The Effects of Oil Production and Ethnic Representation on Violent Conflict in Nigeria: A Mixed-Method Approach

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Abstract.

A large qualitative literature on violent conflict in Nigeria has identified the importance of oil production and ethnicity as salient factors in understanding violence, especially in the oil-rich Niger Delta. This resonates with the broader literature on natural resources, ethnic exclusion and conflict. This article advances existing research by providing the first highly disaggregated statistical analysis of oil, ethnicity and violence for Nigerian Local Government Areas (LGA). We test whether oil production in a weak state environment and local groups' access to governmental power affect the level of violence in Nigeria. We employ unique disaggregated data on violent conflict events, proprietary data on oil production and newly collected information on local ethnic groups' access to the federal government for 774 local government areas (LGA). We find strong evidence that LGAs with oil infrastructure experience significantly more violence than others and also find that access to the federal government significantly reduces violence. We complement these findings with a qualitative investigation of violent conflicts in Nigeria.

1. Introduction

Two arguments have been frequently used to explain violent domestic conflicts in various contexts. Building on the established grievance literature, some have argued that political exclusion of ethnic groups results in political violence (Cederman, Wimmer, and Min 2010). Others have emphasized the importance of natural resources, especially oil, for inciting violence (Ross 2012). Both arguments feature mechanisms that can be situated more broadly in the distinction between motives (e.g. grievances) that provoke organized violence (Gurr 1970) and

structural opportunities that incentivize or disincentivize violence (Collier and Hoeffler 2004; Fearon and Laitin 2003). Although both arguments have been tested in cross-country studies, there still exists disagreement about the existence of effects, scope conditions and the underlying causal mechanisms.

This study enriches the existing debate by assessing the effects of both oil and political exclusion related mechanisms on a more disaggregated level. We test both arguments using the case of Nigeria, which is well suited for such an analysis for at least two reasons. First, Nigeria features structural conditions (e.g. weak institutions, oil infrastructure and rents) that invite resource-related violence. Second, the level of political representation varies highly across hundreds of ethnic groups. A large number of ethnic groups are politically and economically marginalized which should then – taking the grievance argument seriously – be associated with a higher risk of engaging in political violence. Assessing both mechanisms simultaneously is important, because political marginalization of ethnic groups can be due to the state's desire to monopolize access to resource rents, and violence related to oil extraction can be equally intertwined with ethnic motivations. Hence, identifying the role of oil and political exclusion of ethnic groups for violence - in the presence of each other- should offer useful additional insights for the current debate.

Scholarship on political violence in Nigeria puts a strong focus on the political economy of oil and the political, economic and ecological deprivation of local minorities. However, research is almost exclusively dominated by qualitative studies.[1] At least one reason for that are the high costs of gathering systematic data in Nigeria. Most studies agree that the expanding oil industry brought along elite competition for oil rents, environmental pollution, and expropriation and subsequently nurtured local feelings of exploitation by the state and the oil companies. Initially peaceful protests addressing these grievances were repressed by the state. This state behavior contributed to a radicalization of local protest movements and led to the high profile conflict that afflicted the area in the 2000s (e.g. Frynas 2001; Hazen and Horner 2007; Ukiwo 2007; Watts 2004).

Yet, what these studies lack is the ability to tell us whether the claim that oil endowments fuel violence holds more broadly across oil-producing areas. Similarly, qualitative work on the

[1] An exception to this is a survey among Niger Delta youths and their probability of joining an armed group (Oyefusi 2008; Oyefusi 2010)

political grievances and violent collective action of ethnic groups, e.g. the Ijaw tribe in the Niger Delta, lacks a broader comparative component. Existing studies are not designed to test these arguments. Given these limitations of the existing literature, we suggest that a mixed-method approach integrating a quantitative and qualitative analysis can extend our knowledge in that regard.

We perform a disaggregated analysis of all 774 local government areas (LGA)[2] in Nigeria between 2006 and 2012. Such an analysis has the advantage of taking the spatial variation of oil production and political representation into account, not only between states, but also within states. We complement the quantitative analysis with qualitative evidence that allows us to flesh out the logic of the proposed causal mechanisms. The quantitative analysis shows that LGAs with more oil production suffer from more violence. Also, including representatives of ethnic groups at the national level has a pacifying effect. Qualitative accounts and field research support the arguments in general, but also show their limitations.

Overall, our analysis supports the existing arguments on oil-related violence and political inclusion. We conclude that both natural resources and the political status of ethnic groups matter for understanding patterns of violence in Nigeria, but especially local dynamics matter most for explaining high levels of violence.

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2. Natural Resources and Political Grievances in the Civil War Literature

2.1 Natural Resources and Conflict: Weak States, Motives and Opportunities

Previous research has conceptualized three major mechanisms on how valuable natural resources contribute to political violence (Le Billon 2001; Le Billon 2008; Ross 2004a; Ross 2004b).

First, natural resources can have a rather indirect, enabling effect on armed conflicts through what Le Billon (2008, 347–349) dubs 'resource curse'.[3] This suggests that a state's dependence

[2] The federal system in Nigeria is composed of the federation as top tier, the state as second tier and the local government areas as third tier.

[3] We use the term resource curse throughout this paper in a broader sense including the weak state mechanism, Dutch Disease, government's revenue volatility, and the economic resource curse.

on resource rents negatively affects socio-economic development and political institutions. This is the case when governments receive revenues from resource rents and do not depend on their citizens' taxes. In turn, the state-citizens relationship suffers and tends to make governments act less accountable which, by extension, negatively affects the quality of policies and provision of public goods (Aslaksen 2010; Beblawi 1990; Mehlum, Moene, and Torvik 2006; Tsui 2011). Such conditions may not directly promote violence, but provide a fertile ground on which grievances can grow.

Second, natural resources can promote violence by providing a motive. The process of resource extraction is often associated with negative externalities, such as environmental degradation, the destruction of livelihoods, eviction of local communities and the militarization of resource assets (Le Billon 2008; Ross 2004a). Perceptions of unfair compensation and re-distribution provide particularly strong motives. Such grievances can inform strong narratives to legitimize insurgent campaigns.

The third causal mechanism of how resources may affect violent conflict is by providing structural and financial opportunities to rebels, or what Ross (2004a) refers to as 'looting' mechanism. Motives are important to mobilize followers, but they are not sufficient to financially launch and maintain a rebellion. Access to lootable resources and extraction infrastructure can provide funds for rebels and valuable targets for military action, regardless of a motive (Auty 2001; Le Billon 2001).

These three outlined mechanisms are not mutually exclusive. They can work in concert and reinforce each other. For instance, the weakening of state institutions can foster the emergence of grievances and rapacious warlords and thus provide the conditions for the other two mechanisms to function.

Earlier cross-country studies find that oil endowments affect civil war onset (Fearon and Laitin 2003; Fearon 2005; Humphreys 2005; Lujala, Gleditsch, and Gilmore 2005). Some subsequent studies use georeferenced techniques and suggest that oil has an effect on the duration of civil wars (Lujala, Rod, and Thieme 2007; De Soysa and Neumayer 2007). A couple of studies find that oil makes secessionist conflicts in particular more likely (Lujala 2009; Sorens 2011) and that very low and very high levels of oil revenues per capita are associated with less violence (Basedau and Lay 2009). More recent work that utilizes exogenous variation in oil wealth finds no evidence for any conflict-increasing effects of oil (Cotet and Tsui 2013). In sum, while there

exists some evidence that natural resources, in particular oil, are reliable predictors of violent conflict, exact scope conditions and underlying mechanisms need to be further investigated (Ross 2013).

