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Buying Peace? Oil Wealth, Corruption and Civil War, 1985–99*

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This article argues that, contrary to received wisdom, political corruption is not necessarily associated with a higher risk of civil war in oil-rich states. Political corruption can be used to accommodate opposition and placate restive groups by offering private privilege in exchange for political loyalty. Since oil wealth is associated with large rents accruing in state treasuries, it provides an economic foundation for such clientelist rule. This article thus argues that oil-rich governments can use political corruption to buy support from key segments of society, effectively outspending other entrepreneurs of violence. Based on a logit analysis of civil war onsets, 1985–99, the article finds support for this 'co-optation argument'. A negative and statistically significant interaction term between oil production and political corruption is consistent across different models and robust to a number of specifications. While both variables per se increase the risk of conflict overall, higher levels of corruption seem to weaken the harmful impact of oil on the risk of civil war. This finding suggests the need for a more nuanced understanding of the relationship between natural resource wealth, governance and armed conflict. Political corruption has prolonged poverty and bred economic and political inequality in many oil-rich states, but it has also helped cement powerful alliances with a stake in the continuation of the corrupt regimes.

Introduction

Several studies have found oil wealth to be a significant predictor of the onset of civil war (Fearon & Laitin, 2003a; Fearon, 2005; Humphreys, 2005; Ross, 2006).[1] The causal path, it is increasingly argued, works via weakened state capacity: with access to oil rents, governments have less need for a socially intrusive state apparatus to levy taxes and, consequently, undersupply the institutions necessary for managing societal peace. It is not economic constraints that inhibit these governments from implementing good policies. Instead, governance failure is the core variable in the explanations that tie oil wealth to civil war (e.g. de Soysa, 2002; Auty, 2004; Ron, 2005; Humphreys, 2005; Fearon, 2005). The policy recommendations following from these studies advocate

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[1] For good overviews of the quantitative and qualitative literature on the link between natural resources and civil war, see Ross (2004, 2006) and Lujala, Gleditsch & Gilmore (2005). For a sensitivity analysis of the association between natural resource wealth and conflict, see Hegre & Sambanis (2006).

increased fiscal transparency and monitoring by the international community in order to halt the misappropriation of public funds, reduce government discretion over oil rents and prededicate revenue to societal development (e.g. Collier & Hoeffler, 2005; Fearon, 2005; Humphreys, 2005).

However, even though political corruption and private rent-seeking is a core variable in explaining the economic stagnation that plagues resource-wealthy states (e.g. Mehlum, Moene & Torvik, 2006a,b; Robinson, Torvik & Verdier, 2006; Dietz, de Soysa & Neumayer, 2007), the effect of political corruption on the risk of civil war in oil-wealthy states has not yet been systematically examined. The conversion of public funds into private payoffs has prolonged poverty and bred economic inequality in many oil-wealthy states, but it has also helped foster powerful alliances with a stake in the continuation of the prevailing rule (Smith, 2004). Countries such as Gabon, Libya and Saudi Arabia illustrate how oil-based rent-seeking can strengthen regimes, by extending their clientelist networks and thus placating restive groups.

This article argues that high levels of political corruption are not necessarily associated with a higher risk of civil war in oil-wealthy states, *ceteris paribus*. Instead, oil wealth provides the economic base for a personal rule where elites attract political loyalty through the use of private economic inducements. Strategies of 'sharing the spoils' from the oil through off-budget and selective accommodation of private interests are likely to reduce the economic incentives to displace the government among would-be rebels. Lam & Wantchekon (2003: 5) point out that, as government spending on patronage increases, 'the populace is likely to find rent-seeking more efficient than political unrest as a way to induce redistribution'. Governments might thus effectively outspend other entrepreneurs of political violence. Such targeted appointment of privilege not only creates numerous stakeholders in the continuation of the current regime, but also aggravates the difficulties already inherent when it comes to coordinating efficient opposition. Corruption-based patronage might thus explain why leaders in many oil-wealthy states do not face violent challenges to their authority, in spite of pursuing politics that are costly to the society as a whole.

In the following section, I briefly review previous literature on the oil conflict conundrum and develop the argument that governments in oil-rich states can buy peace through political corruption. After describing the data and research design, I evaluate this argument using logit regression on all internal armed conflicts from 1985 to 1999. To model the assumption that the level of corruption conditions the effect of oil wealth on armed conflict, I introduce an interaction term between oil and corruption in the statistical models. The findings support the co-optation argument. Regressed on onsets of intrastate armed conflict, the negative and statistically significant interaction term between oil and corruption is consistent across different models and robust to a number of specifications. Both oil and corruption per se are associated with an increased risk of armed conflict, but the harmful effect of oil is found to decrease with the level of corruption. Hence, while there are undoubtedly overriding economic and social reasons why the eradication of political corruption in oil-producing states should remain high on the international political agenda, we should also be aware that efforts to undermine patronage networks might bring about political unrest.

Oil Rents, Corruption and Armed Conflict

There is considerable empirical evidence to back up the claim that how a state earns

its income influences its trajectory of development.[2] Economic dependence on oil is often suggested to pose particular challenges, because of the extraordinary rents attached. High economic barriers for entry, infrastructural requirements and custom all facilitate high levels of state control over oil extraction, thus securing large income for the state.[3] Oil-rich states hence tend to be distributive states, where the primary choice facing governments concerns the distribution of rents internally (Karl, 1997; see also Wantchekon, 2002; Collier & Hoeffler, 2005, 2006).

In previous research, the mechanisms suggested to tie oil wealth to civil war work largely via policy failures in the allocation of revenue. First, oil rents are argued to lead rulers to underinvest in the state's infrastructural strength, as access to rents make them less dependent on a socially intrusive state apparatus to raise revenue through taxation (Chaudhry, 1997; Karl, 1997; Moore, 2001, 2004). Weak institutions for social control in turn hamper government capability to efficiently monitor and suppress dissent before it turns violent, thus increasing the feasibility of rebellion (Fearon & Laitin, 2003a; Fearon, 2005; Humphreys, 2005; Ross, 2006). Second, the extraordinary rents under governmental control are said to give rise to perverse incentives for private rent-seeking among political elites. The spoils associated with government positions in oil-rich states in turn heighten the prize of state capture and cause ordinary politics to deteriorate into violent struggles over appropriation of rents (e.g. Fearon & Laitin, 2003a; Fearon, 2005). Last, armed conflicts in resource-rich states are held to be the end result of the unsound macroeconomic policies and hampered economic growth that follow from rent-seeking on public assets and volatile government revenue (Auty, 2004; Collier & Hoeffler, 2005; Humphreys, 2005; Ross, 2006; see also Miguel, Satyanath & Sergenti, 2004).

