



# International Interactions

Empirical and Theoretical Research in International Relations

ISSN: 0305-0629 (Print) 1547-7444 (Online) Journal homepage: <https://www.tandfonline.com/loi/gini20>

## Socioeconomic Inequality and Communal Conflict: A Disaggregated Analysis of Sub-Saharan Africa, 1990–2008

Hanne Fjelde & Gudrun Østby

To cite this article: Hanne Fjelde & Gudrun Østby (2014) Socioeconomic Inequality and Communal Conflict: A Disaggregated Analysis of Sub-Saharan Africa, 1990–2008, International Interactions, 40:5, 737–762, DOI: [10.1080/03050629.2014.917373](https://doi.org/10.1080/03050629.2014.917373)

To link to this article: <https://doi.org/10.1080/03050629.2014.917373>



Published online: 08 Oct 2014.



Submit your article to this journal [↗](#)



Article views: 1481



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 24 View citing articles [↗](#)

## **Socioeconomic Inequality and Communal Conflict: A Disaggregated Analysis of Sub-Saharan Africa, 1990–2008**

HANNE FJELDE

*Uppsala University*

GUDRUN ØSTBY

*Peace Research Institute Oslo (PRIO)*

*This article examines the role of economic inequality in influencing the risk of armed conflict between communal groups in Sub-Saharan Africa. We argue that socioeconomic inequality can generate intergroup grievances, which, due to the exclusionary legitimacy of the African state and elite incentives to engage in competitive mobilization of communal groups, precipitate violent communal conflict. To examine this argument, we rely on a series of household surveys to construct subnational inequality measures. For each region, we calculate measures of inequality in terms of household welfare and education between individuals (vertical inequality) and between ethnic groups (horizontal inequality). Combining the inequality data with new georeferenced data on communal conflict in Sub-Saharan Africa for the period 1990–2008, we find that regions with strong socioeconomic inequalities—both vertical and horizontal—are significantly more exposed to violent communal conflicts. More specifically, regions in which the largest ethnic group is severely disadvantaged compared to other groups are particularly prone to experience communal conflict.*

**KEYWORDS** *Africa, communal conflict, communal violence, horizontal inequality, vertical inequality*

---

Address correspondence to Hanne Fjelde, Department of Peace and Conflict Research, Uppsala University, Box 154, Gamla Torget, Uppsala 75120, Sweden. E-mail: [hanne.fjelde@pcr.uu.se](mailto:hanne.fjelde@pcr.uu.se)

Armed conflict is a prevailing source of vulnerability for many communities in Sub-Saharan Africa. The direct and indirect costs of armed conflict are staggering, and the issue is high on the agenda of policymakers, development agencies, and academics alike (World Bank 2011). The bulk of the academic attention has been directed at armed conflicts that involve the state as one of the belligerents, partly because these conflicts tend to be the most disruptive and partly because comparable data across countries over time have until recently only been available for these forms of conflicts. As a consequence, there is a lack of systematic research on armed conflicts between groups, without direct state involvement.

Yet for many population groups in Sub-Saharan Africa, the largest threat of becoming a victim of political violence does not emanate from the state, but from violent clashes and armed disputes between local communities. For those affected, the consequences of such communal conflicts can be likened to those of civil war, in terms of the danger of death, physical injury, forcible displacement, property destruction, and the erosion of social trust. Humanitarian agencies working in places such as South Sudan (UNMISS 2012), Nigeria (Human Rights Watch 2011), and Kenya (UNHCR 2012) have long recognized violent communal conflict as a key obstacle to human security and societal development. In several countries, including Côte d'Ivoire and Sudan, violent communal conflicts have also evolved to become full-fledged civil wars. Identifying the correlates of communal conflict is thus particularly important from a conflict prevention perspective. This article provides one of the first contributions to the emerging quantitative literature on the determinants of communal conflict.

A recent overview shows that the African continent sees the highest number of communal conflicts (Sundberg, Eck, and Kreutz 2012). However, their occurrence varies greatly, both across and within African states. Whereas some regions, such as the Rift Valley in Kenya and Jos in Nigeria suffer from recurring outbreaks of fierce communal violence, other areas display no armed hostility in the relationship between communal groups. What explains this variation? We argue that economic inequalities play a central role in explaining why some regions are more vulnerable to communal conflict than others. Large disparities in the distribution of wealth give rise to feelings of relative deprivation and marginalization that facilitate violent mobilization, often along the lines of communal identities. The exclusionary legitimacy of the African state precipitates an intense competition between communal groups and also creates elite incentives to foment grievances and communal tension in order to solidify their own political power. As a result, grievances related to economic inequalities may lead to violent communal conflict.

We examine the relationship between economic inequality and the risk of communal conflict in a subnational study covering Sub-Saharan Africa between 1990 and 2008. Based on national Demographic and Health Surveys

(DHS), we construct measures of the level of socioeconomic inequalities *within* first-order administrative units in each country. We couple these measures with new georeferenced data on armed conflicts between communal groups from the Uppsala Conflict Data Project (Sundberg and Melander 2013). The statistical results show that regions with strong economic inequalities have a significantly higher risk of experiencing violent communal conflict. This conclusion holds both when we measure vertical inequality between individuals, as well as horizontal inequality between ethnic groups, and with regard to different dimensions of inequality, such as household wealth and educational attainment. The current study thus provides a significant contribution to the evolving literature on violent communal conflict by pointing to the salience of economic grievances. It also contributes to the study of the relationship between economic inequality and political violence more generally, as this literature hitherto has focused almost exclusively on civil wars (Boix 2008; Cederman, Gleditsch, and Weidmann 2011; Collier and Hoeffler 2004; Østby 2008; Østby, Nordås, and Rød 2009).

In the remainder of this article we first provide a short review of the previous research on communal conflict. We move on to expound on our own argument that economic inequality is an important factor to understand variations in the occurrence of violent communal conflict. We then describe our data and research design and present our empirical analyses. Finally, we provide some concluding remarks.

## PREVIOUS RESEARCH ON COMMUNAL CONFLICT

Whereas the quantitative literature on the origins and dynamics of civil war has flourished in recent years, far less research has been conducted on armed conflicts between nonstate groups, where a state is not directly involved as one of the combatants. One likely reason for this gap is that there has been a general lack of comparable data across countries over time on communal conflicts, making it difficult to conduct systematic studies identifying general trends. Prevailing claims about the origins and dynamics of communal conflict have thus been strongly influenced by case-oriented research on individual countries and regions.

Two strands of literature seem particularly salient (Sundberg et al. 2012).