2.2 Grievances, Ethnic Identity and Political Violence

Gurr's (1970) relative deprivation theory suggests that group inequality leads to frustration because of a gap between what people believe they should deserve and what they actually get. Grievances provide strong grounds for mobilization when linked with salient ethnic identities.

Ethnic identity is a prime source of intra-group cohesion and consequently – under certain conditions – of inter-group fighting (Blattman and Miguel 2010).[4] Shared ethnic bonds produce strong relationships, foster mutual expectations within groups and facilitate social control of members. Such shared characteristics facilitate collective action (Lichbach 1995).

Taken together, a shared ethnic identity provides a sound basis for political entrepreneurs to frame and alter political objectives as collective grievances. Entrepreneurs can create narratives that amalgamate grievances and feelings of ethnic identity. Such narratives can be very powerful tools to mobilize ethnic communities.

Recent papers on horizontal inequalities produce consistent results that grievances are associated with higher risks of civil wars (Stewart 2008; Østby 2008; Cederman, Weidmann, and Gleditsch 2011). Drawing on a dataset that codes the political status of ethnic groups over time, Cederman et al. (2010) find that countries face higher risks of violence when relevant ethnic groups are politically excluded.

3. Formulating our Hypotheses

The causal mechanisms of how oil endowments can affect political violence have been outlined above. We discussed the resource curse, the motive and opportunity mechanism. What are the quantitatively measureable implications of these three causal mechanisms? First, we

[4] The prevalent constructivist concept understands ethnicity as a set of visible identity features, such as language, region, color, etc., that serve to recognize a kin or non-kin (see Horowitz 1985, 53). Social identity theory (Tajfel and Turner 1979) provides the basis for this concept and suggests that people are able to identify with others even over petty commonalities (also known as minimal group paradigm).

abstain from deriving a testable hypothesis for the resource curse, simply because in our within-country analysis there is no variation on these country-level features.[5] Then, both motive and opportunity mechanism will depend on physical materializations such as oil wells, pipelines, oil spills, oil company buildings. Therefore, the first hypothesis shall expect a positive relationship between physical oil production sites and violent events. If the oil production provides a motive and the opportunities to rebels as argued there should be a significantly positive relationship with the occurrence of violent events.

Hypothesis 1: *Oil production increases the likelihood of violent conflict.*

The second mechanism to be tested is whether the political representation of a local ethnic group is associated with political violence. Drawing on Cederman et al. (2010) we assume that groups which are politically represented are less likely to rebel and vice versa. Political representatives make policies addressing a group's demands more credible. The allocation of state resources and development initiatives can be directed to the represented group and by that leaders can then represent the state and liaise with their populace. In addition, the symbolic and emotional value of political representation will contribute to a stronger identification of the populace and the state.

However, we do not assume that political representatives will ultimately and exclusively pursue their populace's interests and demands, but may or may not be coopted by a regime, engage in private rent-seeking, or simply have little influence in relieving the grievances of their ethnic group. Yet, even with these possible limitations, being represented at the national level should have a pacifying effect as it serves as a symbolic victory and allows access to financial resources and the possibility to distribute these within one's group.

Hypothesis 2: *Ethnic representation decreases the likelihood of violent conflict.*

[5] We will describe the scope conditions of the Nigerian context later in the qualitative section in order to provide evidence for the weak state mechanism. However, given that national institutional quality would not vary within Nigeria, we exclude it from the hypotheses and treat it as a scope condition.

4. Research Design

In order to disentangle the role of oil and political exclusion for political violence, it is important to consider both factors simultaneously in a comparable context. While some studies focus on natural resources and others on the effects of ethnic exclusion, we believe it is crucial to consider the potential interrelatedness between the mechanisms. The presence of natural resources (and appropriation of associated fiscal revenues) can intensify local ethnic identity and contribute to the political marginalization of local groups. Similarly, the presence of developed and activated ethnic identities in areas of natural resource extraction can facilitate the mobilization of collective resistance against the state or rival groups.

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Accordingly, testing the usefulness of each argument in the Nigerian sub-national context is promising. First, Nigeria provides appropriate scope conditions (e.g. weak institutional legitimacy and capacity, oil rents, widespread poverty) to test the arguments. And second, Nigeria features political violence that has been associated in the literature with varying degrees of both oil exploitation and ethnic politics, providing a rich empirical setting to disentangle both effects.

In order to test the theoretical claims, we employ a mixed-method approach relying on both quantitative and qualitative evidence (Lieberman 2005; George and Bennett 2005). Using both methods allows us to exploit the strengths of both methods, while compensating for their weaknesses. The statistical analysis will test the two proposed hypotheses and look at the broader patterns. We complement these findings with a qualitative test where our focus remains with the more detailed causal mechanisms. In sum, we can provide a substantive test of the theoretical claims.

5. Quantitative Analysis

5.1 Data and Model

To test our theoretical claims about the extraction of oil and the access of local groups to political representation, we construct a spatially disaggregated data set for all 774 Nigerian Local Government Areas. Our specific unit of analysis is the individual local government area (LGA) in the 2006-2012 time period. Taking the whole of Nigeria as our sample and not just the Niger

Delta states, allows us to contrast the importance of oil production and the political marginalization of ethnic groups for understanding violence in all Nigerian regions. We focus on cross-sectional variation in our data, instead of also modeling changes over time, largely due to data limitations for our independent variables, which are either time invariant or only slowly changing.

Our main dependent variable is an aggregate conflict event count for each LGA for the 2006-2012 time period. We compute violent event counts based on a database maintained by Nigeria Watch, an NGO that collects detailed, geo-coded information on events with at least one death for all of Nigeria.[6] The event data by Nigeria Watch is based on 15 local daily and weekly newspapers, as well as reports by human rights organizations. This data source contains far better geographic coverage than either UCDP-GED or ACLED, which are commonly used in the quantitative literature. This data source contains 6746 events with at least one casualty. As an alternative to the event counts, we also calculate total aggregate casualties for each LGA in the same time period.

Figure 1 shows the spatial distribution of events across Nigerian LGAs in the 2006-2012 time period, binned into 20% quantiles.

[FIGURE 1 ABOUT HERE]

First, it is to note that our event data capture broader trends identified in the discourse on violence in Nigeria: Violence seems to cluster in the Niger Delta, the Middle Belt and the Northeast. Our data also show though that the distribution of violent events is highly skewed. 60% of all LGAs experienced less than four violent events in the 2006-2012 time period, 80% less than 10. At the same time the top 20th percentile of LGAs are host to over 70% of all conflict events recorded by Nigeria Watch. The distribution of casualties shows a similar, even stronger skew. This illustrates that violence in Nigeria is an incredibly concentrated and local phenomenon.

[6] The events recorded in the database are accompanied by detailed information and the identity of participants, time and location of the event, cause of the event and further information. We tried to be inclusive in the generation of our aggragate event count and opted to include all events, except for incidents labeled as car accidents. This means our event count variable contains instances of rebel groups fighting government forces, clashes between ethnic groups, violence by criminal gangs, violence between private security forces and local groups, as well as mob lynchings motivated by claims of sorcery and black magic.