At face value, these arguments seem to imply that oil wealth drives political outcomes inevitably in the direction of instability. Still, the experience of political order varies considerably among resource-wealthy countries, and recent economic research suggests that there is considerable political leverage for determining the economic and societal consequences of a resource-dominated revenue sector (Atkinson & Hamilton, 2003; Mehlum, Moene & Torvik, 2006a,b; Robinson, Torvik & Verdier, 2006). Some recent studies have also recognized the conditional nature of the link between natural resources and armed conflict, discussing political variables that can explain the diverging experience of armed conflict among resource-wealthy states (e.g. Herbst, 2001; Humphreys, 2005; Snyder & Bhavnani, 2005; Snyder, 2006). Large-N investigations of how political factors mediate the destabilizing effect of a resource-dependent economy remain sparse, however. In particular, a discussion of how government actors can use the income from oil to induce stability in the state–society relationship is largely missing from the civil war literature.

This study takes one step in addressing this lacuna by examining how governments' involvement in political corruption mediates the relationship between oil wealth and the

[2] The list of troubling empirical outcomes associated with resource-dependence includes, in addition to armed conflict, poor economic performance (Sachs & Warner, 1995, 2001; Auty, 2001), failure to democratize (Karl, 1997; Lam & Wantchekon, 2003; Ross, 2001; Jensen & Wantchekon, 2004) and inefficient implementation of public policies (Karl, 1997; Auty, 2000).

[3] Also tin, bauxite, copper and other mineral resources have the characteristics of generating high returns for the state, either through tax handles or state extraction. Hence, the arguments in this article might also apply to countries with such resource wealth. See Snyder & Bhavnani (2005) for a discussion of how the resource profiles of economies and the modes of extraction influence revenue and, in turn, the capacity of governments to secure political order.

risk of armed conflict. Political corruption can be defined as transactions between public and private actors through which collective goods are illegitimately converted into private payoffs (Heidenheimer, Johnston & LeVine, 1993). It involves high-level political officers and takes place at the formulation end of politics, where the decisions regarding public wealth are made.[4] Corrupt leaders use their position for the embezzlement of public funds, but commonly also misuse the extracted funds for preserving and expanding political power. Such corruption, often referred to as patronage or clientelism, is integral to many political systems where rulers base their authority on personal, reciprocal exchanges with clients. Loyalty and political obligations are exchanged for material rewards (e.g. Jackson & Rosberg, 1982; Bayart, Ellis & Hibou, 1999; Bratton & van de Walle, 1997; Chabal & Daloz, 1999; Herbst, 2000).

How might political corruption influence the risk of armed conflict in oil states? No study has explicitly addressed this question, but there are some plausible reasons why the conflict-inducing effect of oil should be accentuated by high levels of political corruption. First, by diverting resources away from their economically optimal use and thus impeding growth (Mauro, 1995), corruption adds to the level of economic grievances among marginalized groups and thus reduces the opportunity cost of violent rebellion (Le Billon, 2001, 2003).[5] Second, the level of political disgruntlement should be higher where oil revenue is diverted away from investment in societal welfare and converted into private payoffs. As government legitimacy dwindles, the popular support for violent change could increase. Third, uninstitutionalized and discriminatory patterns of revenue allocation make the distributional process vulnerable to factional pressures and shifting political agendas, which in turn might precipitate violent attempts to change these policies (Herbst, 2001).

What is missing from the above arguments, however, is a discussion of how such discretionary allocation of oil revenue also can induce stability in the state–society relationship by bribing important segments of society into compliance and accommodating the economic interest of key segments of the population. All rulers need the support of some groups to stay in power, and several scholars have suggested that the distribution of rents can substitute for political concessions as a way to preserve peace (Azam, 1995, 2006; Gandhi & Przeworski, 2006). Patronage politics, that is, attracting allegiance through the provision of private rather than public goods, allow the ruler to selectively target supporters, while expending as little of the pie as possible (Bueno de Mesquita et al., 2003; Collier & Hoeffler, 2006; see also Robinson, 2005). Such strategies of 'sharing of the spoils' create numerous stakeholders in the continuation of the prevailing order. Political corruption might thus promote political stability (Huntington, 1968; Chabal & Daloz, 1999; Charap & Harm, 1999; Le Billon, 2003).

The government's economic autonomy in the context of an oil economy provides ample opportunities to offer opponents highly paid jobs in the public sector; to grant construction contracts, tax exemptions or other opportunities for inappropriate rents to economic elites; to allow decentralized rent-seeking to secure the allegiance of the civil servants at lower levels in the state bureaucracy; or

[4] This sets political corruption apart from bureaucratic/petty corruption, which involves the public administration and takes place at the implementation side of politics (Amundsen, 1999).

[5] Le Billon (2003) provides an excellent discussion of the rival mechanisms by which political corruption could fuel the risk of armed conflict, or could buy societal peace.

simply to buy off parliamentarians, military officers, ethnic leaders or other political entrepreneurs who could mobilize groups to challenge government authority. Such patronage politics might co-opt restive groups, attracting their loyalty in exchange for bribes (Le Billon, 2003).

In some Middle East countries, such as Syria and Saudi Arabia, this form of rent-based clientelism has, above all, penetrated the military. Cronyism has ruled the staffing decisions, and the military positions have, in turn, become a key route to personal enrichment, thus creating strong personal linkages between the coercive apparatuses and the regimes they serve (Bellin, 2005). This has created military apparatuses, weakly institutionalized and carefully balanced in their tribal or religious affiliation, that derive substantial benefits from their association with the prevailing regime. This strategy not only reduces the threat of violent subversion of the regime from the military apparatus, but also creates coinciding interests between the regime in power and the repressive apparatus of the state.