First, an influential perspective has emphasized the natural resource dimension of violent communal conflict. In particular, violent communal conflict in the African Sahel region and the Horn of Africa are often linked to competition over resources, such as water points, cattle, and land for grazing and farming, and involve groups with their livelihood base in the subsistence sector (Fjelde and Von Uexkull 2012; Meier, Bond, and Bond 2007; Turner, Ayantunde, Patterson, and Patterson 2011). Some scholars relate these conflicts explicitly to climate change and a supply-induced scarcity of renewable

resources (Homer-Dixon 1999; Obioha 2008). Critics note, however, that these resource-related conflicts have a long history, sometimes dating back to the precolonial period, and instead point to changes in property laws, the privatization and confiscation of land, weak legal regimes, and state-building processes to explain why these livelihood conflicts turn violent (Benjaminsen 2008; Benjaminsen and Ba 2009; Butler and Gates 2012; Eck 2014; Hagmann and Mulugeta 2008; Peters 2004; Raleigh 2011; Turner 2004).

A second strand of literature addresses the causes of violent interethnic riots, with much of the empirical evidence drawn from the Indian and Indonesian case. A recurrent theme in this literature is the role of national and subnational elites in manipulating existing communal tensions to entrench their own power (Brass 1997, 2003). Several studies address when and where such political incentives for fomenting ethnic violence arise. Wilkinson (2004), for example, argues that local-level electoral incentives for ethnic violence arise in the more competitive municipalities and that the state will only intervene to protect minorities when these constitute an important base of their electoral constituency. Others highlight how political transitions create critical junctures in which ethnicity is politicized and mobilized by elites seeking to control the benefits of democratization and decentralization (Bertrand 2004; Davidsson 2008; Kreutz and Eck 2011; Van Klinken 2007).

In both of these perspectives, access to resources plays a central role in expounding the motivations for violent communal conflict. Some studies also point more explicitly to the role of economic marginalization and feelings of relative deprivation in explaining individual participation in communal violence (see Bohlken and Sergenti 2010 and Justinio 2011 on India, and Barron, Kaiser, and Pradhan 2009 and Tadjoeeddin and Murshed 2007 on Indonesia). Based on his comparative study, Horowitz (2001) argues, however, that economic downturn is a poor predictor of communal violence. A couple of studies of individual countries have looked specifically at the role of economic inequality, which is the focus of the present study. While Mancini (2008) finds a positive relationship between measures of inequality between groups and ethnocommunal violence across Indonesian districts, Østby, Urdal, Tadjoeeddin, Murshed, and Strand (2011) find that inequality between groups matters only in the context of high population growth.

A limitation of much of the case-based literature on communal conflict is the tendency to select on the dependent variable and to focus only on the cases where violence was widespread (Fearon and Laitin 1996; Wilkinson 2004). The comparative studies that do exist have tended to focus on explaining spatial and temporal variation in communal conflict *within* individual countries, rather than making systematic comparisons across a broader set of cases. As a result, our general knowledge about the causes of communal conflict is limited, and there is a need for large-*N* studies that can examine insights emerging from the case-based literature on a larger set of countries. This study addresses this gap.

In the following section we develop the argument that economic inequality between groups is a central factor in explaining why some areas experience violent communal conflict, whereas others do not. We focus our discussion on Sub-Saharan Africa, as this is the scope of our empirical analysis, but we believe that the logic is not necessarily restricted to this region.

## ECONOMIC INEQUALITY AND COMMUNAL CONFLICT

A remarkably diverse literature, theoretical as well as empirical, has coalesced on the proposition that economic inequality influences the risk of political violence (Lichbach 1989; Moore, Lindström, and O'Regan 1996). Early on, scholars of social revolution and civil war suggested that economic grievances give rise to frustration and discontent that fuel violent mobilization. Davies (1962), for example, argues that revolutions resulted from an intolerable gap between what people expect and what they get. Gurr (1970) places a similar emphasis on subjective feelings of relative deprivation, that is, a perceived mismatch between resources and entitlements, in his explanation for why men rebel. Whereas large- $N$  studies have largely failed to find a significant relationship between inequality between individuals and civil war (Collier and Hoeffler 2004; Fearon and Laitin 2003), a number of recent studies corroborate that inequality between groups increase the risk of rebellion (Buhaug, Gleditsch, Holtermann, Østby, and Tollefsen 2011; Cederman et al. 2011; Østby 2008; Østby et al. 2009).

Empirical investigations of the inequality-conflict argument have almost exclusively focused on armed rebellion against the state (Boix 2008; Buhaug et al. 2011; Cederman et al. 2011; Collier and Hoeffler 2004; Fearon and Laitin 2003; Østby 2008; Østby et al. 2009).<sup>1</sup> However, the scope of the inequality-conflict argument does not restrict itself to cases where the state is a participant in the violence.<sup>2</sup> Violent mobilization related to collective demands for redistribution or in defense of the status quo distribution could also lead to intergroup competition. Economic inequality could thus increase the risk of armed conflict between communal groups, without the direct involvement of the state.

---

<sup>1</sup>In some countries, such as Sudan and the DRC, ethnic groups active in civil wars are also involved in armed conflict with other ethnic groups. Yet, frequently communal conflicts occur in countries and regions without ongoing ethnic insurgencies, such as Kenya and Ghana. The two phenomena are thus often distinct, and studying them as such facilitates our knowledge about the determinants of different types of violence.

<sup>2</sup>Gurr's (1970) original formulation of relative deprivation theory focused on explaining race riots in US cities, not civil war.

## Economic Inequality and Group Mobilization

Collective economic grievances and frustrated aspirations often stem from intergroup comparisons (Cederman et al. 2011; Stewart 2008). Through self-categorization, feelings of economic deprivation become linked to social identities—such as ethnic, religious, regional or other communal affiliations—that invite individuals to make social comparisons in terms of “us” and “them.” Tajfel and Turner (1979) discuss how conflicting interests over the distribution of scarce resources reinforce processes of self-identification within a group, precipitate ethnocentrism, and thereby induce more antagonistic out-group behavior. Unequal distributions of scarce resources—whether power, prestige, or wealth—are hence likely to lead to polarization and intensify intergroup conflict between privileged and nonprivileged groups (Horowitz 1985; Tajfel and Turner 1979).<sup>3</sup>

The resentment stemming from such intergroup comparisons often provokes group mobilization. Within the African context, many scholars note how ethnicity represents a particularly potent resource in the mobilization for collective action (Fearon 2006; Kimenyi 1989; Posner 2004; Scarritt and McMillan 1995).<sup>4</sup> Bates (1983) describes this formation of political coalitions along ethnic lines as a rational response in the competition for scarce goods. Ethnic coalitions, Bates argues, develop as a form of minimum winning coalitions to secure the benefits of modernization, such as education opportunities, control over markets, land, and jobs. Unequal access to these goods across groups breeds tension and hostility against those who are wealthier and more educated (p. 155). Indeed, rivalry between groups over access to resources is a prevalent theme in the accounts of social and political life in Sub-Saharan Africa: for example, the competition between the Yoruba and the Hausa for control over trading routes, land conflicts between the Kikuyu and the Masai in the Rift valley of Kenya, and between the Dinka and the Nuer over resources and political power in Sudan. In these cases, groups that become disadvantaged in the distribution of resources share both common grievances and a common identity. This, in turn, facilitates recruitment for radical action to assert and protect group interests (Stewart 2008). Because

---

<sup>3</sup>The argument assumes the presence of groups. While this in itself is not a trivial assumption, most scholars acknowledge social categories and group membership as an intrinsic part of social and political life (Gurr 1993; Horowitz 1985).

