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Discussion paper

On the political economy of resource rents in polarized societies

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On the political economy of resource rents in polarized societies

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Abstract

The present paper analyses how resource rents may affect political outcomes in a polarized society, where groups hold conflicting views on economic policy. A politically dominant group decides whether or not to include the opposition in the national political process. The weaker group chooses whether to remain in the union or secede. The analysis finds that the effect of resource rents on social and political outcomes depends on the social environment, in particular the degree of polarization in society. Moreover, the study shows that this relationship may be non-monotonic, with increases in resource wealth stimulating peaceful cooperation for some initial levels of wealth, and stimulating conflict and division for other initial levels of wealth.

JEL codes: H77; O13; Q34

Keywords: Natural resources; Polarization; Conflict; Democracy; Dictatorship; Regional autonomy

1 Introduction

Is natural resource wealth a source of economic growth or economic stagnation, a source of peace or conflict, democracy or dictatorship? It is fair to say that the emphasis lately, at least amongst economists, has been on

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the negative effects of resource wealth on economic, social and political outcomes. In particular, “point source” resources like oil and lootable resources like diamonds are found to have destructive effects on society.¹ But clearly, natural resources do not necessarily lead to economic, social, and political decay. For instance, Mehlum, Moene and Torvik (2005) demonstrate that natural resources only applies for countries where the quality of institutions is sufficiently poor. Similarly, economic historians have traditionally emphasized the importance of natural resources as a positive factor in promoting industrialization and economic growth.² A number of regression analyses and case studies also indicate that natural resources may stimulate cooperation between groups in society.³ Based on a collection of case studies on natural resources and conflict, Ross (2003b), concludes that “resource wealth prolonged eight conflicts, shortened two, had a mixed effect in two and no impact in one.” (page 27-28)

In sum, the evidence from cross-country regression analysis and in depth country studies demonstrates that resource rents may affect political and social development through various channels, and that their net effect on war and peace, democracy and dictatorship, is far from clear. The present paper is an effort to think in a systematic way about at least some aspects of this complexity. The model will demonstrate that resource rents have the potential to both stimulate and obstruct cooperation between social groups, and specify under which circumstances different political outcomes are likely to apply. The model allows natural resources to both “fuel conflict”, “grease the machinery of cooperation”, and “cause political pacification”, mechanisms that have been identified in the empirical literature as potentially important. Key variables determining which effect dominates include the level of resource rents, its geographical distribution, and the degree of preference polarization across interest groups.

The potential non-monotonic effect of natural resource wealth on the political equilibrium sets this paper apart from the existing theoretical contributions on this topic. One relevant example is Acemoglu, Robinson, and Verdier (2004), who analyze the survival ability of a kleptocracy. Focusing on the

¹See Sachs and Warner (2001), Collier and Hoeffler (2004), Ross (2001, 2004), Lam and Wantchekon (2002), Damania and Bulte (2003), Busby et al (2003), de Soysa (2002), and Fearon and Laitin (2003).

²See for instance Wrigley (1998) and Walker (2001).

³See Smith (2004) and Herb (2005). For overviews on the positions of “resource optimists” and “resource pessimists”, see de Soysa (2005) and Gleditsch (2001).

ability of opposition groups to coordinate on attempts to overthrow the dictator, they show that resource rents and foreign aid, by increasing the ability to implement policies of divide-and-rule, may increase the longevity of such regimes. In contrast, the present model demonstrates that such resources may in fact stimulate political inclusion of the opposition, and specifies the conditions for when this is likely to take place.

Robinson, Torvik, and Verdier (2006) study the effect of resource revenues on political competition and economic efficiency within a given political system. In particular, they show how temporary and permanent oil booms may affect inefficient distribution of rents in the form of public sector patronage employment. The present paper differs from theirs primarily by focusing on political outcomes, and in particular the way in which resources and polarization of preferences interact to determine transitions between dictatorship and democracy.

Collier and Hoeffler (2005) present a model where an altruistic party that favors the supply of public goods competes against a patronage party that offers special favors to influential groups. A resource rent increases the likelihood that the patronage party wins the election and increases the scope for patronage policies, and thus reduces the provision of public goods. In the empirical part of their paper, they find that in developing countries, the combination of resource wealth and democracy leads to low growth. In resource poor countries, democracy outperforms autocracy, whereas in resource rich countries, autocracy outperforms democracy. While the theoretical analysis in their paper focuses on the economic consequences of resources, the present paper studies focuses on political and social consequences.

Aslaksen and Torvik (2006) analyze a situation where two equal parties choose between democratic competition or conflict. Democratic competition is less costly than armed conflict. However, a democratic victory also brings less freedom to define policies and hence lower gains to the winning party than victory through conflict. The present analysis differs from their paper by analyzing the choice of an incumbent government on whether to include the opposition in the political process or not. Hence, our starting point is one of asymmetry in power between the groups. Moreover, conflict takes the form of secession from a political union rather than war.

