource dependence clearly has more political signi…cance than GDP. Since most studies on the linkages between democracy and growth are inconclusive, I suggest that "primary exports to GDP" replace "GDP" as the main indicator of development in any empirical analysis of the interaction between democracy and development.[15]

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 primary exports to GDP" by 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. 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 to dictatorships.

Finally, what are the policy implications of the results presented in this paper? How could the oil industry or the oil revenues be managed to promote democratic

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

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. 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 speci…ed that: "At least twenty …ve 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 speci…cally 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 …scal 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.

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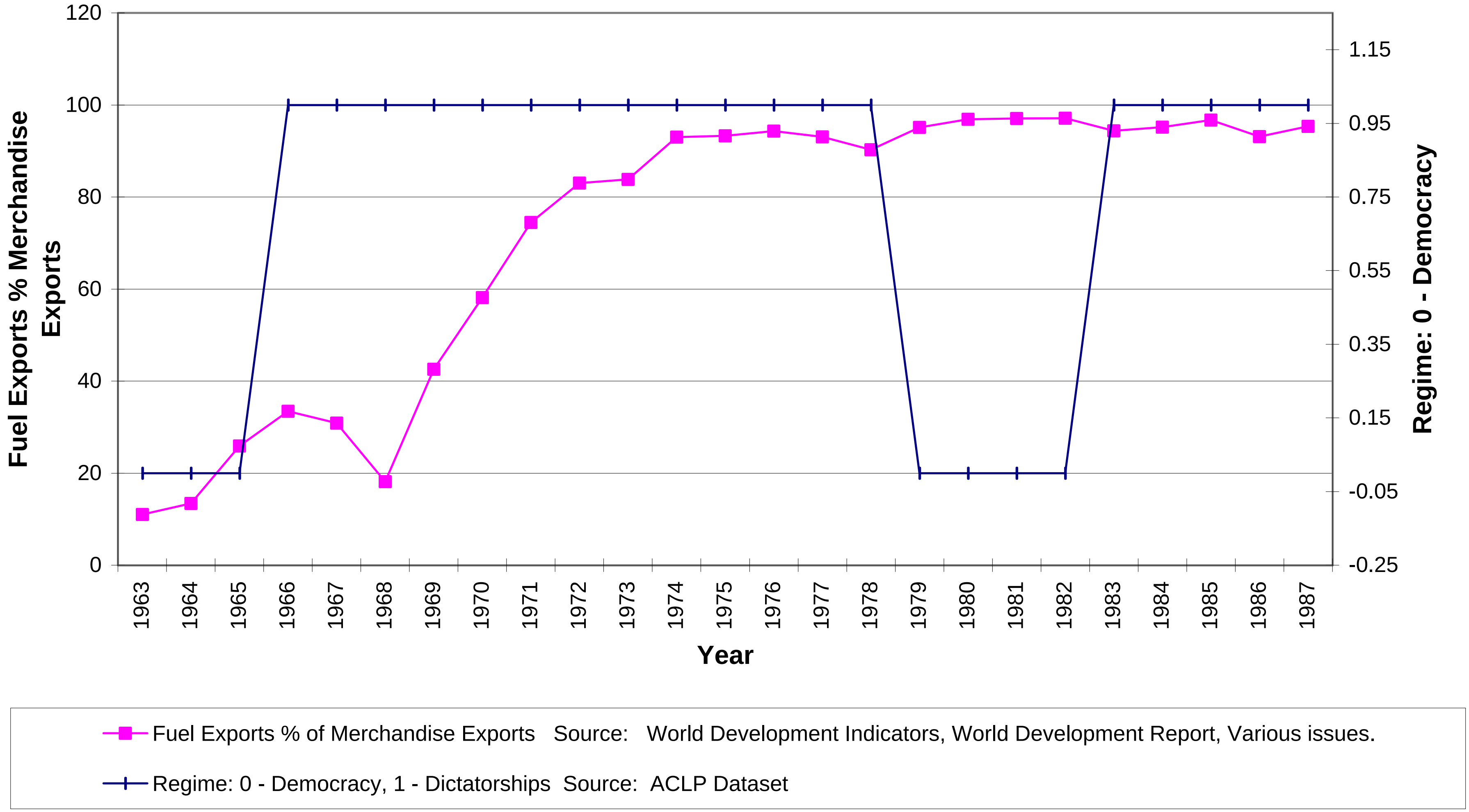
TABLE I. Probit Incumbency/Authoritarianism Regression[1]