<sup>4</sup>Scholars suggest that ethnic political coalitions endure because they are functional (Eifert, Miguel, and Posner 2010). First, shared language, cultural ties, and high levels of interaction reduce transaction costs in within-group mobilization, increase trust among co-ethnics, and facilitate collective action along ethnic lines (Fearon and Laitin 1996). Moreover, the ascriptive mark of ethnicity makes it easier to police group boundaries and prevent free riders in ethnic coalitions (Chandra 2004). Yet most scholars also recognize groups as social constructs and explicitly note that the binding agent in group formation may come from different sources, including ethnicity, religion, regional identities, livelihood, or indigenism (Gurr 1993; Stewart 2008).



economic grievances and collective identities are so closely intertwined, economic inequalities—both at the individual and group level—provide a strong mobilizational resource for collective action.

Why would frustrations related to economic inequality trigger violence against other communal groups and not be channeled through regular institutional avenues or become targeted against the state? One answer is that these communal groups might in fact be less costly to target than agents or institutions of the state. Anything else equal, there should be lower organizational barriers for violence against other groups than for creating and sustaining an armed challenge against the state. In addition, we emphasize two interlinked factors characterizing state-society interactions across much of Sub-Saharan Africa to explain why communal conflict becomes a prevalent response to economic inequality: first, the exclusionary political legitimacy of the African state, and second, elite incentives for competitive mobilization of communal identities.

### The Exclusionary Political Legitimacy of the State

State policies in the allocation of state resources and deliverance of public goods are fundamental in explaining the sources of economic inequalities. Such policies are rarely neutral in the allocation of resources across society. In many states in Sub-Saharan Africa, political coalitions tend to be structured along ethnic lines, and political elites in control of the government often seek legitimacy by favoring co-ethnics in the distribution of state patronage and provision of collective goods (Wimmer 1997; Wimmer, Cederman, and Min 2009). Some constituencies may be critical to appease because their support is deemed necessary for regime stability. This creates incentives to channel public goods provisions, developmental projects, or even private goods to areas where these groups live. As a consequence, access to resources may come to depend crucially on ethnic belonging (Posner 2007). Co-ethnics in control of state bureaucracies are likely to imply disproportionate access to pork and privileges for the group, whereas a group's exclusion from power is associated with economic marginalization (Bates 1983; Fearon 2006; Scarrit and McMillan 1995). Since the state directly or indirectly controls significant parts of the formal economic sector and market access across much of Africa, the material well-being of the group is seen to depend on having one of "their own" in power.

Because ethnic group belonging and political power are often closely intertwined, the state is often not a neutral agent but perceived to act in defense of particular group interests. As a result, frustrated aspirations and perceived injustice will often be blamed on the group(s) that control(s) the state. Where actors controlling state power are seen to favor their own group—for example, in public sector employment, granting of government contracts, with impunity for crimes, or in the allocation of land



rights—frustrated aspirations are likely to target members of these advantaged groups. This implies that violence against groups that are politically and economically advantaged becomes closely interlinked with the struggle over political power and even the state as such.

The link between economic inequalities, the notion that politics is as a zero-sum contest between communal groups and the outbreak of communal violence, can be illustrated with one example from the Nigerian town of Zango Kataf. In 1992 violent conflict erupted between the Muslim Hausa-Fulani and Christian Atyp communities over the location of a market. The Atyp, who claim to be the indigenous group and see themselves as economically marginalized by the Hausa-Fulani, used their newfound position in the local government council to forcefully relocate the market away from the Hausas' land (Bah 2005:49). The Hausa-Fulani saw this as an attempt to undermine their economic privileges, and the decision sparked a violent communal conflict between the two communities. Also recurrent clashes between the Ijaw, Itsekiri, and Urhobo communities in the Nigerian town of Warri display similar dynamics. The Urhobo and Ijaw communities complain that the Itsekiri, through their control over local government structures, benefit disproportionately from state patronage, employment opportunities, etc. (Human Rights Watch 2003). In 1997, fierce intergroup clashes were ignited by the relocation of a new government headquarters from an Ijaw to an Itsekiri area, as Ijaw and Urhobo groups feared further discrimination (Uppsala Conflict Data Program 2011).

We argue that communal conflict often reflects an underlying struggle for political power and thus economic privileges between the groups involved. Meanwhile, these violent campaigns against other local groups are also likely to serve more immediate redistributive aims. Individuals might participate in communal conflict in pursuit of private economic agendas (Brass 1997). In the face of economic inequalities, violence can be a tool to forcefully capture the assets controlled by others and thus shift the distribution of resources. Indeed, communal conflicts are often sparked by competition to control economically important areas, such as market places, transportation hubs, fertile land, water wells, or development investments.

### Elite Incentives for Competitive Mobilization of Communal Identity

Frustrations resulting from group inequalities are not sufficient to cause violent communal conflict. The outbreak of violence depends crucially on the existence of elite-level entrepreneurs who foment the process of grievance formation and group mobilization (Brass 1997; Fearon and Laitin 2000). We argue that the exclusionary political legitimacy of the state and the zero-sum character of the political competition also create elite incentives for inciting communal violence. In the patrimonial state, the amount of resources directed to local strongmen, political elites, and ethnic leaders is

dictated by the weight and importance of the constituencies that these intermediaries represent, as well as the ability of the local patrons to “deliver” these constituencies in the competition for political power. The alignment between political loyalties and ethnic divisions thus gives political elites inside and outside of power strong incentives to exploit communal divisions and instigate communal violence to further their own agenda.

In the competition for scarce resources, local elites look for low-cost strategies to mobilize their own communities and in turn appeal to ethnic solidarity, regional identity, indigenous claims to land, or other communal divisions to secure resources for themselves and the group (Arriola 2009; Bienen 1993; Kahl 1998). Putting the blame for the predicament of their ethnic following on other groups, or portraying other groups as threats to their own legitimate economic privileges, facilitates the competitive mobilization of their own ethnic constituency (Bates 2008; Kahl 1998; Wimmer 1997; see also Wilkinson 2004). While the political manipulation of ethnicity helps to entrench the power of the political elites within the system, it also increases the risk of ethnic tensions and communal conflict. In this context, armed conflict between communal groups in Sub-Saharan Africa becomes one expression of the intense struggle over resources not only among these groups, but also the elites that represent them.

### Hypotheses Linking Economic Inequality to Communal Conflict

This argument suggests that economic inequality will be associated with a higher risk of violent communal conflict, as the exclusionary legitimacy of the African state both gives rise to intense intergroup competition and creates elite incentives to foment grievances and communal tension.