Our main independent variables focus on the extraction of oil and the political inclusion of ethnic groups. To measure the production site of oil, we rely on geo-referenced data on oil fields. We obtained proprietary data on oil fields from GIS Solutions Nigeria, a firm providing georeferenced data on oil fields, gas flares, pipelines and oil wells. Based on this information we generate a simple count of oil fields for each LGA. This data offers more detailed information on oil exploitation in Nigeria than e.g. PETRODATA (Lujala, Rod, and Thieme 2007), which has been used commonly in the literature. As an alternative measure, we also exploit information on the density of the local pipeline network. Pipelines are also of theoretical importance because of violence related to oil bunkering and the fact that pipelines run through territories further removed from oil extraction sites. A narrow focus on oil fields might miss important physical loci of conflict that provide potentially easier access for local groups to oil rents. Our data come from GIS Solutions Nigeria and we calculate the length of the pipeline network per square kilometer for each LGA.[7]

To capture the political in- and exclusion of local ethnic groups we collected new data on the ethnic composition of the federal cabinet and the settlement areas of Nigeria's main ethnic groups. To determine settlement areas, we used information from Nigeria's Statistical Office, which provides detailed maps on the geographic areas populated by specific ethnic groups. In these maps the statistical office distinguishes between more than 50 ethnic identities. We adopted Rainer and Trebbi's (2012) categorization of 17 ethnic groups which capture the major linguistic groups in Nigeria. For each LGA we identified the local ethnic groups. We then proceeded to code the ethnic identity of all Nigerian federal cabinets from 1999 to 2010, using experts. Based on this combined information we determined the share each local group has in the national cabinet and added shares of groups within the same LGA and averaged the LGA share for the pre-2006 time period. This variable represents the degree of political inclusion of local groups at the national level.

To partial out the effects of our two main variables of interest we furthermore include a number of control variables in our analysis. We draw largely on information provided in the 2006 Nigerian population census. We control for (logged) population counts and size of the LGA,

[7] While both measures provide more fine-grained data on the physical infrastructure associated with oil extraction, we lack reliable information on the volume of oil production. Information on oil production is closely guarded by the Nigerian Ministry of Petroleum Resources.

since more populous and larger areas are more likely to experience violent events. To control for potential effects of ethnic fractionalization, we include the number of ethnic groups living in each LGA.[8] To account for the effects of local development levels we add to our models the percentage of the population with access to electricity, the share of the population that owns a residence and the share of the population squatting. To measure the difficulty of the terrain, we calculate the share of the LGA covered by deep forests.

Since we are interested in the effects of oil on violent collective action, we have to address the possibility that the central government uses fiscal revenue to buy-off the support of the local population. To account for such effects we use data on yearly fiscal allocations from the federal government to the LGAs. The Office of the Accountant General, a control institution within the Nigerian Ministry of Finance, provides a publication of fiscal allocations from the federal government, respectively the federation account, to all states and LGAs between 1999 and 2008 on a monthly basis (OAGF 2008). However, various sources suggested that these figures may to a substantial degree not arrive at the respective local government councils and even if they do, these funds are not necessarily invested into the provision of public goods.[9] It has been suggested that there are no records on what amounts actually make it to the local governments, but it is largely to the discretion of the state governors to distribute these resources. Given this, it is difficult to form clear expectations about the effect of fiscal allocations on violence, or how its inclusion affects any omitted variable bias with regard to our two main variables. We therefore only include this measure in an additional robustness check. Based on the yearly fiscal flows, we calculate the average per capita allocation in the 2000-2006 time period. This ensures that we measure the effect of prior fiscal allocations on ensuing levels of violence, avoiding any direct reverse causality problems. Summary statistics for all variables can be found in the Appendix.

Since our main dependent variable is a count of events or casualties, we rely on standard negative binomial count models to statistically estimate the effects of oil production and ethnic inclusion on the intensity of violence. Using a negative binomial model is important to account

[8] This variable is based on ethnic settlement maps provided by Nigeria's Statistical Bureau, since the population census does not contain any information on ethnicity.

[9] Authors' interviews with government officials and NGO representatives, Abuja/Lagos/Port Harcourt, February 2013

for the clear over-dispersion in the event counts. We cluster standard errors at the state level to account for arbitrary serial correlation and heteroskedasticity.

5.2 Results

Table 1 shows our main results. Model (1) shows our baseline estimates with the number of events as dependent variable. Of the control variables, only four reach standard levels of statistical significance. Unsurprisingly, higher logged population counts are associated with more violent events. Among the socioeconomic variables, higher electricity access in the population also is associated with more conflict, while a higher rate of home ownership is found in LGAs with less violence. The electrification result might be due to empowerment effects of socioeconomic development While at the cross-country level economic development reduces incidence of political violence, the same is not necessarily true for within-country variation. LGAs with more forested areas also have, on average, fewer violent events.

[TABLE 1 ABOUT HERE]

More importantly, moving to our two main variables of interest, we find that the number of oil fields is positively associated with conflict, statistically significant below the 1% level. This finding is in line with our theoretical expectations and lends support to the general idea that oil extraction provides motives and opportunities for violent collective action. Counteracting this conflict-increasing factor, we find that higher rates of political inclusion of local ethnic groups in the national government reduce violent conflicts. The coefficient for ethnic inclusion is negative and statistically significant below the 0.1% level. This finding suggests that political representation can be a powerful force in mitigating conflictual competition for resource revenues.

Model (2) in Table 1 re-estimates the same model, now with the number of casualties as dependent variable. Again, we find strong support for our two hypotheses. For our next robustness check we add as an additional control a dummy variable for LGAs located in the Niger Delta. Again, we estimate models for event counts (Model (3)) and casualty counts (Model (4)). As can be seen, our main results are completely robust to controlling for idiosyncratic characteristics of the Niger Delta. While the Niger Delta dummy itself is positive, it fails to reach the standard threshold of 5% in terms of statistical significance. In Models (5) and (6) we replace

the Niger Delta dummy with a complete set of regional dummies[10]. While this somewhat weakens the statistical significance of the oil field and ethnic inclusion estimate, we still find overall very robust support for the conflictual nature of oil production and the pacifying effects of political inclusion of ethnic groups. Importantly, our findings with regard to the presence of oil infrastructure are not specific to oilfields, but applies equally to other forms of extraction infrastructure. Specifically, as a robustness check we re-estimate the models in Table 1 using the length of the pipeline network per square kilometer as an alternative measure. We still find that oil infrastructure is associated with higher levels of violence and casualties, providing further empirical support to the importance of oil bunkering for violence in Nigeria (see Appendix for detailed results). Another potential indicator for the presence of oil infrastructure is the occurrence of gas flares. We use data on gas flares from GIS Solutions Nigeria and also re-estimate the models from Table 1, confirming our prior finding – measured by oil fields, pipelines or gas flares – the production side of the oil industry is positively associated with a larger number of violent events in Nigerian LGAs over the 2006-2012 time period. Moreover, our results are robust to controlling for fiscal allocations per capita. While LGAs with higher fiscal allocations experience more conflict, it does not change our two findings with regard to oil production or ethnic inclusion. The positive association between violence and fiscal allocations might be because the government sends more money to hotspots of violent collective action, to engender political support in the long-run, because local groups engage in violent competition to appropriate government rents, or because of a discrepancy between official allocations and actual realization of fiscal flows.

None of our findings are driven by the choice of estimator. We find largely similar results for a Poisson regression model or simple OLS with logged event counts as dependent variable.[11]

Apart from statistical significance, our results also are substantively meaningful. We simulated the implied change in the number of expected event counts when increasing each of our two main variables from their mean by two standard deviations.[12] For the oil field variable, the expected

[10] We follow established regional divisions: North-Central, Northeastern, Northwestern, Southeastern, South-South, and Southwestern.

[11] Results are shown in the Appendix.