Dependent Variable: Incumbency/Authoritarianism 1990					
Incumb/Auth. 1970	1.6540	1.6656	1.8523	1.979	-0.7131
	(2.352)	(2.016)	(2.292)	(2.020)	(-0.439)
Log GDP 1970	-.3312	-.3239	-.4511	-.6464	-.6711
	(-0.879)	(-.802)	(-1.140)	(-1.359)	(-1.279)
Growth 1970-90	-.4172	-.6592	-.5270	-.7105	-.9677
	(-2.034)	(-1.635)	(-2.031)	(-2.027)	(-1.968)
Primary Export to GDP	7.8875	7.5189	8.3694	-.2967	5.1259
	(2.996)	(2.430)	(2.643)	(-0.042)	(1.402)
Gini 1970-90	-0.0960	-.1072	-.1148	-0.1358	-.1533
	(-1.768)	(-1.747)	(-1.806)	(-1.868)	(0.076)
Incumb/Auth. 1970*Growth 1970-90		0.3450			
		(0.832)			
Incub/Auth. 1970*Primary Exports to GDP					18.4463
					(1.937)
Centralization 1970			0.4659	-0.8876	0.4322
			(1.086)	(-0.680)	(0.714)
Centralization*Primary Exports				6.8106	
				(1.275)	
Constant	3.8366	4.1767	4.8229	8.9980	8.6885
	(1.048)	(1.058)	(1.248)	(1.687)	(1.645)
Number of Observations	75	75	75	75	75

[1] The t-statistics are reported in parentheses.