Oil-rich Gabon provides another illustration of how oil wealth and institutionalized corruption have converged to produce relatively high political stability, amidst widespread poverty and a highly unequal distribution of wealth. President Bongo, by now the longest serving political leader in Africa, has pursued, since the 1970s, a policy of co-optation of the middle classes through public expenditure. But the political stability of Gabon has relied crucially on the president's patronage networks. These have derived their strength from a careful ethnic balancing in the ethnically diverse country and a deliberate integration of powerful political opponents into the regime's power base (Yates, 1996; Basedau & Lacher, 2006).

The oil economy not only gives governments a solid economic base that can be used to placate pivotal societal groups. It also provides those holding power with large discretion over the allocation of these rents, since they, unlike tax on income, are not co-produced with the society. Political leaders can thus more easily adapt distribution to changing political circumstances and use it strategically to defuse organized opposition to the regime. Acemoglu, Robinson & Verdier (2004) discuss how offers of private goods can be made according to a divide-and-rule logic that intensifies collective action problems in the formation of efficient opposition groups. In practice, this strategy might, for example, imply privileging, not a particular ethnic group, but a multi-ethnic elite, as was the case in Gabon. In oil-exporting Cameroon, such a 'crosscutting' network of clientelism has, according to Gabriel (1999: 177) had 'the advantage of pacifying a highly complex polity, but entails the obvious disadvantages of waste, mismanagement and economic stagnation'.

Such clientelism directs the behaviour of interest groups away from strategies of collective bargaining and towards more individual rent-seeking. Luciani (1987) argues that within the context of the rentier economy, the manoeuvring for personal advantages becomes superior to seeking alliances to further group interests. Lam & Wantchekon (2003: 5) similarly note that following the increased spending on patronage in resource-wealthy states, 'the populace is likely to find rent-seeking more efficient than political unrest as a way to induce redistribution'. Vandewalle (1998) uses this argument to explain the absence, for long periods of time, of organized opposition to Qadhafi's regime in Libya. He argues that the government's ability to use oil revenues as a strategic commodity in buying off political competition made rent-seeking dominate the behaviour of the citizenry. The conversion of oil rents into private payoffs might thus undermine

the basic conditions under which organized opposition will form.

Corruption is commonly approached as rapacious rent-seeking behaviour, incompatible with any conventional notion of good governance. Still, many political scientists have recognized that the persistence of corruption cannot be understood without recognizing how it responds to reciprocal relations between political actors. Corruption and clientelism can be a consequence of the lack of an institutionalized framework for making other promises of distribution credible (Vlaicu, 2008; Keefer, 2007). Englebert (2000) suggests that in the context of African politics, corruption and clientelism have been a way to overcome the legitimacy gap created by a weak state apparatus. Offering immediate and specific payoffs creates instrumental legitimacy without making demands on the institutions of the state. In the absence of institutions that can bind political leaders to their word, patronage creates reciprocal relationships where routine exchanges allow governments to overcome problems of credible commitment vis-à-vis the constituency (Chabal & Daloz, 1999; Le Billon, 2003). This might also explain the peaceful acceptance of such clientelist practices by broader segments of society that would benefit from a more equitable allocation of the oil rents.

Herein lies a catch-22 for many oil-rich countries: the accrual of oil rents in state treasuries leaves few incentives to create a socially intrusive state apparatus, since there is no need to generate income through tax. But the weak institutional base, in turn, makes it difficult to commit credibly to redistributive bargains that rely on efficient implementation of public policies and a reactive state apparatus. As noted by Collier & Hoeffler (2005), providers of patronage are then likely to crowd out proponents of more accountable public policies, while further diverting money away from productive investment in society. Political corruption might thus be considered a default option for inducing stability in the weakly institutionalized polities that often surround the process of political bargaining in oil-wealthy states. Contrary to conventional wisdom, this argument suggests that the junction of extraordinary rents under government control and pervasive political corruption is associated with a lower risk of armed conflict.

Data and Research Design

To examine the proposed argument about interaction effects between oil and corruption, I use two specifications of the dependent variable. First and foremost, I rely on conflict data from the UCDP/PRIO armed conflict dataset, v.4 - 2006 (Gleditsch et al., 2002).[6] The cross-sectional time-series dataset includes the onset of all armed conflicts between a government and an organized opposition group that caused at least 25 annual battle-deaths. The variable is a dichotomous indicator of the *onset of armed conflict* coded as 1 the year a conflict breaks out and 0 otherwise. If the conflict falls below the casualty threshold for two consecutive years, the next observation of the conflict is treated as a new onset. Since a country, according to the coding procedures, can experience more than one conflict at the same time, consecutive conflict years are kept in the data and assigned the value of 0. This allows for multiple onsets.

The UCDP/PRIO data have a relatively low casualty threshold and hence include more events than most comparable data sources. To enhance comparability and check the robustness of the results, I also rely on Fearon & Laitin's (2003a) data on civil wars.[7] They code the *onset of civil war* if a conflict has reached more than 1,000 casualties in total, with at least 100 killed

[6] The dataset structured for quantitative analysis has been downloaded from http://www.prio.no/CSCW/Datasets/Armed-Conflict/UCDP-PRIO/.

[7] Replication data at http://www.stanford.edu/~jfearon/.

on each side. Here also consecutive conflict years remain in the dataset and are assigned the value of 0.[8] For the 1985–99 period and the country year observations covered by the explanatory variables, there are 67 outbreaks of armed conflict according to the UCDP/PRIO operationalization and 22 outbreaks of civil war using the Fearon & Laitin data.

The data on *political corruption* are from the International Country Risk Guide (PRS group, 2006).[9] No objective data on the level of corruption exist, and the ICRG index builds on assessments by country experts. While such assessments are by definition subjective, different cross-national ratings of corruption tend to be highly correlated with each other, across time, and with cross-national polls of citizenries' perception of corruption (Treisman, 2000). The ICRG rating takes into account financial corruption in the form of demands for special payments and bribes, but is 'primarily concerned with actual corruption in the form of excessive patronage, nepotism, job reservations or favour-for-favour, secret party funding and suspiciously close ties between politics and business' (PRS group, 2006). The index ranges from 0 to 6, where the original index is reversed to make higher numbers indicate higher corruption.[10]

The data on oil wealth are from Humphreys (2005), who has compiled annual country-wise data of the level of oil production for 1960 to 1999.[11] The measure of *oil production per capita* records the average amount of oil extracted as barrels per person per day in a given year. This measure is desirable because it captures the level of extraction of the oil resources and, hence, when divided by population, says something about the actual wealth generated. For more in-depth information about sources and coding, I refer to Humphreys (2005).