The paper is organized as follows. Section 2 presents the model. Section 3 analyses political transition, focusing on resource rents and preference polarization as explanatory variables. Section 4 presents some insights from case studies that illustrate the mechanisms highlighted in the model. Section

5 extends the model by allowing for policy commitment. Section 6 concludes.

2 Model

There are two groups of people in the country, group a and b . The groups are of equal size, the mass of each group measured by unity. Each individual is endowed with wealth, which we shall refer to as land, the value of which we normalize to unity. Government expenditures are financed by a tax t_i on land together with revenues ρ from a point source natural resource, which we refer to as oil.

The groups differ on three dimensions. First, they are geographically segregated, with group a living in region A and group b in region B . Second, they have conflicting views on what the optimal policy should be. Third, one of the groups (group a) is politically dominant, for instance because of an incumbency advantage and/or because of close connections to the military.⁴

The sequence of moves is as follows: First, the dominant group determines whether or not to allow democratic elections at the national level. Second, the weaker group decides whether to stay in the union or to seek regional autonomy in its home region B . The “exit” option of the weaker group limits the strength of the dominant group. Third, national elections, if offered, are held. Fourth, policies are implemented and payoffs are realized.

I shall identify secession with conflict, and national unity with peace. According to this definition, there are four possible outcomes in the present analysis, two peaceful and two involving conflict. The first peaceful outcome is “inclusion”, where the stronger group includes the weaker group in the political process at the national level, by opening up for elections, and the weaker group chooses to take part in this process. The second peaceful outcome is “compliance”, where the weaker group is not offered political participation, but still prefers to stay in the union, rather than to secede. The two conflict outcomes differ according to which group initiates the conflict. First, there is “exit”, where the weaker group prefers to secede even when offered political participation by the stronger group. Second, there is “exclu-

⁴The asymmetry in political power is in line with Acemoglu and Robinson (2001), who analyze the interaction between a rich elite and a poor opposition. The elite may try to prevent revolution by offering redistributive policies. If this is not enough, the elite may offer a promise of democratization, which can be seen as a credible commitment to future redistribution.

sion”, where the weaker group is excluded from political participation by the stronger group, and responds by seeking regional autonomy. The stronger group naturally dislikes the exit response by group b since it reduces the tax base under its control. Hence, regional autonomy will be associated with conflict.

There are efficiency gains from national unity, which can be interpreted as a peace dividend. By choosing national unity, the groups avoid the costly duplication of the public good associated with regional autonomy. This is the only cost of conflict in the present model. Other costs of conflict, including loss of lives, output and capital, are therefore not modelled explicitly. As will become clear, the size of the peace dividend is a falling function of the degree of polarization in society.

Since there are efficiency gains from cooperation, the Coase theorem implies that the groups should be able to negotiate sharing rules so that conflict never would arise in equilibrium. The reason why conflict may arise in the present analysis is that groups are assumed to be unable to commit to redistributive fiscal policies. When in power each group would like to (and therefore *will*) implement its preferred fiscal expenditure program and tax the other group as hard as possible.⁵ In this environment, offering democratic elections can be seen as a credible commitment to redistribution on the part of the stronger group. In case of election victory, the weaker group will be able to implement its preferred policies. With the two groups being of equal size, the probability of victory in democratic elections is fifty percent. However, I shall assume that ability of the stronger group to commit to free and fair elections is less than perfect. The stronger group has an incumbency advantage, and can use its influence over the media, courts, military, police etc. to bias the election campaign and count of votes in its favor. The probability of the weaker group winning the election, at least as perceived by the weaker group, is therefore less than fifty percent. The inability to commit to policies and the inability to commit to free and fair elections together constrain the ability of redistribution. Given these limitations to redistribution, the Coase theorem does not necessarily apply, and conflict may arise in equilibrium.

The government collects taxes and determines the public expenditure program. The utility function guiding policy choice is given by the product of private goods consumption $(1 - t_i)$ and the utility derived from public

⁵An extension to the basic model also opens up for the possibility of redistribution through (a limited degree of) commitment on public goods supply, see Section 5.

goods ($u_i(g_i)$):

$$U_i = (1 - t_i) u_i(g_i). \quad (1)$$

The two groups hold conflicting views on public goods provision. When a group implements its ideal policy, the benefit to the other group is only a fraction $(1 - \gamma)$ of the benefit to the group in power: $u_j(g_i) = (1 - \gamma) u_i(g_i) = g$. I shall refer to γ as a measure of polarization of political preferences in society, or simply “polarization”. Polarization may be based on for instance ethnic, linguistic, and religious differences between people. Groups divided along these lines can be expected to have conflicting views on, say education policies and the supply of cultural and religious infrastructure and services. Geographical distance and lack of economic interaction between the different groups would typically increase the degree of conflicting views on public policy. For instance, investment in the physical infrastructure in region A carries limited benefits to the group living in region B when economic interaction between the regions is small.