Figure I
Nigeria: Regimes and Fuel Exports



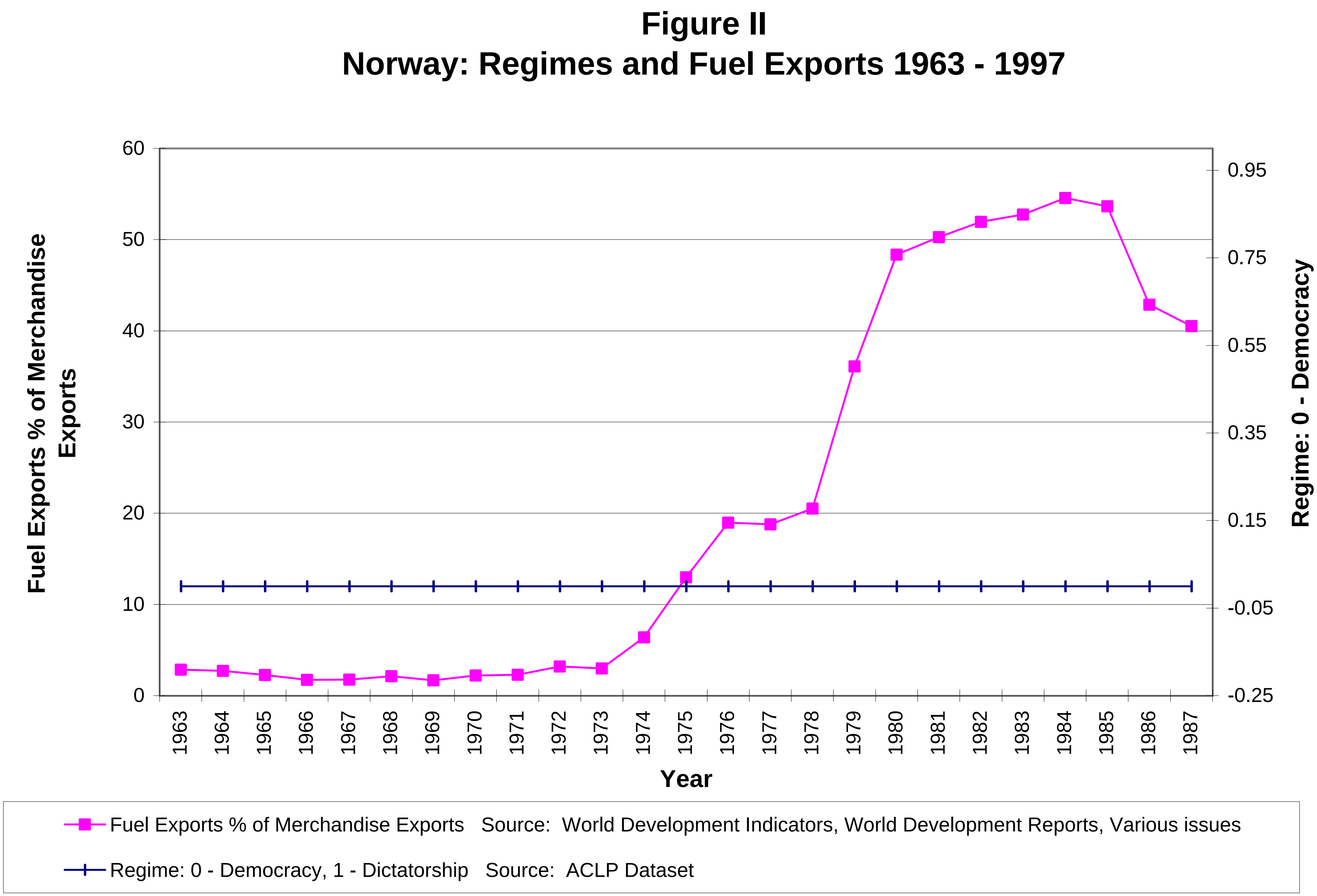


Figure II
Norway: Regimes and Fuel Exports 1963 - 1997
Fuel Exports % of Merchandise Exports
Regime: 0 - Democracy
Year
60
50
40
30
20
10
0
0.95
0.75
0.55
0.35
0.15
-0.05
-0.25
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
Fuel Exports % of Merchandise Exports   Source: World Development Indicators, World Development Reports, Various issues
Regime: 0 - Democracy, 1 - Dictatorship   Source: ACLP Dataset

Figure III
Allocation of Revenue to State Governments by the Federal Government: Nigeria 1966 - 1994