Previous research has questioned the association between vertical inequality (that is, inequality between individuals) and civil conflict (Collier and Hoeffler 2004; Fearon and Laitin 2003; Østby 2008). Yet this argument suggests that vertical inequality might drive collective violence at a lower level of aggregation (that is, involving communal groups and not the state) due to the strong association between individual grievances and collective identities of groups belonging within the African context and the lower organizational threshold for such violence. The interplay between a political economy that gives rise to zero-sum distributional conflicts between groups and elite incentives to use communal divisions as a vehicle in their own quest for power makes conditions ripe for armed conflict between communal groups in areas where economic inequality is high. Based on this argument we derive the following hypothesis:

- H1: *The higher the level of vertical inequality, the higher the likelihood of a communal conflict event in the region.*

The expectation of a relationship between horizontal inequality (that is, inequality between groups) and communal conflict follows even more directly from our argument presented earlier. Strong communal affiliations, particularly in the form of ethnic belonging, imply that economic inequalities are intimately linked to collective identities, which, in turn, facilitates violent mobilization. Group resentment stemming from a sense of relative deprivation can be targeted against other groups that are more closely associated with the regime in power or command greater economic resources. Deprived groups can engage in communal violence to directly alter the distribution of economic goods—for example, access to farming land—but also to more indirectly extract state patronage through restiveness. However, as noted by Stewart (2008), one cannot assume that it is only resentment by the disadvantaged that may cause political instability. The relatively privileged can also attack the unprivileged. Although the relatively privileged groups might have little direct material gains to acquire from the very deprived, they might instigate violence to secure their own privileged status, fearing that the more deprived may gain political power and demand more resource redistribution or turn to armed aggression to redress their grievances. Our data allow us to unpack the concept of horizontal inequality and test the impact of such inequalities in either direction. We therefore include the following hypotheses:

- H2: *Regions in which the largest ethnic group is strongly disadvantaged compared to other groups are particularly prone to communal conflict.*
- H3: *Regions in which the largest ethnic group is strongly privileged compared to other groups are particularly prone to communal conflict.*

## DATA AND RESEARCH DESIGN

We examine these hypotheses in a cross-sectional time series analysis. The data set is constructed by yearly observations of the first-order administrative units in Sub-Saharan Africa between 1990 and 2008. The turn to a subnational level of analysis is appropriate both from a theoretical and empirical perspective. Communal conflicts tend to be local phenomena that rarely engulf the whole country. Since wealth distributions also tend to vary considerably within countries, the use of national-level indicators of inequality to explain variations in intergroup conflict seems inappropriate. A disaggregated research design is thus consistent with the local-level character of the process we are interested in, while also helping to minimize measurement error.

The data are based on time-varying data from the Global Administrative Unit Layers (GAUL; EC-FAO 2008). While the significance of these subnational administrative units varies across countries, depending, for

example, on the level of political decentralization, they nevertheless tend to play a significant role in the political process: They are often a site of electoral contest, they often see administrative bodies with important roles in the collection of tax-revenue and provision of public goods, and local government authority structures are often constructed based on these divisions.

### Dependent Variable

For our dependent variable, we rely on a data set on nonstate conflict from the Uppsala Conflict Data Program (UCDP) Georeferenced Event Data set v.1.0 2011 (UCDP-GED; Sundberg and Melander 2013). A nonstate conflict is defined by the UCDP as a conflict between two organized armed groups, neither of which is the government of a state, which results in at least 25 battle-related deaths in a year (Sundberg et al. 2012). Organized groups in the UCDP data might refer to rebel groups, political parties, or groups identified by their ethnicity, clan, or other communal-based affiliations. In line with our theoretical framework, we focus on the subset of nonstate conflicts that involve communal groups, and do not include fighting between rebel groups engaged in a civil war, nor clashes between political parties as part of the electoral process. In the UCDP GED, the nonstate conflicts that meet a threshold of 25 annual battle deaths are georeferenced. All events that involve at least one casualty are coded by perpetrator and are given a geographical location in the form of latitude/longitude coordinates and a date. By means of spatial overlay operations using GIS software, we assign nonstate conflict events to the polygons representing first-order administrative units on an annual basis. Our dependent variable takes the value of 1 if there is a nonstate conflict event in the region that year and 0 otherwise.

The UCDP-GED data set builds on an automated event data search, which retrieves news articles from international news agencies and local media sources. News articles are complemented with case-specific sources, such as reports from international nongovernmental organizations, including Human Rights Watch, Amnesty International, and local NGOs.

### Independent Variables

Our explanatory focus is on inequalities in the distribution of socioeconomic welfare. To overcome challenges of finding reliable subnational data on economic inequality, we rely on household survey data. Our inequality estimates are based on data from a total of 70 Demographic Health Surveys (DHS) conducted in 34 countries during the period 1986–2008.<sup>5</sup> In a standard DHS survey, the definition of a subnational “region” is often broader

---

<sup>5</sup>Fifty-nine of these surveys (covering 30 countries) are georeferenced, that is, they include geographical coordinates for each surveyed town/village (“enumeration area,” or EA). The remaining 11 surveys (covering eight countries) are not georeferenced but nonetheless include information of the particular region surveyed.

than the official first-level administrative units. However, during the last decade, the DHS project has begun to include detailed information about the exact location of each sample cluster, providing geographical coordinates for each Enumeration Area (EA) or each surveyed location (village/town/city). This opens up the possibility to aggregate specific region-level measures. By means of GIS tools, we overlay the point data from the DHS surveys with polygons for administrative boundaries from GAUL and are hence able to identify the region within which every EA is located in each year. Next we couple this information with the full DHS surveys and are hence able to assign regional affiliations of each survey respondent.

The theoretical discussion emphasizes the conflict-inducing effect of inequalities perceived at the group level. Yet, since data challenges are so substantial in terms of analyzing economic inequalities at the subnational level, we propose two measures to examine the hypothesis: one group-level measure of economic inequalities and one that calculates inequalities across individuals. Although the former represents the more intuitive test of our argument, we believe that the latter still represents a valid operationalization, given this study's empirical context. In societies defined by salient identity groups based on clear social cleavages, economic desperation felt by individuals more easily translate into group grievances (Kahl 1998; Stewart 2008).

For our group-based measure of economic inequality, we focus on ethnic groups. Many observers of politics in Sub-Saharan Africa have taken note of how individuals compete for resources through ethnically defined coalitions and how group affiliations strongly influence access to political and economic power (Bates 1983; Kimenyi 1989; Posner 2004). The salience of ethnicity is also reflected in the communal conflict data, where a vast majority of the conflict actors that are not defined through permanent fighting organizations with a self-announced name are identified through their ethnic affiliations (Sundberg et al. 2012).