[12] Based on Model (1) in Table 1. We set all control variables at their respective means, medians or modes. Simulations were performed using CLARIFY in STATA.

increase in event counts is approximately 2.54 events, while better ethnic representation reduces event counts by 2.2 events, on average. Given that the median event count for an LGA is three events, these indicate the importance of oil and ethnic politics for understanding violence in Nigeria.

[TABLE 2 ABOUT HERE]

To further investigate possible differences between the Niger Delta and the rest of Nigeria, we also provide estimates for separate models. Table 2 shows in Model (1) one set of results for the Niger Delta only and in Model (2) for the rest of Nigeria. For LGAs in the Niger Delta we still find that the number of oil fields are associated with higher levels of conflict. In other words, even within the Niger Delta region, it is especially localities that host oil installations and are slated to receive the most revenue per capita that are experiencing the highest levels of conflict. For the Niger Delta LGAs we find that the degree of ethnic representation at the national level has no statistically significant effect on violence. Note that this only signifies that variation in political representation between Niger Delta LGAs does not explain patterns of violence, largely because there is little variation within the region.[13] The results do not speak to the importance of ethnic political inclusion for the region as a whole. When we turn to the remaining regions of Nigeria, we again find evidence in line with our theoretical expectations. We find again that more extensive representation at the national level leads to lower event counts.

This set of additional findings is important, because it shows that while there is a clear relevance of oil for the Niger Delta as a whole, it also explains variation in violence within the Niger Delta region. Moreover, it seems that the politics of ethnic representation are very important for understanding patterns of violence across regions of Nigeria.

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6. Qualitative Evidence

This section seeks to complement our statistical analysis in testing the explanatory power and the limits of our theoretical framework. Our approach here is what George and Bennett (2005) dub a 'disciplined configurative case study', suited to test and refine the discussed causal mechanisms. Therefore, the causal mechanisms discipline the remainder of this section. We start

[13] In the total sample our ethnic inclusion measure varies from 0 to 0.61 with a standard deviation of 0.15, while in the Niger Delta the measure ranges from 0 to 0.30 with a standard deviation of 0.08.

by discussing the "resource curse" and the scope conditions it produces in Nigeria. We continue with the oil-related motive and opportunity mechanism. Here, we put a natural focus on the Niger Delta, simply because the necessary conditions are restricted to oil production. With regard to the argument about political representation, we will also reflect on the Middlebelt and Northern Nigeria. Although the current political affairs are historic legacies, we focus the analysis – mainly due to space restriction – on the period from the mid-1990s up to today.

6.1 Resource Curse and the Political Economy of Oil: The Scope Conditions for Violent Conflict

It was stated that natural resources can have an indirect effect on political violence. Governments dependent on fiscal rents (e.g. oil) tend to produce weak state institutions and socio-economic policies which provide fertile conditions for political violence to emerge.

Nigeria is a prime example of a weak state. Not in terms of its military capacity, but with regard to its institutions and its dedication to development. Oil contributes 85% to government revenues and 90% to export income (Gboyega et al. 2011, 7). This constant flow of oil revenues dwarfs tax-generated income and has produced a political economy that revolves around oil rents instead of the needs of the Nigerian population. This system has incentivized opportunistic rent-seeking behavior among the country's political and economic elite. This has certainly contributed to a deterioration of relations between the state and the average citizen. The state-citizens relationship has been described as highly dysfunctional mainly because of the 'cargo mentality' (you take as much as long as you can) among and 'state capture' by the ruling elites.[14]

While a small circle of Nigerians benefit from the current state of affairs, the majority of Nigerians has experienced little improvement of their living conditions over the last decades (Hazen and Horner 2007, 76). In general, the level of public services provision is low. Nigeria's human development index is even below the average of sub-Sahara Africa (UNDP 2013).

The dissatisfaction among Nigerians about the Nigerian state is widespread. Blackouts are common even in the metropolitan cities Abuja, Lagos and Port Harcourt and more so in the rural areas. It is common to have public electricity for not more than six hours per day. The National

[14] Authors' interview with Prof. Ekekwe, University of Port Harcourt, 12.11.2013.

Electric Power Authority, short NEPA, is commonly referred to as "Never Expect Power Always".[15] Fuel shortages are another common phenomenon at Nigerian gas stations. These circumstances owe to the fact that Nigerian governments have abandoned existing refineries in order to maintain the lucrative business where refineries are developed abroad and fuel is reimported to Nigeria (Smith 2007).

There are numerous examples of how state governments mismanage and embezzle funds in construction projects, fuel subsidies, health care and education.

Yet, probably one of the most pressing problems is the absence of employment for young men. Not only unskilled laborers face difficulties to find jobs, but also university graduates. The lack of opportunities in the formal job market makes thousands of them vulnerable to drift into criminal careers. Among Nigerian this is often referred to with the proverb that "the devil makes work for idle hands". State-level politicians, warlords, local cult movements and terrorist groups do recruit from this pool of unemployed youth. Particularly in the run-off to elections armed youth groups have been used to intimidate the local population, fight political competitors and rig the ballots.[16]

While oil production itself is not responsible for political violence, it allows the Nigerian state to retain its modest performance. Poor governance, corruption, poverty and unemployment have fueled collective discontent and have provided fruitful conditions for social and political conflict.

6.2 Resource Control as Motive to Rebel

The second suggested causal mechanism of how natural resources can attribute to political violence is by providing a motive to rebel.

While the political elite enjoyed a steady stream of oil revenues, local communities in the Niger Delta began to feel alienated by being excluded from the economic benefits, but being left with the ecological burden of the booming oil industry (UNEP 2011). In the late 1990s, a combination of economic, environmental and political deprivation led to the rise of local – initially non-violent – protest movements such as the Movement for the Survival of the Ogoni

[15] Authors' interview with Celestine AkpoBari, Head of Social Action Port Harcourt, 11.11.2013.

[16] Authors' interview with Matt Halsted, Chief Financial Officer of Stakeholder Democracy Network, Port Harcourt, 10.11.2013.

People (MOSOP) and later the Ijaw Youth Council (IYC) which demanded local grievances to be addressed. The Nigerian state reacted to these non-violent movements with violent repression (Okonta and Douglas 2003, 116–126; UNEP 2011, chap. 1). While the protests were crushed by the army, the resentments of the local population and in particular by the youth intensified (Ukiwo 2011).

Although Nigeria returned to democratic rule in 1999, the way grievances in the Niger Delta were managed by the federal and state governments hardly improved. Even the gradual increase of the derivation to oil-producing states (1.5 per cent in 1984, 3 per cent in 1992 and 13 per cent in 2000) had little impact on local living conditions, but largely benefitted state politicians (Smith 2007; Ukiwo 2011). In 2000 President Obasanjo responded to the demands for economic and social development in the region by establishing the Niger Delta Development Commission (NDDC). While the NDDC was well financed (4 billion dollars in 2007), it has been viewed as a tool for corruption and the embezzlement of funds in infrastructure projects (Newsom 2011; Watts and Ibaba 2011).

In the early 2000s, the Movement for the Emancipation of the Niger Delta (MEND) and the Niger Delta People's Volunteer Force (NDPVF) established themselves as the spearhead of the new violent struggle against the state and the oil companies. Both organizations claimed responsibility of various attacks on oil infrastructure and the kidnapping of oil workers in order to draw international attention to their grievances (Courson 2011). In a number of attacks on pipelines and kidnappings in 2006 MEND achieved its goal to hit the state by crippling the Nigerian oil output by around one third (Watts 2007).