While the governing group taxes the opposition group as hard as possible, constrained by, say, efficiency considerations and/or bureaucratic capacity, oil money is at least partly used to offer special favors to members of the governing group. These favors can take the form of well-paid jobs in the bureaucracy and various forms of tax cuts and subsidies, privileges that increase the disposable income and thereby the private goods consumption of the governing group. Let θ define the taxes levied on the opposition group. When group i is in power in a national union, the objective function of the government is therefore given by:

$$U_{ii}^N = (1 - t_i) (t_i + \theta + \rho), \quad (2)$$

where $u_i(g_i) = g = t_i + \theta + \rho$. Maximizing U_{ii}^N with respect to t_i we find that:

$$t_i = \frac{1}{2} (1 - \theta - \rho) \equiv t^N. \quad (3)$$

The level of θ can of course take any number from zero to unity. As a useful benchmark, however, let $\theta = \frac{1}{3}$. Note that in this case the optimal tax policy is given by:

$$t^N = \frac{1}{3} - \frac{1}{2}\rho. \quad (4)$$

Without oil rents, i.e., for $\rho = 0$, $t_a = t_b = \frac{1}{3}$ in a national union. In this way, oil rents can be seen as introducing to the government an opportunity

to hand out special privileges to members of its own group, formalized as lower taxation for this group than for the opposition group. Note that for $\rho > \frac{2}{3}$, $t^N < 0$: For sufficiently high rents, the special favors offered to the members of the governing group exceed their tax obligations, implying that they are net recipients of transfers from the government. Taxation of group b , however, is simply given by $\theta = \frac{1}{3}$, and thus unaffected by the level of rents. Using (3) in (2) we get:

$$U_{ii}^N = \frac{1}{4} \left(\frac{4}{3} + \rho \right)^2. \quad (5)$$

For group i living under group j rule in a national union, we have:

$$U_{ij}^N = \frac{2}{3} \left(\frac{2}{3} + \frac{1}{2}\rho \right) (1 - \gamma). \quad (6)$$

where $u_i(g_j) = g(1 - \gamma) = (t^N + \theta + \rho)(1 - \gamma) = \left(\frac{2}{3} + \frac{1}{2}\rho\right)(1 - \gamma)$. In case of elections, with λ_i denoting the probability of group i winning the election, the expected utility of this group is given by:

$$U_i^E = \lambda_i U_{ii}^N + (1 - \lambda_i) U_{ij}^N. \quad (7)$$

With elections biased in favor of the stronger group, there probability of group b winning the election is given by $\lambda_b \leq \frac{1}{2}$ and that of group a by $1 - \lambda_b$. The lower is λ_b the more biased is the election in favor of the stronger group. Under regional autonomy, local governments tax the local land. In addition, group i controls a share r_i of the country's oil. The level of r_i can partly be explained by the relative distribution of power between the two groups, and partly by the geographical location of the oil resources between the two regions. The utility of a representative member of group i , and hence the objective function of a regional government i , is therefore given by:

$$U_i^R = (1 - t_i)(t_i + r_i\rho). \quad (8)$$

Maximizing U_i^R with respect to t_i we get:

$$t_i = \frac{1}{2}(1 - r_i\rho) \equiv t_i^R, \quad (9)$$

which inserted in (8) yields:

$$U_i^R = \frac{1}{4} (1 + \rho r_i)^2. \quad (10)$$

The benefit to group b from establishing regional autonomy is that it will enable it to implement its preferred fiscal policy. The cost, however, is that it will be limited by the regional tax base in financing the public goods provision. In this way, they have to forsake the scale economies present in public goods supply at the national level, i.e., forsake the peace dividend.

3 Analysis: Political transition, resource rents and polarization

Assume first that the dominant group a decides not to share political power. We can then derive the critical level of polarization for which group b is indifferent between subordinating to the rule of group a in a national union and seeking regional autonomy as:

$$U_{ba}^N = U_b^R \Rightarrow \gamma = 1 - \frac{(1 + \rho r_b)^2}{\frac{4}{3} (\frac{4}{3} + \rho)} \equiv \gamma_1. \quad (11)$$

For $\gamma < \gamma_1$, $U_{ba}^N > U_b^R$ and group b is loyal to the dictatorial rule of group a , whereas if $\gamma > \gamma_1$, $U_{ba}^N < U_b^R$, group b 's response to dictatorship by a is secession.

Assume next that group a is willing to share political power. Group b is indifferent between taking part in national elections and seeking regional autonomy when:

$$U_b^E = U_b^R \Rightarrow \gamma = 1 - \frac{(1 + \rho r_b)^2 - \lambda_b (\frac{4}{3} + \rho)^2}{\frac{4}{3} (1 - \lambda_b) (\frac{4}{3} + \rho)} \equiv \gamma_2. \quad (12)$$

We observe that for $\lambda_b = 0$, $\gamma_2 = \gamma_1$. Clearly, with no chance of winning the elections, “democracy” is effectively a dictatorship, and the choice between compliance and exit is the same in the two cases. For $\lambda_b > 0$, $\gamma_2 > \gamma_1$. With a positive probability of winning the elections, group b chooses to remain in the political union for a higher level of polarization with elections than without.

