Political Geography 38 (2014) 1–11

Contents lists available at ScienceDirect

Political Geography

journal homepage: www.elsevier.com/locate/polgeo

How ethnicity conditions the effect of oil and gas on civil conflict: A spatial analysis of Africa from 1990 to 2010☆

Matthias Basedau, Jan Henryk Pierskalla*

GIGA German Institute of Global and Area Studies, Neuer Jungfernstieg 21, 20354 Hamburg, Germany

Keywords:
Natural resources
Civil conflict
Ethnicity
Spatial analysis

A B S T R A C T

In this article we investigate whether natural resource endowments, specifically oil and gas, and the political status of ethnic groups interact to increase or decrease armed conflict risk. We argue that political exclusion of ethnic groups should amplify, while monopoly power of ethnic groups should reverse the effects of oil and gas on conflict, as these groups can use revenues for patronage or repression. We use highly spatially disaggregated grid data from Africa (1990–2010) and match conflict events, oil and gas deposit locations and the political status of local ethnic groups to test our hypotheses. We find that differences in group status matter. While there is no strong amplification effect of ethnic group exclusion on oil and gas, above and beyond their conflict-increasing constituent effects, we find very clear and strong evidence for a conditioning effect for groups with a monopoly over national-level political institutions: Oil and gas in grid cells with powerful, nationally represented groups reduce conflict risk, while otherwise increasing the probability of violent conflict onset.

Introduction

What role do natural resources and ethnicity play for violent conflict? In many conflicts warring factions form along ethnic and other identity lines and political exclusion of ethnic groups seems to especially increase conflict risk (Cederman, Wimmer, & Min, 2010). At the same time, a huge body of literature has focused on natural resources – particularly oil and diamonds – as determinants for the onset, duration, and recurrence of civil wars (Ross, 2012, e.g.). Surprisingly little research though has investigated the interplay between these two factors.

We investigate whether the potential conflict-increasing effects of oil and gas, identified in the "resource curse" literature (Ross, 2004), are conditional on the political status of local ethnic groups.[1] There are many examples, in which both ethnicity and natural resources have seemingly contributed to fueling the flame of conflict: Ethnic and other identity groups in Nigeria (Igbo and Ijaw) or Indonesia (Acehenese) have demanded a greater share of oil and gas revenues from the central government and often protested negative side-effects of production. In contrast, in many Middle Eastern, oil-rich Rentier states politically dominant groups were able to minimize violent opposition through a combination of state largesse and repression (Le Billon, 2001b; Smith, 2004).

We derive explicit hypotheses about the potential interplay between ethnic group status and oil and gas for conflict. We argue that political exclusion of local, proximate ethnic groups is likely to *amplify* the conflict-increasing effects of oil and gas, due to the added ability to overcome collective action and coordination problems. On the other hand, for ethnic groups that enjoy a monopoly over state power, oil deposits in their settlement area are expected to *reduce* the likelihood of conflict. Monopoly groups will protect strategically important regions, using oil and gas revenues to buy off the support of critical elements of the population or finance an effective repressive apparatus (Basedau & Lay, 2009). Our perspective highlights the importance connecting aspects of political geography, i.e. the location of oil and gas, with ethnic group–state relations to better understand outbreaks of political violence and the "resource curse" more generally.

For our empirical analysis we forego typical cross-national research designs, since existing measures of ethnic group status and natural resource abundance do not contain information on the spatial overlap of each factor. Instead, we follow a recent wave of research in political science and geography that relies on spatially disaggregated

☆ Authors are listed in alphabetical order. We are grateful to Kristian Skrede Gleditsch, Anne Mähler, Carlo Koos, Steffen Hertog and four anonymous reviewers and participants at the SISP 2012 and ISA 2013 conferences for helpful comments and suggestions. This project has been funded by a grant of the German Science Foundation (DFG).

* Corresponding author. Tel.: +49 40 42825781.
E-mail addresses: basedau@giga-hamburg.de (M. Basedau), jan.pierskalla@giga-hamburg.de, jan.pierskalla@gmail.com (J.H. Pierskalla).

0962-6298/$ – see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.polgeo.2013.10.001

data (Buhaug & Rød, 2006; Gleditsch & Weidmann, 2012). Specifically, we use highly disaggregated grid-cell data from the African continent from 1990 to 2010, provided through the PRIO-GRID data structure (Tollefsen, Strand, & Buhaug, 2012). We join information on violent conflict events in each grid-cell-year (Melander & Sundberg, 2011) with data on local oil and gas deposits (Lujala, Rød, & Thieme, 2007), the national political status of local ethnic groups (Cederman et al., 2010) and a number of important control variables. We implement a series of statistical models to test for an interaction between ethnic group status and oil, as well as a host of robustness checks to ascertain the validity of our findings.

Overall, we find that the political status of ethnic groups matters for the effect of oil and gas on conflict. In line with theoretical expectations from the "resource curse" and ethnic conflict literature, we document independent conflict-enhancing effects of oil and gas and ethnic exclusion. While we do not find strong evidence for a meaningful amplification of the oil and gas effect through the political exclusion of ethnic groups, political control over the state does strongly condition oil's conflict increasing tendencies. We are able to show a robust interaction between the presence of groups with a monopoly of political power and oil: Grid cells that are home to groups without controlling access to national-level political institutions are more likely to experience violent conflict events if oil and gas are present; for grid cells with local groups that do enjoy a monopoly of political power, oil and gas strongly reduce the likelihood of conflict.