Fearon & Laitin's (2003a) model for civil war onset has become a standard in the field, and I largely rely on their dataset for the control variables. These include *per capita income*, which is measured as thousands of 1985 US dollars and lagged one year; the proportion of the country that is *mountainous terrain* (this variable is logged to reduce the impact of very high values); a dummy for whether the state has *non-contiguous territory*; a control for ethnic diversity using the updated *ethnic fractionalization index* (ELF) that ranges between 0 and 1 and denotes the probability that two randomly drawn people in a country belong to the same group; and a control for religious diversity using a similar measure of *religious fractionalization.* Controlling for regime type, I enter regime dummies for *autocratic* and *democratic* governments from the Polity IV project (Gurr, Jaggers & Moore, 1989). Countries with the value of 6 or higher on the Polity scale are considered to be democracies, and countries with –6 or lower are considered to be autocratic (the reference category being anocracies with scores between –5 and 5). I also enter a dummy variable for *political instability* that records whether the country has seen a change in the Polity IV democracy scale by three or more points during the last three years. Following Fearon & Laitin, I control for country size by taking the log of *population* size with data from the World Development Indicators

[8] For both operationalizations of the dependent variable, I have also tried the more restrictive approach of dropping consecutive conflict years and controlling for time since last armed conflict through a decay function starting from the first peace-year. This design does not alter any of the results presented in Table I.

[9] The data are published by the PRS Group, Inc., 1979–2006, East Syracuse, NY and are available for purchase at http://www.countrydata.com. For more information, see http://www.icrgonline.com.

[10] The annual value is produced by taking the average of the January, April, July and October rankings for each country.

[11] Replication data at http://www.columbia.edu/~mh2245/papers1/.

(World Bank, 2007). I refer to Fearon & Laitin (2003a,b) for further details on the sources and the construction of these variables.[12] Finally, I include a decay function of the time since the last onset of armed conflict or alternatively year of independence, to take into account temporal dependence between the observations (see Beck, Katz & Tucker, 1998). The exponential function of the time that has passed without the onset of armed conflict equals 2^(–time since last onset/α), where α is the half-life parameter (Raknerud & Hegre, 1997). I choose a functional form where the influence of an onset of armed conflict decays over time with a half-life of two years.[13]

The corruption, oil production, GDP/cap, instability and regime type variables are lagged by one year. With the time lag, the corruption index starts in 1985. Given the time period covered by the control variables, this results in a 15-year time series, covering 123 countries over the entire 1985–99 period.[14]

Results

This section evaluates the effects of oil wealth and corruption on the risk of internal armed conflict.[15] The number of country-years with an onset of armed conflict is very small in relation to the number of country-years with no onset. King & Zeng (2001a, b) show that standard logit estimation tends to underestimate the probability of such rare events, and they suggest a correction procedure where the estimates from the logit regression are weighted by a function of the absolute level of risk in the population. All models are estimated using this rare events logit specification, and I report robust standard errors after clustering on country.[16]

Table I reports the estimates from the multivariate regression with oil production, corruption and their interaction term as the main explanatory variables. In Models 1–3, the dependent variable is the UCDP/PRIO onset of armed conflicts with a 25 battle-death threshold. In Models 4–6, the dependent variable is the Fearon & Laitin data on the onset of civil war employing a 1,000 battle-deaths threshold.

I start by looking at the effects of my main independent variables, before I enter the interaction term in Model 3. Model 1 shows that there is a positive and significant relationship between oil production and the risk of armed conflict. This corroborates the findings from Ross (2006) and suggests that Humphreys's (2005) finding of a positive association between oil production and armed conflict also holds when using the UCDP/PRIO data. Next, I consider the effect of corruption. The estimate is positive and significant, and the effect is noticeable: moving from the 5th to the 95th percentile on the corruption variable, while holding all other variables at their mean value, increases the annual probability of an onset of armed conflict from 1.2% to 4%. There is no previous systematic study of the relationship between corruption and armed conflict, and it is noteworthy that the variable attains explanatory power as a determinant of armed conflict when controlling for the

[12] Fearon & Laitin's control for recent independence, while theoretically relevant, is excluded since there is not enough variation in this variable for the time period studied here.
[13] I have also tried Fearon & Laitin's original design, including a lagged conflict incidence variable instead of the decay function, but the results remain largely unaltered.
[14] A list of countries included in the study, summary statistics and a correlation matrix between independent and dependent variables are included in an appendix posted on the *JPR* website (http://www.prio.no/jpr/datasets) with the replication dataset.
[15] All statistical analyses are carried out using version 9.0 of the statistical package STATA (StataCorp, 2005).
[16] The results for corruption and the interaction terms reported below are robust to the use of a standard logit specification of the model. The estimate for oil production in Table I, Models 1, 4 and 5 is, as in Humphreys's (2005) own study, sensitive to the choice of model used.

'usual suspects' in the literature, including GDP/cap, regime type and oil production.