Note also that for small levels of ρ , $\gamma_2 < 1$. This can be seen from the fact that for $\rho = 0$, $\gamma_2 = \frac{7}{16(1-\lambda_b)} \leq \frac{7}{8}$, which falls with a reduction in λ_b .

Hence, for low levels of resource rents, group b prefers “exit” to “inclusion” even when the latter is based on perfectly free and fair elections. Any bias in these elections naturally reduces group b ’s willingness to take part in the union: An increase in λ_b leads to a negative shift in γ_2 .

For $\gamma > \gamma_2$, $U_b^E < U_b^R$, implying that group b prefers regional autonomy to participating in national elections. For $\gamma < \gamma_2$, $U_b^E > U_b^R$, and group b prefers participation in the national elections.

Finally, assume that group b insists on political participation in order to stay in the union with group a . Group a is indifferent between sharing power in a national democracy and not sharing power, followed by secession by group b , when:

$$U_a^E = U_a^R \Rightarrow \gamma = 1 - \frac{(1 + \rho(1 - r_b))^2 - (1 - \lambda_b) \left(\frac{4}{3} + \rho\right)^2}{\frac{4}{3}\lambda_b \left(\frac{4}{3} + \rho\right)} \equiv \gamma_3. \quad (13)$$

For $\gamma > \gamma_3$, $U_a^E < U_a^R$, implying that group a prefers not to share political power even when this leads to group b breaking away from the union. For $\gamma < \gamma_3$, $U_a^E > U_a^R$, and group a prefers to offer democratization. In other words, when rents are low, more precisely, $\gamma < \gamma_3$, group a prefers to offer political participation when this is necessary to prevent group b from seeking regional autonomy. For higher levels of rent, $\gamma > \gamma_3$, the relative importance of tax income declines, and the dominant group prefers dictatorship, even when this leads to group b leaving the union.

We know from the discussion so far that: (i) In a relatively homogenous society, exclusion of the weaker group from the political process does not necessarily lead to cessation and conflict (i.e., for $\gamma < \gamma_1$); (ii) In a more polarized society, group b may insist on participating in the political process at the national level in order to remain in the political union with group a (i.e., for $\gamma > \gamma_1$); (iii) If polarization is high and rents low, group b may choose regional autonomy even if offered democratic participation in national elections (i.e., for $\gamma > \gamma_2$); (iv) Unless rents are too high, the dominant group may offer political participation in order to prevent group b from breaking away from the union (i.e., for $\gamma < \gamma_3$). (v) If rents are sufficiently high, the dominant group may exclude the weaker group from the political process, even if this leads to cessation and conflict (i.e., for $\gamma > \gamma_3$).

The effect of polarization and resource rents on the political equilibrium depends inter alia on the distribution of resource rents in case of secession, i.e., r_b . The analysis is organized into two scenarios, the first with a “low”

level of r_b and the second with a “high” level of r_b .

3.1 Low level of r_b

Figure 1 illustrates the case with a low level of r_b .⁶

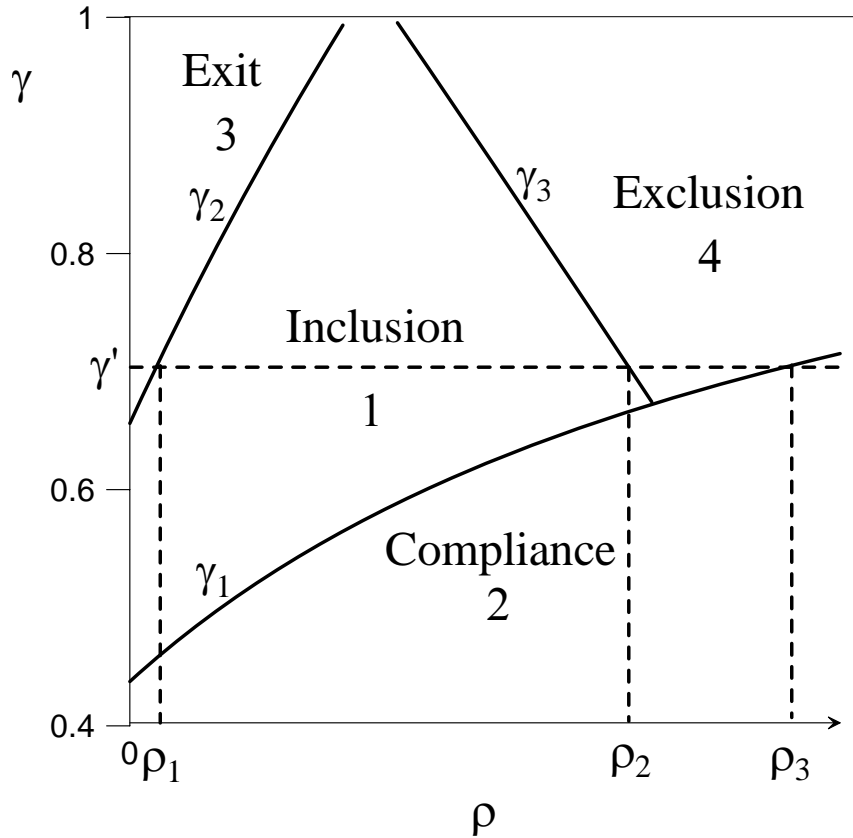


Figure 1: Rent, polarization, and political equilibrium

We observe that for low levels of polarization, there is “compliance” (region 2). For high levels of polarization and low resource rents there is “exit” (region 3). For intermediate levels of polarization and not too high resource rents there is “inclusion” (region 1), while high levels of polarization and high levels of rent results in “exclusion” (region 4).