Our paper makes several valuable contributions to the existing literature. First, we contribute to the cross-fertilization between two major research programs in the conflict literature and geographic research on violence. Second, we offer empirical evidence for an interaction based on grid-cell data in Africa, adding to the growing body of work using disaggregated units of analysis to investigate conflict. Third, our findings on the conditional effects of oil and gas and the access to state power by ethnic group status help to connect and contextualize existing findings in both literature. In particular, our results help to shed light on the controversy about the existence of a "resource curse" for conflict. Existing empirical work on the link between natural resources and conflict offers contradictory findings. Our analysis suggests that the role of oil and gas is affected by the relationship and access of ethnic groups to the state, furthermore implying a spatial logic to traditional Rentier state arguments. This highlights the importance of considering the confluence of geographic and social factors for understanding violent conflict.

Natural resources, ethnicity, and violence

A large literature deals with the link between natural resources and conflict. Generally, natural resources can promote violence through three major causal mechanisms (Le Billon, 2008; Ross, 2004): resource-related motivations, favorable opportunity structures, and indirect effects. For example, grievances over the inequitable distribution of resource revenue or ecological damage from extraction can provide motivation to take up arms. Collier and Hoeffler (2004) argue that the availability of primary commodities increases the likelihood of civil war onset, by providing the opportunity for armed rebel activity and the related motive of "greed" rather than by spurring conflict-promoting grievances – such as the political and economic deprivation experienced by, for instance, ethnic or religious groups. Resource dependence can also have detrimental indirect effects through weakening socio-economic development (Auty, 1993) or state institutions (Mehlum, Moene, & Torvik, 2006).

Numerous quantitative studies have tried to demonstrate that natural resources increase the risk of civil war onset; however, their results vary (Humphreys, 2005; Lujala, Gleditsch, & Gilmore, 2005; Ross, 2004; Smith, 2004). Some studies have found evidence for a conditional effect of natural resources (Fjelde, 2009) or an inverted U-shape (Basedau & Lay, 2009). Research that tries to address issues of endogeneity between national-level measures of resource abundance and civil conflict fails to identify conflict-increasing effects (Brunnschweiler & Bulte, 2009; Cotet & Tsui, 2013). The majority of scholarly work has focused on oil and gas and not other resources as potential conflict risk. Empirical studies do suggests that oil and gas (and to a certain degree diamonds) play the most relevant role for conflict (Lujala, 2010; Ross, 2012).

Geographers such as Rick Auty, Philippe Le Billon and Michael Watts have further analyzed the conditions under which the resource-conflict link materializes. The contribution of geographic research is at least threefold (for a succinct conceptual summary see Korf (2011)). First, at a theoretical level, geographers have argued that the location and production type of resources conditions the resource-conflict link (Auty, 2004; Le Billon, 2001b, 2012). According to Le Billon (2012, p. 179) a resource is more accessible, or "lootable", to (potential) rebels, when less labor, financial and technological capital are required for exploitation and when the price-per-volume ratio facilitates transport. Alluvial diamonds and onshore oil are hence much more accessible to rebels than offshore oil production. Lootability further increases when resources are spread over a vast territory, in a terrain favorable for insurgency and when the stocks are close to international borders. Second, geographers have made the case that empirical studies need to "account for scale" and study the sub-national level (Buhaug & Lujala, 2005). Quantitative studies that disaggregate the location and extraction mode of resources find that conflicts over state control are more likely in regions that are near diamond fields (Buhaug & Rød, 2006) and that more lootable resources increase the risk of local conflict (Lujala, 2010). Third, qualitative case studies have contextualized the geography of resources in conflict. Le Billon's (2001a) analysis of the Angolan civil war demonstrates how the government used oil money to create a precarious political stability in its territory while rebels upheld their insurgency through the trade in (mostly alluvial) diamonds. Watts (2004; 2007) has studied "governable spaces" in Nigeria's oil-rich Niger-Delta. He shows how oil has initially created local (ethnic) community protest against the oil industry that led to insurgency and then degenerated into organized crime (Watts, 2007).

A separate literature deals with the effects of ethnicity on violent conflict. While ethnic diversity per se might not necessarily lead to violent conflict (Hegre & Sambanis, 2006), three major mechanisms connecting ethnicity to conflict risk are frequently cited in the literature: Instrumental mobilization of ethnic identities by group leaders for their own political or financial aims (Blimes, 2006); Group grievances through (perceived) relative deprivation (Gurr, 1970, 2000) or horizontal inequalities (Cederman, Weidmann, & Gleditsch, 2011; Østby, 2008; Stewart, 2008b, e.g.); Indirect effects on conflict operating through slower growth in ethnically diverse societies (Mauro, 1995) or lower levels of public goods provision (Habyarimana, Humphreys, Posner, & Weinstein, 2007).

The quantitatively oriented debate has largely resorted to testing which particular ethno-demographic constellations are most conflict-prone. Overall the evidence remains far from conclusive.[2] Lars-Erik Cederman and co-authors, using a new dataset on Ethnic Power Relations (EPR) which contains systematic information on groups' access to power in the post-WWII period, have convincingly shifted the scholarly attention away from demographic constellations back to questions of political grievances of ethnic groups. Specifically, they emphasize the political inclusion or exclusion of ethnic groups at the national level as an important