Corruption levels also seem to account for some of the relationship between oil production and conflict risk, since the coefficient for oil production becomes smaller and drops below significance ($p = .14$) once corruption is introduced in the model. Also the negative and significant association between economic develop-

Table I. Logit Analysis of the Onset of Civil Conflict, 1985–99, Oil Production and Corruption

	(1) *UCDP/PRIO onset*	*(2)* *UCDP/PRIO onset*	*(3)* *UCDP/PRIO onset*	*(4)* *Fearon & Laitin onset*	*(5)* *Fearon & Laitin onset*	*(6)* *Fearon & Laitin onset*
Oil production$_{t-1}$	2.26**	1.57	7.59***	10.17***	8.70***	32.32***
	(1.02)	(1.06)	(1.99)	(3.31)	(3.33)	(5.93)
Corruption$_{t-1}$		0.24**	0.26***		0.30*	0.35**
		(0.10)	(0.10)		(0.17)	(0.17)
Corruption*oil$_{t-1}$			–1.72***			–5.80***
			(0.62)			(1.25)
GDP/cap$_{t-1}$	–0.12**	–0.07	–0.08	–0.61***	–0.57**	–0.62**
	(0.06)	(0.06)	(0.06)	(0.23)	(0.24)	(0.26)
Democracy$_{t-1}$	–0.64**	–0.61**	–0.61**	–0.88	–0.83	–0.79
	(0.29)	(0.29)	(0.29)	(0.64)	(0.63)	(0.63)
Autocracy$_{t-1}$	0.12	0.04	0.02	–0.38	–0.47	–0.53
	(0.36)	(0.35)	(0.35)	(0.55)	(0.56)	(0.56)
Log population	0.25***	0.23***	0.23***	0.31**	0.28*	0.29**
	(0.08)	(0.08)	(0.08)	(0.14)	(0.15)	(0.15)
Ethnic fractionalization	1.30**	1.29**	1.27**	–0.25	–0.39	–0.42
	(0.57)	(0.57)	(0.57)	(0.72)	(0.70)	(0.69)
Religious fractionalization	–1.22*	–1.09	–1.10	–0.29	–0.01	–0.09
	(0.66)	(0.69)	(0.69)	(1.28)	(1.33)	(1.33)
Mountainous terrain	0.06	0.08	0.08	0.01	0.05	0.05
	(0.13)	(0.13)	(0.13)	(0.16)	(0.15)	(0.15)
Instability$_{t-1}$	0.03	–0.03	–0.04	0.50	0.41	0.33
	(0.28)	(0.28)	(0.28)	(0.52)	(0.53)	(0.53)
Non-contiguous territory	0.83***	0.78**	0.80**	1.97**	1.98**	1.96**
	(0.32)	(0.35)	(0.35)	(0.87)	(0.81)	(0.83)
Time since conflict	1.04**	1.04**	1.02**	–1.36	–1.41	–1.47
	(0.50)	(0.48)	(0.47)	(0.94)	(0.94)	(0.96)
Constant	–7.38***	–8.05***	–8.07***	–7.42***	–8.04***	–8.22***
	(1.46)	(1.46)	(1.47)	(2.63)	(2.74)	(2.74)
Observations	1,662	1,662	1,662	1,662	1,662	1,662
Countries	123	123	123	123	123	123

UCDP/PRIO onset: +25 annual battle-deaths; Fearon & Laitin: +1,000 annual battle-deaths.
Robust standard errors in parentheses, after clustering on country.
* significant at 10%; ** significant at 5%; *** significant at 1%.

ment and armed conflict is sensitive to the inclusion of the corruption variable. This is not due to sample characteristics: Models 1 and 2 have identical sets of observations (as do all other regressions in Table I). Furthermore, multicollinearity does not seem to be a serious problem, since the highest variance inflation factor in Model 2 is 2.8. Rather, corruption seems to explain some of the relationship between economic development and armed conflict. This is not surprising, since economic development previously has been included in a seminal study of the determinant of armed conflict precisely as a proxy for the governing capability of state institutions (Fearon & Laitin, 2003a). Moreover, several studies have corroborated the negative impact of corruption on economic development (e.g. Treisman, 2000) and suggested that corruption is linked to political instability via its harmful consequences on economic performance (Mauro, 1995).

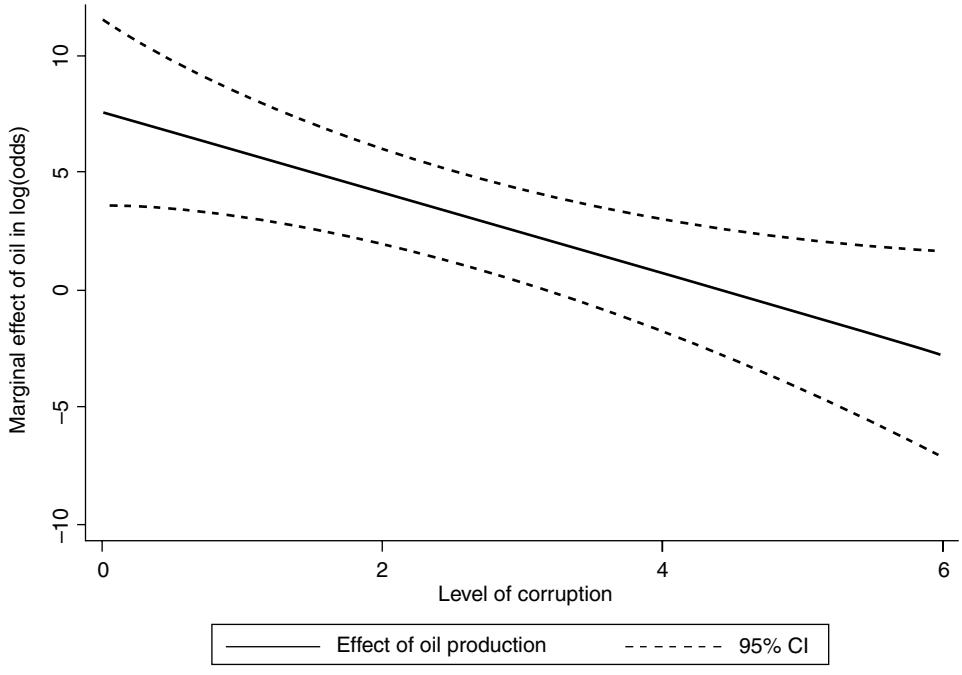
In Model 3, I enter the interaction term between corruption and oil production that captures the essence of the theoretical argument. As theorized, the interaction term is negative and significant, implying that the marginal effect of oil production on the risk of armed conflict decreases with the level of corruption.[17] Hence, whereas both oil production and corruption are positively associated with a higher risk of armed conflict, their convergent constitutes a *less* unstable equilibrium than would be expected from considering only their independent effects. For oil-producing states, corrupt practices surrounding revenue distribution seem to counteract some of the strains created by having an oil-dominated revenue sector.