⁶In the figure, $\lambda_b = \frac{1}{3}$, $r_b = 0$.

To illustrate the potential non-monotonic effect of resource rents on the political equilibrium in the present model, consider the level of polarization, γ' in Figure 1. For low levels of ρ , we are in area 3 characterized by regional autonomy and therefore conflict, caused by the exit of group b from the union. An increase in ρ such that we cross the γ_2 -line takes us into area 1 characterized by inclusion. The effect of resource rents in this case has been to “grease the machinery of cooperation”: The prospect of controlling the country’s natural resources, with its associated privileges in terms of determining public expenditure and supplying various transfers to its group of supporters, induces group b to give up regional self-rule and enter a peaceful, democratic competition for political power, even if elections are biased in favor of the other group.

A further increase in resource rents such that we cross the γ_3 -line and enter region 4, however, leads to the exclusion of group b from the political process, thus triggering regionalism and conflict. In this case, oil has “fuelled conflict”. The dominant group now prefers to secure the control over its share of natural resources (which in Figure 1 constitutes *all* the country’s resources), even if this leads to the loss of group b ’s land from the national tax base.

Finally, increasing resource rents such that we cross the γ_1 -line and move from region 4 to region 2 again changes the political outcome from one of conflict to peace. But in this case, the peaceful equilibrium is based on passive compliance rather than active involvement in the political process (i.e., unlike the transition from region 3 to region 1). The externality from public goods supply shaped by a very wealthy group a is sufficiently attractive to group b to induce them to “lay down their arms” and subordinate to the rule of the rival group. Hence, oil may “grease the machinery of cooperation” not only by stimulating power sharing in a national democracy but also by stimulating passive compliance on the part of the weaker group.

Observe that for lower levels of polarization, the effect of increased resource rents on political transition is more likely to be monotonic, changing the equilibrium from region 1 “inclusion” to region 2 “compliance”. Oil in this case has “caused political pacification”: As we cross the γ_1 -curve, group a realizes that it does not have to offer political participation in order to prevent exit by group b . As a result, political power is monopolized by a . This exclusion does not lead to any response by group b , who prefers staying in the union rather than opting for regional autonomy.

Consider also the implications of the model regarding changes in polar-

ization for given levels of rent. Interestingly, we observe that increased polarization for relatively moderate levels of rent (e.g., ρ_1 or ρ_2 in Figure 1) may cause a political transition from “compliance” to “inclusion”. In this way, increased polarization has led to a democratization of society. The reason for this observation is that increased polarization leads to stronger incentives to exit for the weaker group. If resource rents are not too high, the stronger group’s response to this is to offer political participation in order to prevent exit. A further increase in polarization, on the other hand, may lead to secessions and conflict, as we cross the γ_2 -line and enter region 3 characterized by “exit”. If resource rents are sufficiently large, on the other hand, (e.g., for ρ_3), the response by the dominant group to increased polarization is to exclude group b from the political process, leading to a breakup of the political union. In this way, the model shows that the effect of changes in polarization, like changes in resource rents, may have highly complex effects on the political equilibrium.

3.2 High level of r_b

Figure 2 illustrates the situation with a high level of r_b .⁷

Compared to Figure 1, we observe that this scenario is less complex, the reason being that γ_3 , and hence “exclusion”, does not apply. Intuitively, with group b controlling a substantial share of the country’s natural resources, group a is not tempted to do anything that might cause group b to leave the union, a move which would lead to a substantial erosion of the tax base for group a .

Again, as in Figure 1, we observe that resource rents may “grease the machinery of cooperation” by leading to a political transition from region 3 to 1, from “exit” to “inclusion”. This is true for relatively high levels of polarization. A new feature of the present scenario is the potential of oil resources to change the political outcome from “compliance” to “inclusion”. This is true for low levels of polarization. Note that in Figure 1, for relatively low levels of polarization, the potential of oil resources was the reverse, namely a transition from “inclusion” to “compliance”. Now, with a higher share of oil rents controlled by group b , group b will be more inclined to seek regional autonomy as the value of these resources, i.e., ρ , increases. This is captured by the downward sloping γ_1 -curve. In order to prevent exit by group b in the

⁷In Figure 2, $\lambda_b = \frac{1}{3}$, $r_b = \frac{1}{2}$.