The proposed motive-mechanism explains the onset of the violent insurgency. However, the change from a non-violent struggle to a violent insurgency brought along new aspects where financial opportunities and violent rent-seeking among insurgents groups became increasingly central.

6.3 Financial Opportunities: Oil Theft, Kidnapping, Security Contracts

Apart from providing a motive, natural resources can provide financial opportunities to insurgents. Particularly in a weak state, the illegal access to resources can incentivize violent rent-seeking, regardless of a motive.

In the Niger Delta, there are various methods to benefit from oil operations. Groups can sabotage pipelines to steal oil or kidnap expatriate oil workers for ransom. Other methods include financial compensations for operational as well as sabotaged oil spills and so-called security contracts between oil companies and armed groups.

Due to the physical absence of state institutions in large areas of the Niger Delta, violent attacks by insurgent groups in the beginning of the 2000s were largely directed at oil companies who were seen as accomplices of the Nigerian state (Owolabi and Okwechime 2007; Okonta and Douglas 2003). The kidnapping of oil workers was initially a tool to force oil companies to leave the area. The oil companies did not leave, but adapted their security strategy. In order to reduce the risks of kidnapping, oil workers were moved to gated communities, so-called "life camps" and were transported only with armed escorts by the army or contracted armed groups. Through these contracted escort services, armed groups all over the Niger Delta benefitted financially (Platform 2011).[17]

When armed groups realized that their violent actions were also a lucrative endeavor, pipeline sabotage and kidnapping developed into a more organized business. For instance, oil companies, above-all Shell, provided "security contracts" to sabotaging groups to prevent further vandalization of its operating infrastructure. While a security contract discouraged the contracted group, it encouraged the emergence of other groups to compete for security contracts and by extension incentivized violence (Platform 2011; Stakeholder Democracy Network 2013).

MEND, NDPVF and other armed groups did not operate in political void. Since the return to democratic rule in 1999 state and local politicians used such groups particularly during the elections in 1999 and 2003 to fight political competitors and rally for support. With the connection to and the patronage of politicians, militant groups were an integral chain link in the large-scale oil theft (known as bunkering) which has become a massive shadow industry worth billions of dollars (Gboyega et al. 2011; Katsouris and Sayne 2013; Smith 2007; Ukiwo 2007). While sabotaging oil pipelines was a tool to hit the Nigerian State in the beginning of the struggle it increasingly changed into a criminal syndicate where Niger Delta militants, politicians and businessmen from all over Nigeria, the army and international actors cooperated to steal oil (Gore and Pratten 2003; Watts 2007).

[17] Authors' interviews and observations in Port Harcourt and surrounding areas, November 2013.

During field research in the Niger Delta, we found that pipelines in the riverine creek areas were vulnerable for oil bunkering. However, those areas without waterways were not affected by oil bunkering. It therefore makes a substantial difference under what conditions the stolen oil can be transported.[18]

To summarize, plenty of financial opportunities arose from oil operations in the Niger Delta. The empirical evidence lends substantive support to the opportunity mechanism. It does, however, also expose the limits of the argument, because these opportunities did not only attract insurgents, but also corrupted state institutions such as the army and the political elite (Watts 2007; Gore and Pratten 2003). This cooperative system of plunder between insurgents and state actors may even have stabilized the region.

6.4 The Nigerian Way: Political Inclusion through Federal Disintegration

The second argument we set out to test is whether the political representation of local groups is associated with political violence. Following Cederman et al. (2010), we theorize that political representation has an inverse effect on political violence, because policies addressing local grievances become more credible by having a representative being involved.

We start by reflecting on the function of the federal system in Nigeria – in particular its frequent extension – to address pressing demands for more representation among local groups. We then proceed to the particularities of grievances in the Niger Delta, the Middle Belt and Northeastern Nigeria.

With its 170 million inhabitants and some 500 ethnic groups Nigeria is a particularly large and culturally diverse country. The three largest ethnic groups, the Hausa-Fulani, the Yoruba and the Igbo make up around 60-70 per cent of the population. These groups have dominated the political and economic sphere in Nigeria since independence from Britain in 1960. Ethnic minority groups have ever since struggled against economic political and deprivation marginalization. To accommodate local minorities, at least in theory, Nigeria has adopted a federal system with three tiers of governance: on the top, the federation, comprised by 36 states (plus federal capital territory Abuja) and 774 local government areas (LGA). While the institutional structure would

[18] Authors' interviews and observations during field research in Akapuka, Okrika and Bodo, November 2013.

allow decentralized political decision-making and implementation of public services, the federal and the state governments have retained a thorough grip on power and resources, leaving LGAs largely as mere ghost cabinets (UNDP 2009, 103; Suberu 2001, 173).[19]

The design, modification and extension of the federal system have been a stage of power struggles among Nigerian politicians. At the time of independence Nigeria was divided into three regions, which were further divided in several stages to 36 states in 1996. These changes have most often been initiated by smaller ethnic minority groups which felt that their interests were poorly represented by their respective state governments (Suberu 2001).

With the creation of new states and LGAs the Nigerian state responded to political demands of ethnic minorities for territorial boundaries and access to oil rents (Gboyega et al. 2011; Watts 2007).

6.5 Addressing Ijaw Demands for More Representation: Appointing Goodluck Jonathan as Vice-President

The inauguration of late President Yar'Adua in May 2007 raised hope for a more constructive approach to resolve the Niger Delta conflict. Appointing Goodluck Jonathan, an ethnic Ijaw and former governor of oil-rich Bayelsa State, as Vice President, now President, has been a move to respond to demands of Ijaw for more representation in the government (International Crisis Group 2007). Tentative results from a survey, we conducted in three communities in Rivers State, suggest that it is "very important" (the highest rating) to have 'someone' from the Niger Delta as President of Nigeria, regardless whether respondents were Ijaw. Further, the release of several high-ranking Ijaw leaders and increasing dialogue with militants were perceived as a fortunate turn in the government's approach.

To respond to the increasing violence in the Niger Delta, in 2009 the government offered an amnesty program to all Niger Delta militants. The amnesty granted freedom of prosecution to all militants who surrendered (Davidheiser and Nyiayaana 2011). Around 20,000 militants surrendered each receiving 420 dollars per month. Some argue that the amnesty program was

[19] Authors' interview with government official, Abuja, 31.01.2013.

successful in attracting former militants by providing comparably large cash incentives, but failed to address the roots causes of the conflict (Courson 2011; Davidheiser and Nyiayaana 2011).

While attacks on oil infrastructure and violent events substantially dropped since the amnesty was launched, organized oil bunkering, illegal oil refining, kidnapping and turf wars between armed groups continued to flourish (Newsom 2011).

6.6 Religious and Ethnic Tensions and Political Violence in Northern Nigeria

Our study focuses on violence related to the political economy of oil, bringing into focus the conflicts in and around the Niger Delta region. However, other conflicts have played an increasingly important role in Nigeria. For example, tensions and clashes between Muslim and Christian groups are particularly salient in Northern Nigeria and the Middle Belt.[20]

While religion is not the only factor, many of the conflicts in the area have a specific religious element that is regarded crucial to legitimize violence. There is an overlap with other conflict dimensions over lifestyles (herders vs. farmers), socio-economic disparities and land claims (indigenes vs. settlers) that deepens religious cleavages (International Crisis Group 2012).