[17] This finding is robust to the replacement of the continuous measure of oil production with a dummy variable that takes the value of 1 if the state derives more than one-third of its export revenues from oil, and 0 otherwise. See Fearon & Laitin (2003a) for more information on the construction of the variable.

On the basis of the coefficients reported in Model 3, Figure 1 plots how the marginal effect in log(odds) of oil production is conditioned by the level of corruption. The dotted lines show the 95% confidence interval. The negative interaction effect between oil production and corruption is evident in the decrease in the marginal effect (in log(odds)) of oil, as the level of corruption increases. At the highest levels of corruption, the net effect of more oil production actually turns negative. This indicates that pervasive corruption could not only mediate, but offset the effect of oil wealth on the risk of armed conflict. As can be seen from the confidence bonds, however, the effect is not statistically significant from zero at the highest levels of corruption, using a 95% confidence level.

With the inclusion of the multiplicative term in Model 3, the separate estimates for the two component variables, oil and corruption, no longer refer to average effects, but to contingent effects holding when the value of the other component term is equal to zero (Friedrich, 1982; Braumoeller, 2004). The positive and significant relationship between corruption and armed conflict in Model 3 hence pertains to countries with no income from oil. This suggests that the potentially 'pacifying' effect of corruption, evident in the negative interaction term, is conditioned on the access to large, non-tax income for the state. Where such unrestricted profits are *not* available, corruption is disintegrative and destabilizing. Several of the civil wars in the sample occur in countries without oil extraction, but with very high levels of corruption, for example Haiti in 1989, Sierra Leone in 1991, Liberia in 1989 and Uganda in 1994. Hence, this coefficient has an empirically meaningful interpretation. The positive and significant coefficient for oil production in Model 3 is, on the other hand, a counterfactual prediction outside the range of observations, since there are no civil war onsets in countries with a corruption level

Figure 1. Marginal Effect in Log(odds) of Oil Production on the Risk of Civil Conflict by the Level of Corruption, UCDP/PRIO Dependent Variable

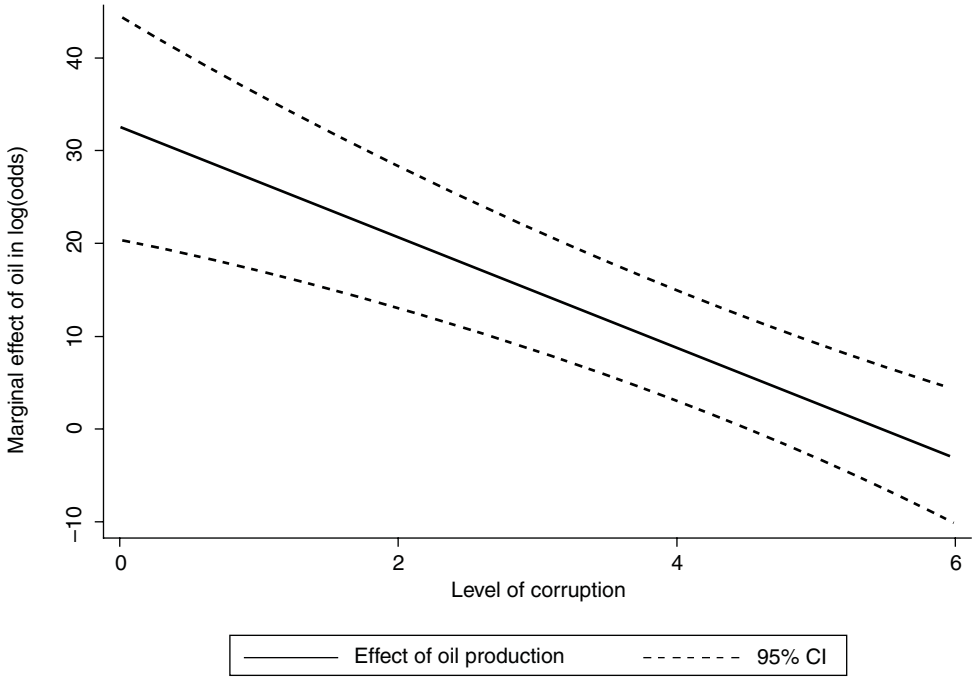


of 0. The reported coefficient, though computed on the basis of all observations, thus has no actual reference point in the data.

The UCDP/PRIO data uses a lower battle-death threshold for recording an onset of armed conflict than many other studies of armed conflict. To enhance comparability with other studies and check the robustness of the results, Models 4–6 rely on Fearon & Laitin's operationalization of civil war, using a 1,000 battle-deaths threshold. The results are very similar. In Model 4, the positive and significant coefficient for the oil production variable confirms the positive association between oil and civil war reported in previous research (Fearon & Laitin, 2003a; Humphreys, 2005; Ross, 2006). As seen in Model 5, the estimate for corruption is positive using this operationalization of civil war but is significant only at the .10 level. Notably, with this specification of the dependent variable, the significance of oil production is not sensitive to the inclusion of the corruption variable. Also the negative and significant relationship between GDP/cap and civil war is robust to the inclusion of the corruption variable.

The interaction term between oil and corruption is entered in Model 6. Whereas the component terms retain their positive sign, the interaction term is negative and significant, thus corroborating the notion that the marginal effect of oil production on the risk of armed conflict decreases with the level of corruption. Figure 2 plots the conditional marginal effect of oil by corruption levels, on the basis of the estimates in Model 6. Dotted lines show 95% confidence bonds. As can be seen from the figure, the effect of oil remains positive, however, until corruption values are at their theoretical maximum. Thus, whereas corrupt,

Figure 2. Marginal Effect in Log(odds) of Oil Production on the Risk of Civil Conflict by the Level of Corruption, Fearon & Laitin Dependent Variable



oil-dependent states seem to have a lower predicted risk of civil war than their less corrupt counterparts; widespread corruption is not a mechanism that buys peace in rentier states. A large oil sector is associated with a higher risk of high-intensity civil war, even at quite high levels of corruption.