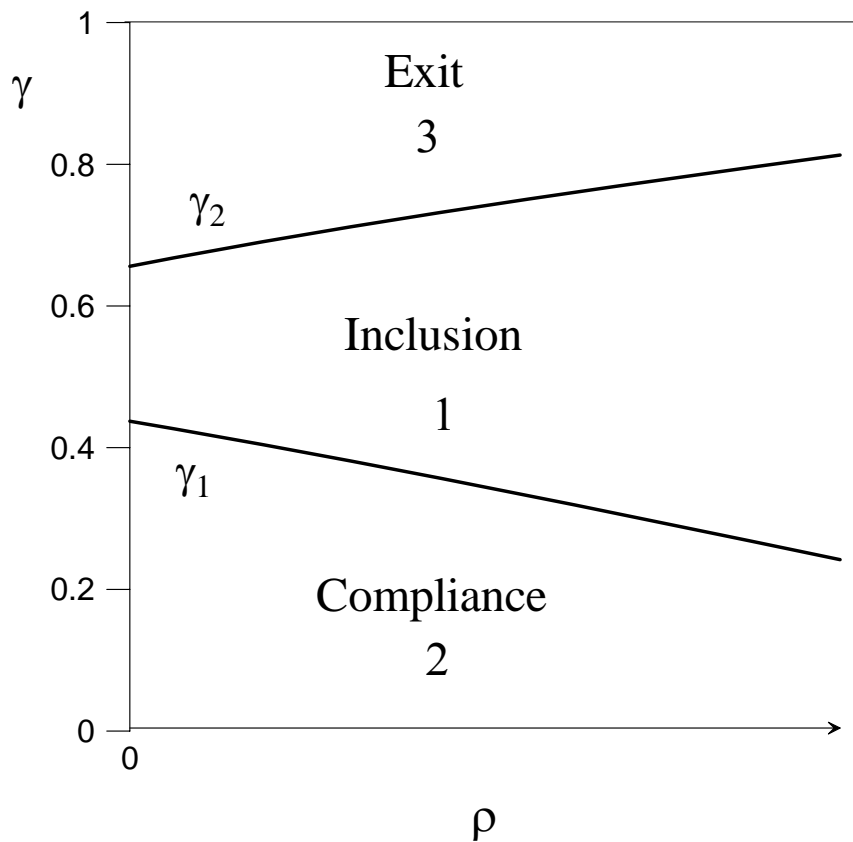


Figure 2: Political transition with low r_b

face of increased resource revenues, group a offers participation in a national political process.

4 Case studies

It may be useful to illustrate the relevance of these mechanisms by referring to some case studies. Sudan is a case where oil appears to have fuelled conflict. To quote Michael Ross (2003, page 23): “The war in Sudan began in 1983 when Sudanese President Numeiry took a series of measures that upset the delicate balance between the predominantly Muslim north and Christian and Animist south; among these measures was his decision to place newly

discovered oil in the country's south under the jurisdiction of the north, and to build an oil refinery in the north instead of the south." Here, the group in the north (the dominant group) decides to keep resource rents for itself, which in turn upsets the delicate balance of cooperation that existed before the discovery of the oil resources. In Figure 1, this corresponds to a move from area 1 to 4.

The potential of resource rents to be used by the ruler to pacify the population politically is widely discussed by Middle East specialists. For instance, Crystal (1990) argues that the discovery of oil in Kuwait and Qatar enabled the government to buy the support of the merchant classes in these countries while excluding them from their traditional participation in local politics. rentier state. Indeed, most oil rich countries in the Middle East must be characterized as dictatorships, but politically and socially relatively peaceful and stable ones. This political and social stability is promoted by various forms of patronage policies to pacify key interests groups in society. On these so-called rentier state, see also Anderson (1987) and Beblawi and Luciani (1987). In Figure 1, the potential of oil revenues to pacify the opposition is captured by a move from region 1 to 2.

Several case studies point to the potential of resource rents in stimulating social and political cooperation, i.e., to move the economy from region 3 to 1 in Figure 1. Neuhouser (1992) argues that, by allowing a "class compromise" between workers and capitalists, rising oil revenues was key to the formation and stability of democracy in Venezuela from 1958 onwards. Similarly, Karl (1997, page 101) states that: "Petroleum rents underlay this new system of reconciling competing interests by turning all organized interests into subsidized clientele and thus permitting them to avoid the zero-sum economic games that have proved so detrimental to democracy in the rest of Latin America."