In Kaduna for instance violence in the beginning of the 2000s between the Muslim Hausa majority and around 30 Christian minority groups has been attributed to economic disparities. Horizontal inequalities, grievances and theological disagreements between Christians and Muslims have spurred large-scale riots leaving thousands dead. The recurring violence keeps enforcing religious cleavages (Africa Report 2010).

Historically, Northern Nigeria has always resisted to the secular worldviews of the South. The reintroduction of Sharia law after Sani Abacha's military rule (1993-1998) and the return to democratic rule in 1999 was seen as a possibility of moral and political renewal within the north. The dominant association among Muslims that secular state institutions and a Christian President are a primal cause of political corruption and moral decay has aggravated relations to their Christian neighbors (International Crisis Group 2010).

[20] Northern Nigeria refers to twelve northern states (Bauchi, Borno, Gombe, Jigawa, Kaduna, Kano, Katsina, Kebbi, Niger, Sokoto, Yobe and Zamfara) which reintroduced Sharia law in 1999. The Middlebelt includes the states of Kwara, Kogi, Benue, Plateau, and Nasarawa.(International Crisis Group 2010).

Simultaneously, for many Christians the reintroduction of Sharia law caused irritation about their position in these states. Nigerian Christians themselves cultivated a feeling of threat through the Muslim majority in the area. Similar to Muslim organizations, Christian groups started to take a stronger political role in the area. The creation of new Pentecostal bigots and the monitoring of religious balance in government bodies had strong impacts on the creation of religious cleavages. This increasing level of polarization on both sides has frequently sparked violence (International Crisis Group 2010). Besides the religious and ethnic attributes, the most fundamental underlying condition why violence frequently erupts is widespread poverty and a lack of job opportunities, particularly for young people.

In recent years the Islamist organization Boko Haram has claimed responsibility of an increasing number of attacks in the North, in particular the Northeastern part of Nigeria. Boko Haram's home base is in the North Eastern states, in Borno. It builds on a general atmosphere of resistance towards secularism that existed in Northern Nigeria ever since. The attraction of Boko Haram's world view for followers remains unclear. It seems plausible that the group's appeal stems from a general discontent with the Nigerian state, its corrupt practices, the dire economic situation and unemployment in the area (Aghedo and Osumah 2012).

Neither in the case of the Middle Belt nor the Boko Haram do we find indication that local groups simply demand more representation at the national level. In the Middlebelt, violence is associated with local cleavages. In Northeastern Nigeria, Boko Haram sees its fight as a fight against moral decay and corruption of the state.

6.7 Discussion

How do these qualitative accounts stand to the proposed theoretical framework? First, there is considerable support for the resource curse argument. High-profile corruption and embezzlements, poor governance – all fueled by oil rents, lack of development and job opportunities provide the conditions for social and political conflict. Second, there is evidence that at least the beginning of the Niger Delta struggle was motivated by unaddressed grievances and state repression. Third, we find strong support for the opportunity argument. During the transformation from a non-violent to a violent struggle the original motives blurred into increasingly opportunistic behavior. The empirical evidence does however also expose the limits

of the opportunity argument. In the case of the Niger Delta not only insurgents, but also politicians, the army and others were involved in opportunistic oil theft.

The claim that political inclusion reduces the risk of political conflict is in general supported by empirical evidence. For one, Nigeria was quite liberal in creating new states and thereby granting local groups a degree of autonomy as well as political participation.

Also, in the case of the Niger Delta conflict, the appointment of Goodluck Jonathan Vice-President sent strong signals to the Delta region even if it had little impact on the living conditions of the people. Additionally, the amnesty program had probably the largest effect on decreasing violence.

The violent conflict in the Middle Belt and Northern Nigeria features a very unique set of multiple cleavages (e.g. indigenes vs. settlers, Christian vs. Muslims, secular vs. Sharia). Balanced political power at the state level between the conflicting groups is important to reduce violence. In sum the theoretical frameworks provides substantial explanatory power to understand Nigerian politics and conflict.

7. Conclusion

This paper set out to test two prominent arguments in the civil war literature. First, that oil production promotes social and political conflict in the context of a weak state through three causal mechanisms (resource curse, motive and opportunity). And second, that unaddressed grievances and political exclusion are predictors of conflict.

We employ a mixed-method design to test these arguments, combining quantitative and qualitative evidence. Using novel data on the geolocation of oil infrastructure, we find that local government areas (LGA) – the lowest political entity in Nigeria – with more oil production experience more violence. With regard to the effect of political representation, we find that including local minorities has a pacifying effect. Our results are robust across various models, data and specifications. To overcome the time-invariant character of the statistical analysis, we add a qualitative test and find overall support for the proposed causal mechanisms.

Although our study was set out as a theory test, our theoretical contribution is twofold. First we combine two theoretical arguments in one analysis and show that both are significantly associated with political violence. Second, we refine an existing theory. In particular, we realize that the

opportunity mechanism does attract both non-state armed groups as well as state actors and that cooperation among them had even stabilized the security context in the region. Empirically we enrich the existing discourse on Nigeria with a broader picture on the role of oil and political inclusion.

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9. Tables and Figures

Figure 1: Violent Events in Nigeria 2006-2012

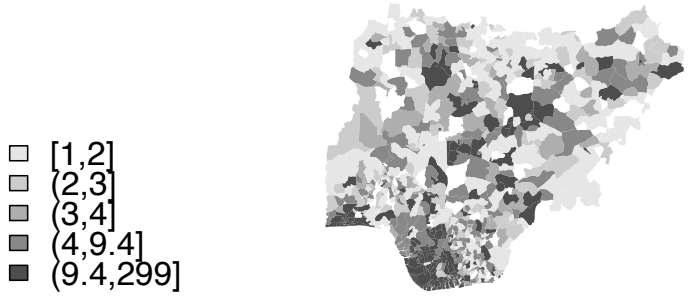

Table 1: Main Results

	(1) Events	(2) Deaths	(3) Events	(4) Deaths	(5) Events	(6) Deaths
log(Population)	0.889***	0.933***	0.890***	0.941***	0.883***	0.945***
	(0.162)	(0.188)	(0.153)	(0.184)	(0.143)	(0.169)
Area	0.00000749	0.000115*	0.0000254	0.000131*	0.00000409	0.000111*
	(0.0000350)	(0.0000564)	(0.0000358)	(0.0000571)	(0.0000382)	(0.0000562)
Number of Ethnic Groups	0.0788	0.129	0.0648	0.122	-0.00347	0.0600
	(0.115)	(0.162)	(0.113)	(0.157)	(0.110)	(0.140)
% Electricity	0.00536**	0.00658*	0.00595**	0.00743*	0.00531**	0.00531+
	(0.00201)	(0.00327)	(0.00204)	(0.00332)	(0.00199)	(0.00321)
% Owned House	-2.130***	-1.755***	-2.105***	-1.686***	-2.211***	-2.027***
	(0.361)	(0.465)	(0.359)	(0.478)	(0.416)	(0.538)
% Squatting	3.557	3.576	0.193	1.058	4.744	5.180
	(10.32)	(14.31)	(10.88)	(14.64)	(10.49)	(13.01)
% Forested	-0.00806*	-0.0149**	-0.0106***	-0.0169***	-0.0112**	-0.0158**
	(0.00374)	(0.00525)	(0.00318)	(0.00511)	(0.00377)	(0.00550)
Oil Fields	0.109**	0.139***	0.0875*	0.116*	0.0641+	0.0772*
	(0.0332)	(0.0403)	(0.0369)	(0.0454)	(0.0341)	(0.0371)
Ethnic Inclusion	-1.489***	-2.586***	-1.312**	-2.457***	-0.407	-1.913*
	(0.401)	(0.625)	(0.429)	(0.631)	(0.399)	(0.792)
Niger Delta			0.308+	0.270		
			(0.172)	(0.243)		
Constant	-5.778**	-5.066*	-5.863**	-5.264*	-5.936***	-5.385**
	(1.973)	(2.297)	(1.849)	(2.239)	(1.745)	(2.057)
Regional Dummies	No	No	No	No	Yes	Yes
Over-Dispersion	-0.456***	0.225***	-0.468***	0.221***	-0.515***	0.183**
	(0.0945)	(0.0624)	(0.0968)	(0.0622)	(0.0983)	(0.0623)
Observations	672	672	672	672	672	672