To examine our hypotheses, we thus measure vertical inequalities (VI) in economic welfare between individuals and horizontal inequalities (HI) between ethnic groups using DHS data by first-order administrative region. The DHS surveys lack information on household income or consumption expenditures. Instead we use the questionnaire to generate a household asset index, based on information on whether the household has electricity, a radio, a television, a refrigerator, a bicycle, a motorcycle, and/or a car. In developing countries, where a large share of the population is part of the informal sector, households assets might better capture variation in welfare than conventional GDP per capita measures (Filmer and Pritchett 2001). As an alternative welfare indicator, we use data on completed years of education. To calculate vertical inequality, we calculate Gini coefficients

for household assets and education years for each administrative region.<sup>6</sup> A higher score on the Gini coefficient denotes higher levels of interpersonal inequality in asset distribution or educational attainment.

To calculate regional-level measures for horizontal inequality (HI), we focus on systematic inequalities between ethnic groups in a given region when it comes to average household welfare or education. A large fraction of the DHS surveys contains information about the ethnicity of the respondent, allowing us to construct group-based measures of inequality. We apply the asymmetric inequality measures from Cederman et al. (2011), which allow us to measure the relative wealth of the poorest and richest groups in the regions separately. The two measures are given by:

$$low = G/g \text{ if } g < G, 0 \text{ otherwise} \quad (1)$$

$$high = g/G \text{ if } g > G, 0 \text{ otherwise} \quad (2)$$

where  $g$  is the average wealth of the region's largest ethnic group and  $G$  is the average wealth of the remaining population of the region. These measures are quite straightforward and easy to interpret. For example, if the largest ethnic group in the region is twice as poor as the rest category, its low value is 2, while its high value is 0. Conversely, if the largest group is three times richer than the rest, its low value is 0, while its high value is 3. We construct these measures for both household assets and education years.<sup>7</sup>

A clear advantage and innovation with our data is that we measure HIs between ethnic groups within each subnational region. Studying HIs and civil war, Østby et al. (2009) compare regional welfare to the welfare of the capital region (that is, they measure interregional inequality), and Cederman et al. (2011) compare ethnic group scores with the national average. Yet the experience of horizontal inequality is often rooted in locality and day-to-day interactions (Brown 2008). Hence, we are interested in the consequences of intergroup inequalities at the local (not national) level. Our novel approach should be particularly pertinent with regard to communal conflicts, which tend to be localized phenomena.

Ideally, for each subnational region, we should generate regional HI measures that take all groups into account, by means of, for example, a group-weighted coefficient of variance. Yet in some regions there may be several small groups with few respondents per group in a given DHS survey. In these cases, there are too few respondents in the smallest groups to draw valid conclusions about the mean scores of each group on a set of indicators. Hence, we focus on the largest group versus the rest of the population

<sup>6</sup>This approach is similar to the study by Østby et al. (2009), although they study civil war, construct *interregional* inequality measures, and include a more limited set of cases.

<sup>7</sup>See online Appendix A for more details on the generation of the inequality variables.

within each region, which is a deliberate choice to minimize problems of representativity. The same reason prevents us from constructing measures of subnational intragroup inequality, even though such a measure would be theoretically interesting.

The full list of countries included in the analysis and the year(s) of the respective DHS surveys are listed in [Table 1](#). The table also denotes whether ethnicity was included in the survey, thus allowing us to construct group-based measures of inequality.<sup>8</sup> For our sample, the number of DHS surveys

**TABLE 1** Countries and DHS Surveys Included in the Analyses

	Country	Year(s) of DHS Survey Used
1.	Benin	1996; 2001
2.	Burkina Faso	1993; 1998–1999; 2003
3.	Cameroon	1991; 1998; 2004
4.	Central African Republic	1994–1995
5.	Chad	1996
6.	Congo	2005
7.	Comoros*	1996
8.	Côte d'Ivoire	1994; 1998–1999
9.	Democratic Republic of the Congo	2007
10.	Ethiopia	2000; 2005
11.	Gabon	2000
12.	Ghana	1993; 1998; 2003
13.	Guinea	1999; 2005
14.	Kenya	1998; 2003
15.	Lesotho*	2004
16.	Liberia	1986; 2007
17.	Madagascar*	1997
18.	Malawi	2000; 2004
19.	Mali	1995; 2001; 2006
20.	Mozambique	1997; 2003
21.	Namibia	2000; 2006–2007
22.	Niger	1992; 1998; 2006
23.	Nigeria	1990; 2003; 2008
24.	Rwanda	1992; 2000; 2005
25.	Senegal	1992–1993; 1997; 2005
26.	Sierra Leone	2008
27.	South Africa	1998
28.	Sudan*	1989–1990
29.	Swaziland*	2006–2007
30.	Tanzania*	1999; 2007–2008
31.	Togo	1988; 1998
32.	Uganda*	2000–2001; 2006
33.	Zambia	2007
34.	Zimbabwe*	1999; 2005–2006

\*Country lacking intraregional HI measure (because ethnicity was not included in any national DHS survey).

<sup>8</sup>For our sample, the average number of DHS respondents by region is 662 individuals (ranging from 13 to 6,348). We censor regions with less than 30 respondents (which constitute less than 1% of our



conducted by country varies from one to three. For each of these, the scores on the various inequality measures were imputed to subsequent years.<sup>9</sup> This can be justified since inequality and identities are not expected to change radically over time.

### Control Variables

To estimate the impact of economic inequality on the risk of communal conflict, it is important to control for potentially confounding variables. Previous research has found a robust, positive relationship between population and political violence (Raleigh and Hegre 2009). Population density is also associated with geographical patterns of wealth distribution. We control for population using data from the Gridded Population of the World data set, v. 3.<sup>10</sup> Spatial variation across regions in terms of urbanization, industrialization, and socioeconomic development is likely to influence levels of economic inequality (Boix 2008). Low income also increases the risk of political violence (Buhaug et al. 2011). To parse out the influence of economic inequality from the influence of income per se, we include a control for absolute level of income, using data from the G-Econ project (Nordhaus 2006). The G-Econ data set provides estimates of the gross cell products within 1° x 1° grid cells. We overlay administrative polygons with G-Econ cells and aggregate income data to the level of the administrative units as the area weighted sum of the cell areas that fall within the administrative polygon. We divide this estimate by population size to construct our per capita income measure. Both these variables are reported in 5-year intervals, beginning in 1990, and we linearly interpolate in between the 5-year observations.

To control for spatial dependence in the dependent variable, we construct a spatial lag on the dependent variable, which takes the value of 1 for all units of analysis that fall within a radius of 50 km of the communal conflict event and enter this variable at  $t-1$ . To control for temporal dependence, we follow the advice of Beck, Katz, and Tucker (1998) and include a variable counting the number of years since the past occurrence of intergroup violence alongside three cubic splines.

---

sample). For ethnically homogeneous regions in which the rest category consists of 10 individuals or less, we set the HI measures to 0. See online Appendix B1 for robustness checks in which we censor out these homogeneous regions.