The negative interaction term supports the co-optation argument: the harmful effect of oil wealth on the risk of civil war is mediated by high levels of political corruption. By construction, the interaction term is determined, however, not only by the level of corruption, but also by the level of oil production. Hence, countries that have very marginal oil production but very high levels of corruption, such as the conflict-ridden Myanmar, are placed in the middle category and become a point of reference for the comparison with the oil-rich and corrupt countries, such as Libya and Kazakhstan. The critical distinction with regard to the co-optation mechanism might thus be not simply whether oil producing countries experience more or less corruption, but whether the corrupt countries have the oil earnings necessary to secure a largesse of flows in the clientelist networks. That the level of oil production conditions the effect of corruption is also implied in the interaction term. This is in line with previous research suggesting that corruption turns disintegrative when the rents used to sustain such networks for some reason are dispersed or dry up (Johnston, 1986; Khan, 1996; Le Billon, 2003) as they did in the cacao-exporting Côte d'Ivoire when world market prizes dwindled in the 1980s, and in Zaire when the foreign patronage used to sustain the clientelist networks of Mobutu Sese Seko was withdrawn in the 1990s.

The results for the control variables in Table I are largely in line with previous research. GDP/cap has a negative sign across

all models. As already noted, it is significant at conventional levels in the Fearon & Laitin models, but it is sensitive to the inclusion of the corruption variable when using the UCDP/PRIO operationalization. Population size, argued to facilitate the mobilization of rebellion, is, as expected, positive and significant across all the models. Noncontiguous territory and mountainous terrain are also variables that have been argued to increase the feasibility of mobilizing efficient insurgency groups (Fearon & Laitin, 2003a). Both variables are, as anticipated, positively associated with the risk of armed conflict across all models, but only the former is significant. The results reported here also largely support the inverted-U relationship between level of democracy and the risk of armed conflict, though the coefficients for the democracy and autocracy dummies fail to reach statistical significance in many of the models (see Hegre et al., 2001).

The decay function for the time since last conflict or independence year corroborates the notion that a recent conflict heightens the risk of recurring conflict, in the UCDP/PRIO dataset. For the Fearon & Laitin data, the recent outbreak of a high-intensity civil war seems to reduce the likelihood of a new onset in the same country, but the coefficients are not significant. Similar to Buhaug (2006), I find ethnic fractionalization to be positively associated with armed conflicts, using the 25 battle-death threshold, but I also confirm Fearon & Laitin's (2003a) finding that there is no significant effect of ethnic fractionalization on civil war, using their more restrictive definition (see also Hegre & Sambanis, 2006).

Extending the Analysis

The results reported above are consistent with the theoretical argument, but certain aspects could be further explored. First, it is evident from the data that many of the countries that contribute to this negative interaction term, that is, countries that during this period score relatively highly on both oil production and corruption but have no onsets of armed conflict, are situated in the oil-rich Gulf region and include Saudi Arabia, United Arab Emirates, Syria and Oman. This creates the concern that the relationship we are observing is not caused by the interaction between corruption and oil, but mirrors some region-specific attributes of the Middle East. To rule out the possibility that the corruption–oil relationship simply is a proxy for other unobserved regional characteristics, I have included regional dummy variables in the models reported in Table I. None of the main results reported above are sensitive to the inclusion of such regional controls.[18]

The co-optation argument tells one of several plausible stories of how oil-wealthy states are able to resist challenges to their regimes. An alternative account holds that oil revenue finances strong military apparatuses that allow regimes to repress dissent (Ross, 2001). As suggested by Wintrobe (1998) and Bellin (2005), rent-sharing and repression might be complementary strategies for power preservation. In order to ensure that it is corruption and not repression that drives the results, I add a control for the level of state violations of physical integrity rights. The variable is from the Cingranelli–Richards (CIRI) dataset and ranges between 0 and 8, where higher numbers indicate fewer violations of such rights.[19] The results are reported in Table II,

[18] These results are not included in the tables, but can be replicated using the do-file accompanying the article. With the exception of the dummy variable for Africa south of Sahara, which is positive and significant in the models using the UCDP/PRIO data without the interaction term, none of the regional dummy variables are significant.

[19] Physical integrity rights include extrajudicial killings, unlawful and arbitrary deprivation of life, disappearances, torture, inhumane/degrading treatment, and political imprisonment because of political activism. The data are available from http://www.humanrightsdata.org. Details on their construction can be found in Cingranelli & Richards (1999).

Models 7 and 8. When adding this control, the interaction term retains its negative sign and is statistically significant, when using both the UCDP/PRIO and the Fearon & Laitin operationalization of armed conflict. In the Fearon & Laitin model, the contingent effect of corruption, as shown in the component term, is no longer statistically significant (see Table II, Model 8). Government respect for physical integrity rights is not a significant determinant of armed conflict in any of these models.

Next, I have replaced the measure of oil production with a measure of oil rents. This follows from the earlier discussion that highlighted the importance of looking not only at production, but also at the availability of rents as a determinant for the onset of armed conflict. Even though production is constant, fluctuations in oil prices could rapidly change the economic conditions for the political struggle in oil exporting states. This variable is also taken from Humphreys (2005) and is created by multiplying the annual level of oil production per capita with an annual index of the oil price. The results, reported in Table II, Models 9 and 10, are very similar to those obtained when using oil production. Confirming the pattern of the main analysis, the interaction term between corruption and oil rents is negative, the component terms are both positive, and all are significant at conventional levels.

Next, I extend the empirical analysis from 1999, which is the last year of observation both in Humphreys (2005) and the Fearon & Laitin dataset, up to 2004. I replace the data on oil production from Humphreys (2005) with data on the level of fuel as a percentage share of merchandise exports, from the World Development Indicators (World Bank, 2007). Several scholars have pointed out the many drawbacks of the WDI fuel variable (see, for example, Ross, 2004, 2006; Humphreys, 2005; de Soysa & Neumayer, 2007). Above all, this is an export measure that includes commodities shipped through but not necessarily produced within the country. Hence, high values might reflect not a rentier economy, but a sizeable industrial oil-processing sector. The use of this variable thus muddles the test of the theoretical argument but is still valuable as a robustness test.