Clustered standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Results by Region

	(1) Niger Delta	(2) Non Niger Delta
log(Population)	0.761**	0.982***
	(0.265)	(0.125)
Area	-0.0000931	0.0000179
	(0.000178)	(0.0000364)
Number of Ethnic Groups	-0.443+	0.229*
	(0.241)	(0.0906)
% Electricity	0.00411+	0.00739**
	(0.00227)	(0.00243)
% Owned House	-2.123***	-1.965***
	(0.463)	(0.421)
% Squatting	-21.13***	9.774
	(6.365)	(12.31)
% Forested	0.00607	-0.0127***
	(0.00571)	(0.00288)
Oil Fields	0.0823+	-
	(0.0452)	-
Ethnic Inclusion	0.545	-1.589***
	(1.769)	(0.434)
Constant	-4.103	-7.162***
	(2.935)	(1.507)
Constant	-0.446*	-0.551***
	(0.208)	(0.0993)
Observations	172	500

Clustered standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix

Summary Statistics

	Mean	SD	Min	Max
Violent Events	9.94	23.66	1.00	299.00
Casualties	36.20	100.88	1.00	1645.00
log(Population)	10.37	0.49	8.86	12.67
Area	1188.69	1441.59	12.00	10527.00
Number of Ethnic Groups	1.25	0.52	0.00	5.00
% Electricity	36.75	26.69	2	92
% Owned Home	0.75	0.22	0.07	0.99
% Squatting	0.01	0.01	0.00	0.05
% Forested	21.54	19.49	0.01	80.41
Oil Fields	0.36	1.57	0.00	18.00
Fiscal Allocations	0.02	0.01	0.00	0.06
Ethnic Inclusion	0.20	0.15	0.00	0.61
Pipelines per km^2	0.02	0.05	0.00	0.37
Gas Flares	0.03	0.24	0.00	3.00

Pipelines

	(1) Events	(2) Deaths	(3) Events	(4) Deaths	(5) Events	(6) Deaths
log(Population)	0.903***	0.927***	0.907***	0.941***	0.901***	0.945***
	(0.161)	(0.180)	(0.152)	(0.177)	(0.142)	(0.165)
Area	0.0000174	0.000130*	0.0000346	0.000145*	0.00000813	0.000120*
	(0.0000346)	(0.0000585)	(0.0000361)	(0.0000598)	(0.0000390)	(0.0000582)
Number of Ethnic Groups	0.0819	0.126	0.0689	0.122	0.000778	0.0567
	(0.115)	(0.164)	(0.112)	(0.157)	(0.109)	(0.139)
% Electricity	0.00487*	0.00574+	0.00567**	0.00688*	0.00508*	0.00489
	(0.00205)	(0.00320)	(0.00209)	(0.00333)	(0.00204)	(0.00321)
% Owned House	-2.060***	-1.727***	-2.050***	-1.654***	-2.168***	-2.010***
	(0.365)	(0.474)	(0.359)	(0.486)	(0.418)	(0.540)
% Squatting	6.574	7.310	2.061	3.762	6.423	7.516
	(10.47)	(14.54)	(10.97)	(14.82)	(10.31)	(12.82)
% Forested	-0.00659	-0.0142**	-0.00960**	-0.0166**	-0.0104*	-0.0156**
	(0.00401)	(0.00515)	(0.00333)	(0.00514)	(0.00414)	(0.00568)
Pipelines	2.625**	3.695**	1.731+	2.831*	0.945	1.866*
	(0.850)	(1.295)	(0.937)	(1.315)	(0.727)	(0.840)
Ethnic Inclusion	-1.464***	-2.574***	-1.267**	-2.430***	-0.341	-1.877*
	(0.408)	(0.626)	(0.436)	(0.636)	(0.413)	(0.800)
Niger Delta			0.366+	0.318		
			(0.187)	(0.241)		
Constant	-6.029**	-5.057*	-6.135***	-5.325*	-6.206***	-5.438**
	(1.948)	(2.204)	(1.817)	(2.151)	(1.715)	(1.990)
Regional Dummies	No	No	No	No	Yes	Yes
Over-Dispersion	-0.432***	0.234***	-0.449***	0.227***	-0.503***	0.186**
	(0.0995)	(0.0640)	(0.101)	(0.0639)	(0.101)	(0.0632)
Observations	672	672	672	672	672	672

Clustered standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Gas Flares

	(1) Events	(2) Deaths	(3) Events	(4) Deaths	(5) Events	(6) Deaths
log(Population)	0.934***	0.983***	0.922***	0.979***	0.904***	0.966***
	(0.168)	(0.197)	(0.153)	(0.183)	(0.139)	(0.166)
Area	-0.00000223	0.000101+	0.0000224	0.000126*	-0.00000126	0.000106+
	(0.0000353)	(0.0000579)	(0.0000354)	(0.0000573)	(0.0000379)	(0.0000560)
Number of Ethnic Groups	0.121	0.171	0.0940	0.154	0.0186	0.0825
	(0.114)	(0.166)	(0.109)	(0.157)	(0.107)	(0.139)
% Electricity	0.00498*	0.00576+	0.00587**	0.00724*	0.00524**	0.00514
	(0.00201)	(0.00319)	(0.00204)	(0.00330)	(0.00199)	(0.00317)
% Owned House	-2.088***	-1.736***	-2.069***	-1.646***	-2.187***	-2.009***
	(0.377)	(0.476)	(0.365)	(0.486)	(0.420)	(0.545)
% Squatting	5.502	7.190	0.635	2.559	5.113	6.381
	(10.28)	(14.06)	(10.98)	(14.58)	(10.39)	(12.66)
% Forested	-0.00516	-0.0116*	-0.00918**	-0.0155**	-0.0102**	-0.0148**
	(0.00395)	(0.00531)	(0.00322)	(0.00515)	(0.00390)	(0.00555)
Gas Flares	0.433*	0.533*	0.344+	0.441*	0.273	0.318
	(0.185)	(0.210)	(0.188)	(0.218)	(0.177)	(0.198)
Ethnic Inclusion	-1.460***	-2.594***	-1.244**	-2.411***	-0.331	-1.864*
	(0.417)	(0.633)	(0.440)	(0.634)	(0.415)	(0.795)
Niger Delta			0.391*	0.387		
			(0.172)	(0.246)		
Constant	-6.355**	-5.656*	-6.297***	-5.762**	-6.239***	-5.674**
	(2.041)	(2.382)	(1.833)	(2.222)	(1.687)	(2.006)
Regional Dummies	No	No	No	No	Yes	Yes
Over-Dispersion	-0.433***	0.238***	-0.454***	0.228***	-0.509***	0.186**
	(0.0956)	(0.0623)	(0.0987)	(0.0622)	(0.0994)	(0.0626)
Observations	672	672	672	672	672	672