<sup>9</sup>More specifically, in order to maximize the data coverage over the whole data set, we held the value observed constant for observations prior to the first or after the final observation. Due to frequent regional border changes, we did not interpolate values between survey points but rather copied the value of the first region year in subsequent years until a region-year with either a border change or a new survey. See the online Appendix A3 for more details and an example of this procedure.

<sup>10</sup>See <http://sedac.ciesin.columbia.edu/gpw>

In addition to these core control variables, we also ensure that our results are robust to the inclusion of a number of other additional potentially confounding variables. First, the outbreak of communal violence might occur where the state lacks the institutional presence and administrative strength to mitigate armed conflict between groups. Since patterns of economic marginalization among ethnic groups might also co-vary with the lack of developed state institutions in state peripheries, we control for state capacity. Subnational data on institutional strength, such as government spending, are not available for Sub-Saharan Africa, so we proxy the institutional capacity and outreach of state institutions using the (minimum) distance from the administrative region to the capital. These data are taken from the PRIO-GRID (Tollefsen, Strand, and Buhaug 2012).

Second, we have included a control for temporal proximity to administrative border change, “Proximity to border change,” as  $2^{-(\text{years since any administrative border change}/X)$ . We chose 2 as the value of X, which assumes that the impact of an administrative border change on the probability of communal conflict is initially high and then falls at a constant rate with a half-life of 2 years. We consider all types of border changes, that is, when administrative units split, join, or when borders are justified.

Third, our theoretical framework emphasizes the close association between political power and economic position within the political economy of the Sub-Saharan state. We therefore include a control for whether any group inhabiting the region is politically marginalized. To map political exclusion at the subnational level, we use georeferenced data on the political status and settlement patterns of ethnopolitical groups from the Ethnic Power Relations (EPR) data set (Wimmer et al. 2009; Wucherpfennig, Weidmann, Girardin, Cederman and Wimmer 2011). Our dummy variable for political exclusion takes the value of 1 if an ethnopolitical group excluded from executive power lives in the administrative region that year and 0 otherwise.

Fourth, we control for local configurations in ethnic group settlements using data from the digitalized *Peoples Atlas of Africa* (Felix and Meur 2001). We combine this with spatially disaggregated population data to estimate the number of people from each group living within the administrative units and calculate an Ethnic Fractionalization index denoting the probability that two randomly drawn people will belong to the same group.<sup>11</sup>

Finally, temporal and spatial dependence may not be limited to communal violence. We include a spatial lag of civil war events with a 50 km radius using data from UCDP GED (Sundberg and Melander 2013).

---

<sup>11</sup>The ELF index is given by  $1 - \sum_{k=1}^K p_k^2$  where  $p_k$  indicates the share of group  $k$  in the total population.

## EMPIRICAL ANALYSIS

We proceed to empirically examine the argument that inequality in socioeconomic welfare between individuals and across ethnic groups within regions increases the risk of violent communal conflict. We begin by evaluating our first hypothesis, which suggests a positive relationship between vertical inequalities and the occurrence of communal conflict. The results are reported in Table 2, Models 1 to 4. Model 1 and 3 report reduced models with only essential control variables, whereas Models 2 and 4 report models with a more comprehensive set of controls.

The results support our argument that socioeconomic vertical inequality within a region increases the risk of armed conflict between groups. The coefficient for the asset inequality measure is positive and statistically significant at the 1% level. The influence of vertical asset inequality on the risk of violent communal conflict is significant also in substantive terms. With all remaining variables in Model 1 held at their mean, a move from the 10th to the 90th percentile on the asset inequality variable predicts that the annual

**TABLE 2** Logit Analysis of Intraregional Inequality and Communal Conflict, 1990–2008

	Model 1	Model 2	Model 3	Model 4
Regional VI, assets	3.165 (0.781)***	2.054 (0.797)***		
Regional VI, education			1.494 (0.413)***	1.400 (0.402)***
Income <sub>log, t-1</sub>	0.382 (0.111)***	0.468 (0.108)***	0.256 (0.107)**	0.456 (0.115)***
Population <sub>log</sub>	0.609 (0.127)***	0.580 (0.117)***	0.612 (0.164)***	0.575 (0.139)***
Spatial lag, communal violence	1.289 (0.225)***	1.120 (0.231)***	1.352 (0.229)***	1.113 (0.233)***
Time since communal violence	−0.343 (0.137)**	−0.308 (0.137)**	−0.365 (0.139)***	−0.313 (0.139)**
Spatial lag, civil war		0.645 (0.292)**		0.699 (0.271)***
Excluded group		0.762 (0.215)***		0.970 (0.218)***
Ethnic fractionalization		0.721 (0.905)		0.744 (0.855)
Distance to capital		0.202 (0.106)*		0.209 (0.115)*
Proximity to border change		−1.714 (0.663)***		−1.944 (0.674)***
Constant	−15.435 (1.992)***	−17.051 (2.174)***	−13.893 (2.563)***	−16.859 (2.658)***
Observations	6,908	6,796	6,908	6,796

Robust standard errors, clustered on administrative region. Three cubic splines included in all regressions. VI = vertical inequality.

\*Significant at 10%; \*\*significant at 5%; \*\*\*significant at 1%.

risk of communal violence will increase from 0.6% to 2%.<sup>12</sup> The result for vertical education inequality, reported in Model 3, is also supportive of H1. The coefficient is positive and significant at the 1% level. The substantive impact is comparable to that of asset inequality: Comparing a region at the 10th percentile with a region at the 90th percentile on the education inequality variable, the predicted annual risk of communal conflict increases from 0.7% to 1.8%. The results for both measures of intraregional vertical inequality hold up when a full range of control variables are included in Model 2 and 4: Both coefficients remain significant at the 1% level. This finding is in contrast to most recent studies of civil war, which mostly fail to find a significant impact of vertical inequality (for example, Østby 2008).

Testing our second hypothesis, we focus on horizontal inequality between the largest ethnic group and the rest of the population in a region. The results are reported in Table 3. We begin with examining whether regions in which the largest group is economically marginalized compared to others are more likely to see violent communal conflict (H2). The results indicate that this seems to be the case: The coefficient for Regional HI, asset (low) is positive and significant in both the model with a reduced set of control variables (Model 5) and in the model with a more comprehensive set of controls (Model 6). The substantive effect is not as strong as for vertical inequality.<sup>13</sup> Based on the results estimates in Model 5, a shift from the 10th to 90th percentile on the Regional HI, asset (low) variable is associated with an increase in the predicted annual risk of communal conflict from 0.5% to 0.8%.

For comparison, Model 7 reports the corresponding results when we look at regions in which the largest ethnic group is relatively wealthy compared to the rest (H3). The coefficient for Regional HI, asset (high) is negative but not significant. These results thus suggest that it is marginalization of the largest ethnic groups, rather than regional horizontal inequality per se, that increases the risk of communal conflict.