In a study of the Middle Eastern monarchies, Herb (1999) shows that before oil, the Gulf monarchies were characterized by a relatively high degree of regional autonomy, each region led by a prince of the ruling family. Family ties did not prevent conflict; intrafamily wars often erupted on the death of a ruler. According to Herb, oil has transformed the states of Arabia from segmentary to unitary states. It has enabled the ruler to secure allegiances by bestowing special favors, such as positions in the state bureaucracy, to influential individuals. Moreover, by increasing the value of power, oil has in fact stimulated cooperation among the members of the ruling families. This is due to the fact that the throne is not necessarily handed over from father

to son in the Arabian dynasties. Instead, the future ruler has to receive the *bay'a*, a pledge of allegiance, from key members of the ruling family. A large number of shaykhs and princes are thus eligible to take over power. Rather than choosing confrontation, the various princes cooperate in the hope of one day becoming the ruler of the country and thereby controlling its oil wealth. The indeterminacy of the succession is important for holding the coalition of royal family members together. In the words of Herb (1999, pages 45-46): “The dynasties of Arabia do not resolve their disputes because they are families, bound by ties of affection. In the days before oil, family bonds did not prevent fratricide, patricide, and other varieties of intrafamily murder. [...] After oil the indeterminacy of the succession has continued to provide the glue that holds the family together and guarantees its control of state power.” Hence, if not producing broad based democratization in the oil rich Arabia, oil at least appears to have promoted stability and the political participation of various factions of the ruling families.

5 Endogenous policy

So far we have assumed that a government implements its ideal policy. In this section we consider the possibility of policy moderation. It may be in the interest of the dominant group to commit to policies closer to those preferred by the weaker group in order to prevent this group from breaking away from the union. Similarly, the weaker group may seek to commit to policies closer to those preferred by the dominant group, in order to prevent being excluded from the political process at the national level. Let μ_i measure the degree of policy moderation implemented by the governing group i . With modified policies, the benefit from public spending for the governing group is:

$$u_i(\mu_i) = g(1 - \gamma\mu_i). \quad (14)$$

Similarly, the benefit from public spending for the group in opposition is given by:

$$u_j(\mu_i) = g(1 - \gamma(1 - \mu_i)). \quad (15)$$

Clearly, for $\mu_i = 0$, there is no policy moderation, and we are back to the benchmark case of no policy commitment. An increase in μ_i , *ceteris paribus*, reduces the utility of the ruling group and increases that of the opposition.

A group a dictator may induce compliance from group b by moderating its policy. The optimal degree of policy moderation is such that group b is indifferent between staying in the union and breaking away from it (and therefore chooses to stay). Using (15), and using this to modify (6), the optimal degree of policy moderation from a group a dictator can be found from the condition $U_{ba}^N(\mu_a) = U_b^R$ as:

$$\mu_a = 1 - \frac{1}{\gamma} \left(1 - \frac{(1 + \rho r_b)^2}{\frac{4}{3}(\frac{4}{3} + \rho)} \right) \equiv \mu_a^*, \quad (16)$$

which simply means that the absolute level of policy moderation by group a , i.e., $\gamma\mu_a^*$, should equal $\gamma - \gamma_1$ (since the expression in the parenthesis of (16) equals γ_1). Note that for $\gamma < \gamma_1$, there is no need for the a dictator to offer any policy moderation in order to induce compliance from b . Hence, $\mu_a^* > 0$ only applies for $\gamma > \gamma_1$.

Consider next the case of democracy. For $\gamma > \gamma_2$, group a may wish to moderate its policies in order to prevent exit by group b . The optimal degree of policy moderation from group a can now be found from the condition $U_b^E(\mu_a) = U_b^R$:

$$\mu_a = 1 - \frac{1}{\gamma} \left(1 + \frac{\lambda_b (\frac{4}{3} + \rho)^2 - (1 + \rho r_b)^2}{\frac{4}{3}(1 - \lambda_b)(\frac{4}{3} + \rho)} \right) \equiv \hat{\mu}_a, \quad (17)$$

which implies that $\gamma\hat{\mu}_a = \gamma - \gamma_2$: The effective policy moderation by group a should be such that group b is indifferent between participation in the political process at the national level and seeking regional autonomy.

Finally, group b may have an incentive to moderate its policies under national democracy in order to prevent exclusion. This applies for $\gamma > \gamma_3$. The optimal degree of policy moderation from a group b dictator can now be found from the condition $U_{ab}^E(\mu_b) = U_a^R$:

$$\mu_b = 1 - \frac{1}{\gamma} \left(1 + \frac{(1 - \lambda_b) (\frac{4}{3} + \rho)^2 - (1 + \rho(1 - r_b))^2}{\frac{4}{3}\lambda_b(\frac{4}{3} + \rho)} \right) \equiv \hat{\mu}_b, \quad (18)$$

so that $\gamma\hat{\mu}_b = \gamma - \gamma_3$, making the stronger group indifferent between excluding the weaker group and including it in the political process. Assume that there is a limit to the extent to which groups can credibly promise policy moderation, given by $\bar{\mu}$. Figure 3 shows how the possibility of limited policy