I use the ICRG corruption index for this extended time period. For the control variables, I use Gleditsch's (2002) data on GDP/cap, which are updated from 2001 using data from the Penn World Tables (Heston, Summers & Aten, 2006).[20] The regime dummies, instability dummy and the population data are updated from their original sources (Marshall & Jaggers, 2005; World Bank, 2007). Ethnic fractionalization, religious fractionalization, mountainous terrain and non-contiguous territory are largely time-invariant variables and are thus simply extrapolated from the 1999 observation in Fearon & Laitin's dataset. For the dependent variable, I use the UCDP/PRIO dataset. This allows me to extend the analysis up to 2004. The results are reported in Table II, Model 11. Also in this longer time frame, the interaction term remains negative, whereas the estimates for the component terms, corruption and oil, retain their positive signs, and all are statistically significant.

Finally, the results are robust to the inclusion of dummy variables marking five-year periods before and after the Cold War, to account for the possible unobserved influence of the dissolution of the Soviet Union and changes in superpower patronage. In a

[20] The GDP/cap data are made available by the authors at http://weber.uscd.edu/~kgledits/extradegdp.html. The base year for the dollar differs between PWT 6.1 and PWT 6.2. I have updated Gleditsch's data by calculating the ratio between the two time series over the three most recent overlapping years and then multiplying the observations from PWT 6.2 by this ratio.

Table II. Logit Analysis of the Onset of Civil Conflict, Oil and Corruption, with Alternative Specifications

	(7)	*(8)*	*(9)*	*(10)*	*(11)*
	UCDP/PRIO onset Repression control	*Fearon & Laitin onset Repression control*	*UCDP/PRIO onset Oil rents*	*Fearon & Laitin onset Oil rents*	*UCDP/PRIO onset 1985–2004*
Oil_{t-1}	7.57***	37.68***	0.05***	0.25***	0.03**
	(2.00)	(6.04)	(0.01)	(0.04)	(0.02)
$Corruption_{t-1}$	0.26***	0.27	0.27***	0.36**	0.35**
	(0.10)	(0.21)	(0.10)	(0.17)	(0.17)
$Corruption*oil_{t-1}$	–1.70***	–7.12***	–0.01***	–0.06***	–0.01**
	(0.62)	(1.21)	(0.00)	(0.01)	(0.00)
GDP/cap_{t-1}	–0.09	–0.68***	–0.07	–0.56**	–0.02
	(0.07)	(0.26)	(0.06)	(0.25)	(0.04)
$Democracy_{t-1}$	–0.65**	–0.66	–0.62**	–0.79	–0.45
	(0.29)	(0.71)	(0.29)	(0.63)	(0.39)
$Autocracy_{t-1}$	0.01	–0.37	0.02	–0.53	0.08
	(0.36)	(0.61)	(0.35)	(0.55)	(0.42)
Log population	0.23***	0.20	0.23***	0.28*	0.36***
	(0.09)	(0.16)	(0.08)	(0.14)	(0.10)
Ethnic fractionalization	1.22**	–0.53	1.27**	–0.36	2.24***
	(0.57)	(0.74)	(0.57)	(0.69)	(0.60)
Religious fractionalization	–1.08	–0.69	–1.11	0.03	–1.46**
	(0.71)	(1.53)	(0.69)	(1.30)	(0.74)
Mountainous terrain	0.09	0.04	0.08	0.03	–0.05
	(0.13)	(0.18)	(0.13)	(0.15)	(0.14)
$Instability_{t-1}$	–0.03	0.14	–0.04	0.37	–0.17
	(0.28)	(0.53)	(0.28)	(0.53)	(0.34)
Non-contiguous territory	0.82**	2.47**	0.79**	1.90**	0.60*
	(0.35)	(1.11)	(0.36)	(0.78)	(0.36)
Time since conflict	1.13**	–2.30*	1.02**	–1.35	0.55
	(0.49)	(1.35)	(0.47)	(0.90)	(0.57)
Physical integrity rights	0.03	–0.18			
	(0.07)	(0.11)			
Constant	–8.06***	–8.18***	–8.21***	–5.33*	–11.02***
	(1.47)	(2.72)	(1.61)	(2.98)	(2.06)
Observations	1,640	1,640	1,662	1,662	2,006
Countries	122	122	123	123	124

UCDP/PRIO onset: +25 annual battle-deaths; Fearon & Laitin: +1,000 annual battle-deaths.
Robust standard errors in parentheses, after clustering on country.
* significant at 10%; ** significant at 5%; *** significant at 1%.

fixed-effect specification, no effect is identified for oil, corruption or the interaction term. This suggests that most of the effects are due to cross-national rather than intertemporal variation.

Conclusion

Previous research on the relationship between natural resources and civil war has largely failed to consider ways in which governments can utilize resource rents to induce stability in the state–society relationship. This article has made a first attempt to address this issue, examining how the level of political corruption conditions the risk of armed conflict in oil-wealthy states. The results suggest that a strategic use of public resources for off-budget and selective accommodation of private interests might reduce the risk of violent challenges to state authority in oil-rich states. The statistical finding of a negative and significant interaction effect between corruption and oil wealth is consistent across different model specifications and robust to many additional tests.

What do these findings suggest in terms of policy priorities? Needless to say, they do not provide a rationale for endorsing political corruption in oil-rich states. There is plenty of empirical evidence that corruption is at the heart of the troubles that have plagued these states for decades. Corruption diverts funds and talent away from their optimal use, impedes state provision of public goods, and feeds inequality, poverty and an erosion of social capital in the societies it penetrates. At the same time, the findings of this article do suggest a more nuanced understanding of the mechanism linking oil wealth, corruption and civil war than the one conventionally proposed. Instead of aggravating the scramble for the spoils from oil, political corruption might function as a default option for soliciting support where state institutions are weak. Through personal and reciprocal exchanges, material rewards create the foundation for political allegiances. Hence, the findings suggest that the international community needs to monitor the societal consequences in countries where patronage-based networks of political authority disintegrate.

This article provides only a first step in disentangling how governance variables and natural resource wealth might interact to determine the risk of civil war. The econometric test presented here suffers from data problems. Some of these problems, such as the reliance on perception-based data for the level of corruption, seem difficult to avoid. Others, such as extending the times series with good measures of oil wealth, could be addressed in future studies as new data become available. This study has presented general patterns between corruption, oil and armed conflict. The argument and the results hopefully invite more in-depth case studies of how governments might be able to pay for peace through an inequitable and inefficient deployment of oil wealth in the society.

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