The results from using intraregional HI measures based on education levels are virtually the same, as demonstrated in Models 8–10. The areas where the largest group is more marginalized have a higher risk of communal violence. However, in Model 10, the negative term for Regional HI, education (high) is significant at the 5% level. This, however, is not so surprising. Since regions in which the largest group is strongly disadvantaged are more at risk of communal conflict (Models 10 and 11), it is not so surprising to see the opposite results for regions in which the largest ethnic group is privileged.

The results for the inequality measures in Tables 2 and 3 are consistent across a number of different model specifications. First, we have explored alternative operationalizations of the independent variable, where, instead of

<sup>12</sup>All substantive effects are calculated using CLARIFY (King, Tomz, and Wittenberg 2000).

<sup>13</sup>This can also be due to the smaller sample with regard to HI data.

**TABLE 3** Logit Analysis of Intraregional Inequality and Communal Conflict, 1990–2008

	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Regional HI, assets						
Regional HI, assets, low	0.296 (0.100)***	0.230 (0.083)***				
Regional HI, assets, high			−0.331 (0.266)			
Regional HI, education						
Regional HI, education, low				0.115 (0.037)***	0.085 (0.032)***	−0.589 (0.285)**
Regional HI, education, high						0.023 (0.111)
Income <sub>log, t-1</sub>	−0.002 (0.119)	0.288 (0.156)*	0.004 (0.108)	0.035 (0.121)	0.319 (0.157)**	0.806 (0.150)***
Population <sub>log</sub>	0.830 (0.150)***	0.707 (0.120)***	0.820 (0.150)***	0.837 (0.160)***	0.687 (0.132)***	1.603 (0.292)***
Spatial lag, communal violence	1.479 (0.308)***	1.244 (0.295)***	1.631 (0.289)***	1.436 (0.322)***	1.230 (0.302)***	−0.426 (0.186)**
Time since communal violence	−0.502 (0.200)**	−0.445 (0.197)**	−0.439 (0.190)**	−0.537 (0.203)***	−0.468 (0.205)**	0.590 (0.388)
Spatial lag, civil war		0.553 (0.380)			0.902 (0.389)*	
Excluded group		0.877 (0.389)**			3.210 (2.080)	
Ethnic fractionalization		3.295 (2.157)			0.164 (0.122)	
Distance to capital		0.183 (0.119)			−1.455 (1.506)	
Proximity to border change		−1.296 (1.477)			−18.702 (2.836)***	−14.133 (2.390)***
Constant	−14.752 (2.379)***	−19.084 (2.870)***	−14.275 (2.352)***	−14.885 (2.574)***	4.337	4.337
Observations	4,337	4,337	4,337	4,337	4,337	4,337

Robust standard errors, clustered on administrative region. Three cubic splines included in all regressions. HI = horizontal inequality.

\*Significant at 10%; \*\*significant at 5%; \*\*\*significant at 1%.

setting very ethnically homogenous regions to zero on the inequality measures, we have chosen to exclude these regions from the sample. Second, we have ensured that our results are robust to the inclusion of additional control variables suggested to influence communal conflict. We have controlled for climate-induced resource scarcity by including a variable capturing negative deviations from normal rainfall patterns; we have controlled for the presence of natural resource wealth by coding variables for the presence of oil and diamonds in the region; and we have controlled for the regime type of the country. We have also ensured that our results are robust to the inclusion of random effects grouped by region, which controls for time-invariant unobserved heterogeneity across our units. The results remained largely unchanged with all these specifications.<sup>14</sup>

Across our models, the control variables behave largely as expected. In line with the findings on socioeconomic inequality and the conflict-inducing effect of economic marginalization, we find that regions inhabited by politically excluded groups see a higher risk of communal violence. The results thus point to a significant role of political and economic grievances in understanding the sources of communal conflict in Sub-Saharan Africa, at least within this time period. There is no consistent effect of the income variable across our models. Whereas low income per capita is a robust predictor of political violence in cross-country comparisons, subnational studies also suggest that pockets of wealth within poor countries attract violence (Buhaug et al. 2011). This might explain the lack of significant and consistent findings, as countervailing effects might cancel each other out. Also, some of the influence of absolute poverty is likely to be picked up by our inequality measure. We find that more-populous areas have a higher risk of armed conflict between groups, which is in line with what we know about the determinants of civil conflict (Raleigh and Hegre 2009). In line with the expectation that state capacity mediates the risk of communal conflict, we find that distance to the capital—and presumably weaker institutional presence—is a positive predictor of the risk of communal conflict. The ethnic fractionalization measure is not significant in any of our models. As expected, we find evidence of both temporal and spatial correlation in our data. The spatial lag is a significant predictor for the occurrence of communal violence the preceding year. The time since past occurrence of communal violence is negative and significant across all models, suggesting that the risk of renewed violence decreases with the passing of time since the last outburst. Also the spatial lag for civil war events is positive and significant across some of the models, suggesting that there are dependencies between different types of violence. Finally, the effect of proximity since border change is negative and significant in Models 1 and 3, suggesting that the shorter the time since there was a regional border change, the smaller the probability of communal conflict.

---

<sup>14</sup>These additional robustness checks are reported in online Appendix B.

This result is not so surprising, as in many cases border changes can result from conflict and not vice versa.

## CONCLUSIONS

A closer look at the policy discourse in many developing countries, such as Kenya, Mali, and Nigeria, reveals that communal conflict is often considered a key obstacle for development. Yet, in spite of its high costs in terms of human lives, humanitarian suffering and destruction of social and physical infrastructure, the phenomenon of armed conflict between societal groups has received surprisingly little attention by quantitative conflict scholars. Our knowledge about the determinants of this form of violence is largely based on a limited selection of in-depth studies of a few high-profile cases. Addressing this significant gap in the literature on collective violence, this article presents one of the first time-series, cross-country disaggregated studies of communal conflict.

Focusing on the political economy of Sub-Saharan African states, we argue that an important cause of subnational communal violence is unequal access to socioeconomic welfare between groups. We argue that a political rule, prevalent across African states, based on combining corruption and ethnic favoritism, creates incentives for individuals to mobilize collectively and violently against other groups in order to secure access to scarce economic benefits. The larger the difference between the haves and the have-nots, the more competitive these distributional conflicts will be, and the more likely is armed communal conflict. We examine the relationship between socioeconomic inequality and communal conflict in a statistical analysis using subnational data. Our results are consistent across a number of different model specifications: inequality—both between individuals and between ethnic groups within a region—increases the risk of armed conflict between societal groups. From an academic point of view, these results add an important piece to the debate about the role of inequality in producing violent conflict.

From a policy perspective, our results contribute to enhance our knowledge about the correlates of communal conflict. For poor countries striving to escape a vicious circle where political violence and low economic development feed on each other, working to reduce socioeconomic inequalities between groups might be an important step forward toward a more stable society. Unfortunately, though, there is no one-size-fits-all solution to this challenge, and one needs to introduce policies with care and sensitivity. Policies developed to correct socioeconomic horizontal inequalities can be tricky, and in the worst case they might have the opposite effect with regard to conflict (Stewart 2008). Any appropriate policies depend on the main variants and root sources of the inequalities in each society. However, without



economic growth, redistribution is potentially conflict provoking, so a key priority should be to promote more inclusive and sustainable growth.