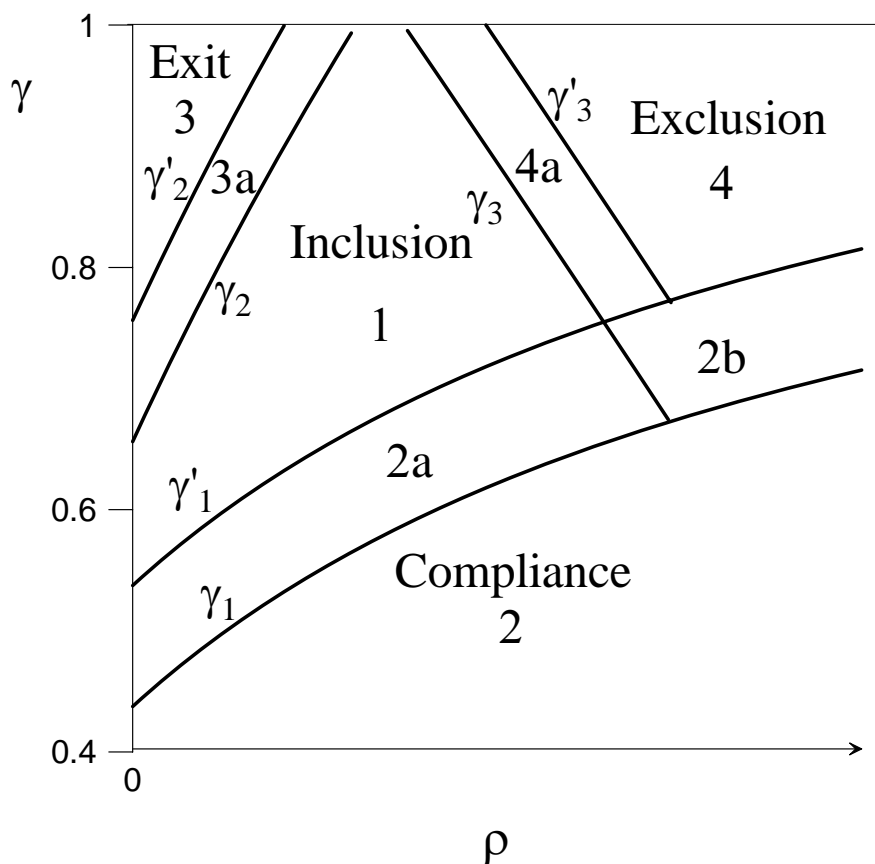


Figure 3: Policy moderation

commitment affects the political equilibrium relative to the situation shown in Figure 1, i.e., the scenario with low r_b .

Below the γ_1 -curve, there is no incentive to moderate policy and the outcome is as in the benchmark version of the model, characterized by compliance. Policy moderation by the dictator extends compliance by areas 2a (in Figure 1 characterized by “inclusion”) and area 2b (in Figure 1 characterized by “exclusion”). Policy moderation by a increases in γ and falls in ρ (such that group b stays indifferent between remaining in the union and exiting. In area 1 there are national elections and no incentive for the parties to moderate policies. In area 3a, policy moderation by group a results in national democracy (in Figure 1 characterized by “exit”). The degree of policy

moderation by group a increases in γ and falls in ρ . In area 4a there is policy moderation by b in order to prevent being excluded from political participation, thus changing the political outcome to “inclusion” (where in Figure 1 there was “exclusion”). The degree of policy moderation by b increases in γ and ρ . The present scenario thus demonstrates that changes in ρ and γ may affect not only political institutions, i.e., the choice between democracy or dictatorship, but also economic policy, i.e., the degree to which policies are polarized or more moderate.

6 Conclusion

Resource rents may have a complex effect on political and economic outcomes. The possibility of such resources representing a curse for political and economic outcomes has received a lot of attention in the recent literature. However, it is clearly not the case that such resources necessarily are bad for countries. Focusing on the interaction between resource rents and polarization of preferences on public policy, the present analysis has analyzed the circumstances under which resource rents are likely to promote political divisions in society, and when such resources may stimulate political cooperation. Moreover, the model has shown how resource rents and polarization may shape economic policies.

Increased resource rents may “grease the machinery of cooperation” by making it more attractive to influence national policies, and thereby induce the politically weaker group to take part in national elections rather than seek regional autonomy, even if the national elections are biased in favor of the stronger, incumbent group. Increased resource rents may also “grease the machinery of cooperation” by making the opposition group more inclined to “surrender” to the dictatorial rule of the stronger group, at least if polarization in society is fairly low making the positive externalities from public goods provision sufficiently high.

Increased resource rents may “fuel conflict” by reducing the importance of tax revenues relative to resource rents as a source of government income. Increased resource rents may thus make it tempting to monopolize political decision making. If polarization is high, the response to the exclusion of the weaker group from national decision making is likely to be secession from the union, thus leading to conflict.

Finally, increased resource rents may “cause political pacification”. This

is true for relatively low levels of polarization, where increased resource rents may reduce the need for the dominant group to share power in order to induce loyalty by the weaker group. With increased rents, political power can be monopolized without triggering exit by the weaker group. In equilibrium, therefore, this may cause a transition from democracy to dictatorship. This transition, however, is not accompanied by social unrest, as the weaker group prefers staying in the union rather than seeking regional autonomy.

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