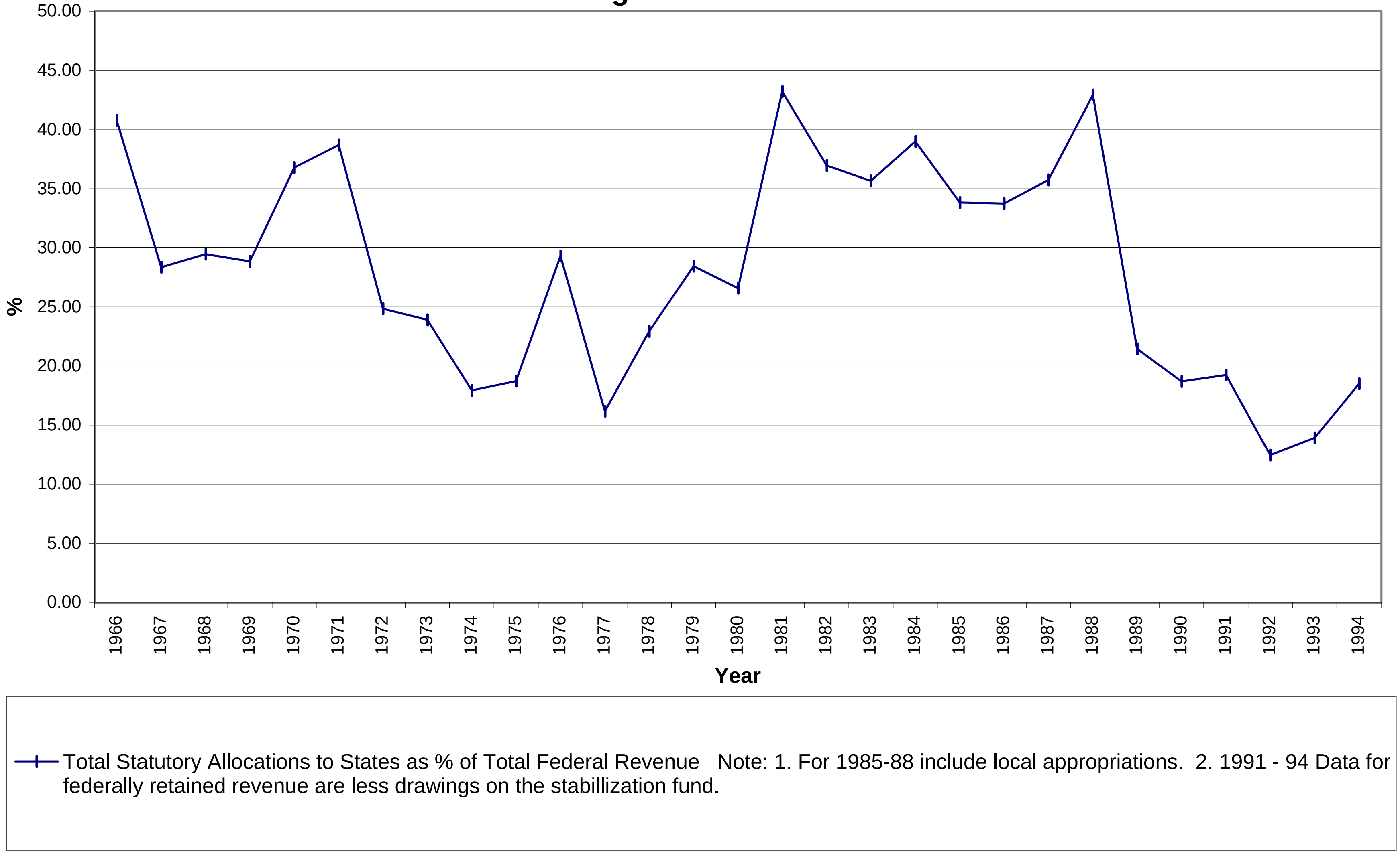


Figure IV
Allocation of Revenue to Local Governments by the Central Government: Norway 1978 - 1998

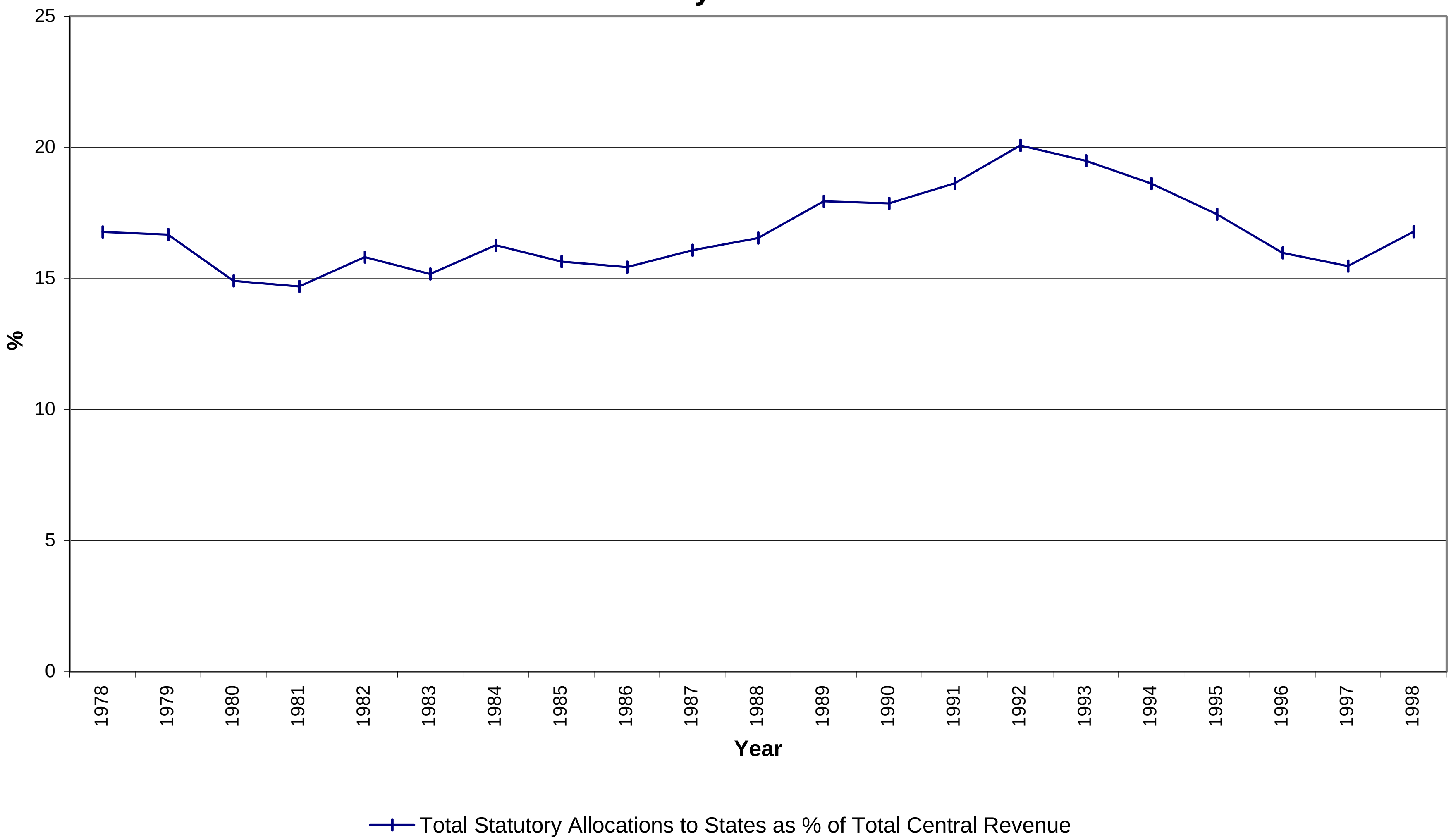


Figure V
Oil Revenue Trends in Nigeria & Norway (1977 - 1996)