Clustered standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Fiscal Allocations

	(1) Events	(2) Deaths	(3) Events	(4) Deaths	(5) Events	(6) Deaths
log(Population)	1.753***	2.267***	1.765***	2.282***	1.702***	2.199***
	(0.338)	(0.386)	(0.312)	(0.372)	(0.293)	(0.344)
Area	-0.0000514	0.0000325	-0.0000345	0.0000451	-0.0000414	0.0000485
	(0.0000385)	(0.0000559)	(0.0000406)	(0.0000580)	(0.0000418)	(0.0000571)
Number of Ethnic Groups	0.0907	0.202	0.0707	0.185	-0.00559	0.106
	(0.0985)	(0.160)	(0.101)	(0.162)	(0.0932)	(0.141)
% Electricity	0.00502**	0.00670*	0.00556**	0.00726*	0.00516**	0.00555*
	(0.00190)	(0.00285)	(0.00195)	(0.00293)	(0.00189)	(0.00279)
% Owned House	-1.812***	-1.223**	-1.775***	-1.163**	-1.832***	-1.540***
	(0.393)	(0.448)	(0.369)	(0.445)	(0.417)	(0.465)
% Squatting	2.362	2.587	-1.089	0.269	3.778	3.693
	(9.391)	(12.58)	(9.774)	(12.81)	(9.247)	(11.03)
% Forested	-0.00624+	-0.0117*	-0.00857**	-0.0132**	-0.0102**	-0.0122*
	(0.00338)	(0.00482)	(0.00323)	(0.00473)	(0.00358)	(0.00486)
Oil Fields	0.107***	0.130***	0.0860**	0.112**	0.0698*	0.0807*
	(0.0252)	(0.0323)	(0.0302)	(0.0388)	(0.0301)	(0.0332)
Fiscal Allocations pc	69.30**	97.42***	70.27**	98.48***	66.13**	93.73***
	(24.27)	(26.21)	(22.14)	(25.48)	(21.50)	(24.65)
Ethnic Inclusion	-1.425***	-2.447***	-1.238**	-2.320***	-0.385	-1.797*
	(0.352)	(0.587)	(0.382)	(0.609)	(0.386)	(0.779)
Niger Delta			0.303+	0.220		
			(0.166)	(0.198)		
Constant	-16.16***	-21.10***	-16.37***	-21.36***	-15.75***	-20.44***
	(4.102)	(4.473)	(3.746)	(4.290)	(3.516)	(3.997)
Regional Dummies	No	No	No	No	Yes	Yes
Over-Dispersion	-0.522***	0.157**	-0.538***	0.154*	-0.577***	0.126*
	(0.0838)	(0.0580)	(0.0884)	(0.0600)	(0.0894)	(0.0592)
Observations	667	667	667	667	667	667

Clustered standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

OLS Results

	(1) Events	(2) Deaths	(3) Events	(4) Deaths	(5) Events	(6) Deaths
log(Population)	0.697***	0.921***	0.688***	0.915***	0.676***	0.904***
	(0.0767)	(0.123)	(0.0776)	(0.122)	(0.0781)	(0.125)
Area	0.0000176	0.0000890*	0.0000274	0.0000954*	0.0000226	0.0000814
	(0.0000229)	(0.0000422)	(0.0000253)	(0.0000435)	(0.0000275)	(0.0000501)
Number of Ethnic Groups	0.0660	0.149	0.0518	0.139	-0.0115	0.0503
	(0.0608)	(0.0989)	(0.0627)	(0.101)	(0.0645)	(0.110)
% Electricity	0.00285*	0.00373+	0.00306*	0.00387+	0.00276*	0.00319
	(0.00115)	(0.00214)	(0.00122)	(0.00223)	(0.00120)	(0.00213)
% Owned House	-1.507***	-1.401**	-1.517***	-1.408**	-1.585***	-1.656***
	(0.389)	(0.395)	(0.394)	(0.401)	(0.373)	(0.418)
% Squatting	0.530	7.445	-1.148	6.340	0.370	7.215
	(5.162)	(7.597)	(4.965)	(7.588)	(4.522)	(7.491)
% Forested	-0.00504+	-0.00827*	-0.00600*	-0.00890*	-0.00777*	-0.00937+
	(0.00280)	(0.00374)	(0.00254)	(0.00368)	(0.00347)	(0.00468)
Oil Fields	0.105***	0.128***	0.0945***	0.122***	0.0780**	0.0993**
	(0.0208)	(0.0251)	(0.0254)	(0.0307)	(0.0264)	(0.0331)
Ethnic Inclusion	-0.980**	-1.926***	-0.877**	-1.858***	-0.162	-0.940
	(0.297)	(0.435)	(0.316)	(0.438)	(0.356)	(0.741)
Niger Delta			0.147	0.0971		
			(0.150)	(0.181)		
Constant	-4.375***	-5.977***	-4.297***	-5.926***	-4.220***	-5.878***
	(0.930)	(1.448)	(0.920)	(1.433)	(0.908)	(1.446)
Regional Dummies	No	No	No	No	Yes	Yes
Observations	672	672	672	672	672	672
Adjusted R^2	0.424	0.312	0.426	0.311	0.440	0.324
F	31.19	46.54	26.74	40.62	23.91	26.03

Clustered standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Poisson Results

	(1) Events	(2) Deaths	(3) Events	(4) Deaths	(5) Events	(6) Deaths
log(Population)	0.991***	1.223***	0.991***	1.227***	1.014***	1.307***
	(0.270)	(0.328)	(0.266)	(0.330)	(0.251)	(0.310)
Area	-0.0000175	0.0000925	0.00000319	0.000102	-0.0000672	0.0000218
	(0.0000623)	(0.0000819)	(0.0000636)	(0.0000827)	(0.0000703)	(0.0000804)
Number of Ethnic Groups	0.220	0.244	0.186	0.231	0.0317	0.0690
	(0.140)	(0.165)	(0.133)	(0.163)	(0.122)	(0.130)
% Electricity	0.00779**	0.00728*	0.00814**	0.00742*	0.00629*	0.00448
	(0.00302)	(0.00354)	(0.00303)	(0.00352)	(0.00316)	(0.00383)
% Owned House	-1.513***	-0.960**	-1.543***	-0.968**	-1.852***	-1.690**
	(0.366)	(0.345)	(0.365)	(0.352)	(0.396)	(0.526)
% Squatting	19.32	35.47+	16.28	33.58+	17.88	31.99*
	(13.03)	(18.25)	(14.04)	(19.15)	(12.35)	(15.07)
% Forested	-0.00636	-0.0126	-0.00936	-0.0144+	-0.00674	-0.00781
	(0.00727)	(0.00925)	(0.00604)	(0.00786)	(0.00448)	(0.00607)
Oil Fields	0.0661	0.0708*	0.0517	0.0627	0.0202	0.0246
	(0.0433)	(0.0334)	(0.0486)	(0.0408)	(0.0480)	(0.0373)
Ethnic Inclusion	-2.140**	-3.026**	-1.847+	-2.908*	-0.280	-1.250
	(0.825)	(1.097)	(0.991)	(1.198)	(0.665)	(1.203)
Niger Delta			0.315	0.177		
			(0.229)	(0.266)		
Constant	-7.526*	-8.985*	-7.550*	-9.037*	-7.920**	-10.12**
	(3.121)	(3.582)	(3.051)	(3.609)	(2.859)	(3.470)
Regional Dummies	No	No	No	No	Yes	Yes
Observations	672	672	672	672	672	672

Clustered standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$