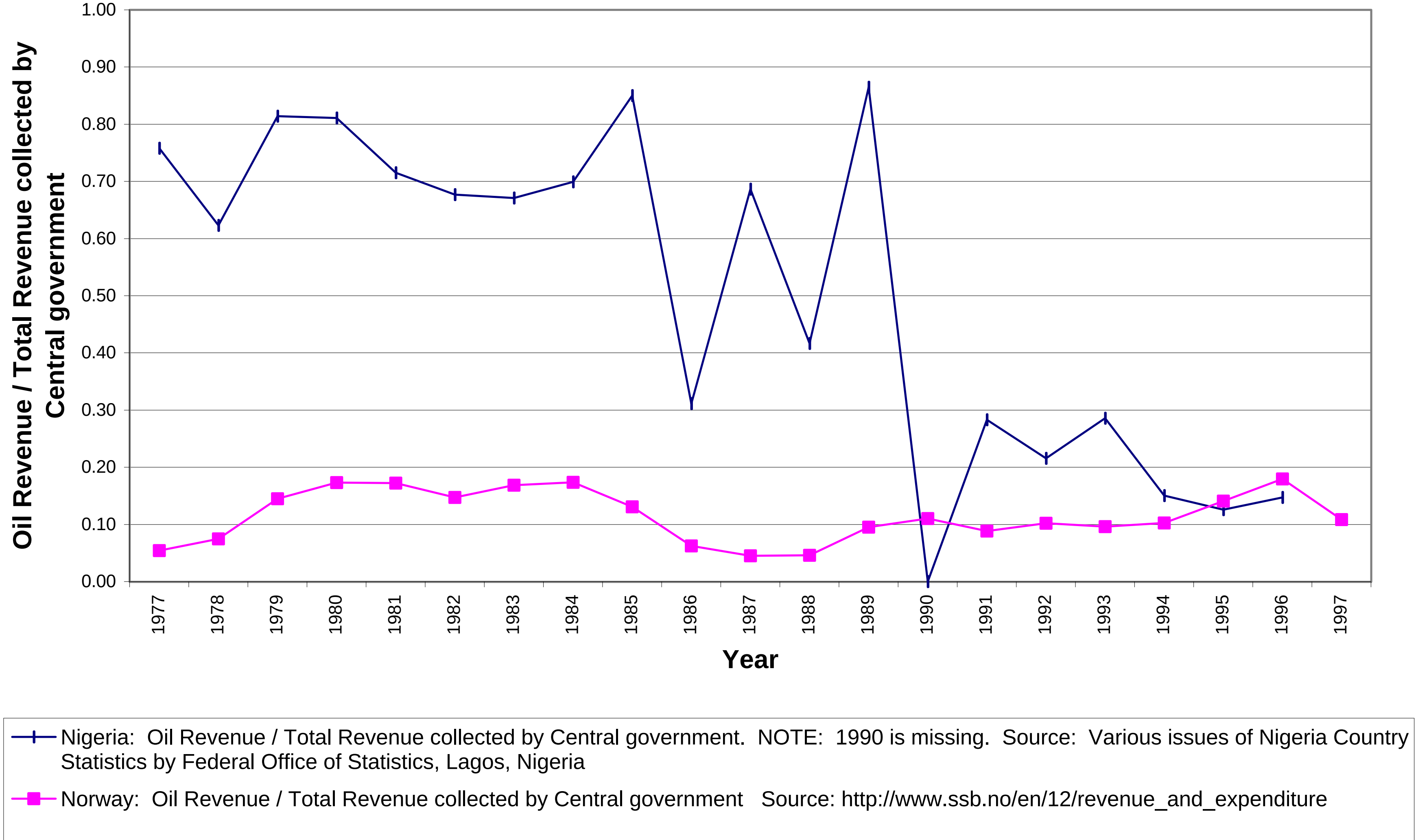


Figure VI

Statutory Allocation To The Then Bendel State 1966 - 1990