## ACKNOWLEDGMENTS

The authors thank the editors and anonymous reviewers for valuable comments. Earlier versions of this article also benefited from comments by seminar participants at ETH Zurich; the Peace Research Institute Oslo (PRIO); the Quality of Government Institute, Göteborg; as well as the 2010 APSA Annual Meeting and the 2010 Peace Science Society Meeting. The replication materials for this article (the article's online appendices) are available at <http://dvn.iq.harvard.edu/dvn/dv/internationalinteractions>.

## FUNDING

This research was financially supported by the Research Council of Sweden and the Research Council of Norway.

## REFERENCES

- Arriola, Leonardo R. (2009) Patronage and Political Stability in Africa. *Comparative Political Studies* 42(10):1339–1362.
- Bah, Abu Bakarr. (2005) *Breakdown and Reconstitution: Democracy, The Nation-State, and Ethnicity in Nigeria*. Lanham, MD: Lexington Books.
- Barron, Patric, Kai Kaiser, and Menoo Pradhan. (2009) Understanding Variations in Local Conflict: Evidence and Implications from Indonesia. *World Development* 37(3):698–713.
- Bates, Robert H. (1983) Modernization, Ethnic Competition and the Rationality of Politics in Contemporary Africa. In *State Versus Ethnic Claims: African Policy Dilemmas*, edited by D. Rotchild and V. Olorunsola. Boulder: Westview Press.
- Bates, Robert H. (2008) *When Things Fell Apart. State Failure in Late-Century Africa*. New York: Cambridge University Press.
- Beck, Nathaniel, Jonathan Katz, and Richard Tucker. (1998) Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable. *American Journal of Political Science* 42(4):1260–1288.
- Benjaminsen, Tor Arve. (2008) Does Supply-Induced Scarcity Drive Violent Conflicts in the African Sahel? The Case of the Tuareg Rebellion in Northern Mali. *Journal of Peace Research* 45(6):819–836.
- Benjaminsen, Tor Arve, and Boubacar Ba. (2009) Farmer-Herder Conflicts, Pastoral Marginalisation and Corruption: A Case Study from the Inland Niger Delta of Mali. *Geographical Journal* 175(1):71–81.

- Bertrand, Jacques. (2004) *Nationalism and Ethnic Conflict in Indonesia*. Cambridge: Cambridge University Press.
- Bienen, Henry. (1993) Leaders, Violence and the Absence of Change in Africa. *Political Science Quarterly* 108(2):271–282.
- Bohlken, Anjali Thomas, and Ernest J. Sergenti. (2010) Economic Growth and Ethnic Violence: An Empirical Investigation of Hindu-Muslim Riots in India. *Journal of Peace Research* 47(5):589–600.
- Boix, Carles. (2008) Economic Roots of Civil Wars and Revolutions in the Contemporary World. *World Politics* 60(3):390–437.
- Brass, Paul R. (1997) *Theft of an Idol: Text and Context in the Representation of Collective Violence*. Princeton: Princeton University Press.
- Brass, Paul R. (2003) *The Production of Hindu-Muslim Violence in Contemporary India*. Seattle: University of Washington Press.
- Brown, Graham K. (2008) Horizontal Inequalities and Separatism in Southeast Asia: A Comparative Perspective. In *Horizontal Inequalities and Conflict*, edited by F. Stewart. Basingstoke: Palgrave Macmillan.
- Buhaug, Halvard, Kristian Gleditsch, Helge Holtermann, Gudrun Østby, and Andreas Forø Tollefsen. (2011) It's the Local Economy, Stupid! Geographic Wealth Dispersion and Conflict Outbreak Location. *Journal of Conflict Resolution* 55(5):814–840.
- Butler, Chris, and Scott Gates. (2012) African Range Wars: Climate, Conflict and Property Rights. *Journal of Peace Research* 49(1):23–34.
- Cederman, Lars-Erik, Kristian Gleditsch, and Nils Weidmann. (2011) Horizontal Inequalities and Ethnonationalist Civil War: A Global Comparison. *American Political Science Review* 1(18):478–495.
- Chandra, Kanchan. (2004) *Why Ethnic Parties Succeed*. Cambridge: Cambridge University Press.
- Collier, Paul, and Anke Hoeffler. (2004) Greed and Grievance in Civil War. *Oxford Economic Papers* 56(4):563–595.
- Davidsson, Jamie. (2008) *From Rebellion to Riots: Collective Violence on Indonesian Borneo*. Madison: University of Wisconsin Press.
- Davies, James C. (1962) Toward a Theory of Revolution. *American Sociological Review* 27(1):5–19.
- EC-FAO Food Security Programme. (2008) *The Global Administrative Unit Layers (GAUL)*. GAUL/Doc 01, 2008–12–15.
- Eck, Kristine. (2014) The Law of the Land: Communal Conflict and Legal Authority. *Journal of Peace Research* 51(4):441–454.
- Elfert, Benn, Edward Miguel, and Daniel Posner. (2010) Political Competition and Ethnic Identification in Africa. *American Journal of Political Science* 54(2):494–510.
- Fearon, James. (2006) Ethnic Mobilization and Ethnic Violence. In *Oxford Handbook of Political Economy*, edited by B. R. Weingast, and D. Wittman. Oxford: Oxford University Press.
- Fearon, James, and David Laitin. (1996) Explaining Interethnic Cooperation. *American Political Science Review* 90(4):715–735.
- Fearon, James, and David Laitin. (2000) Violence and the Social Construction of Ethnic Identity. *International Organization* 54(4):845–877.

- Fearon, James, and David Laitin. (2003) Ethnicity, Insurgency, and Civil War. *American Political Science Review* 97(1):75–90.
- Felix, Marc, and Charles Meur. (2001) *Peoples of Africa: Ethnolinguistic Map*. Brussels: Congo Basin Art History Research Center.
- Filmer, Deon, and Lant Pritchett. (2001) Estimating Wealth Effects Without Expenditure Data or Tears: An Application to Education Enrollments in India. *Demography* 38(1):115–132.
- Fjelde, Hanne, and Nina von Uexkull. (2012) Climate Triggers: Rainfall Anomalies, Vulnerability and Communal Conflict in Sub-Saharan Africa. *Political Geography* 31(7):444–453.
- Gurr, Ted R. (1970) *Why Men Rebel*. Princeton: Princeton University Press.
- Gurr, Ted R. (1993) Why Minorities Rebel: A Global Analysis of Communal Mobilization and Conflict Since 1945. *International Political Science Review* 14(2):161–201.
- Hagmann, Tobias, and Alemmaya Mulugeta. (2008) Pastoral Conflicts and State-Building in the Ethiopian Lowlands. *Africa Spectrum* 43(1):19–37.
- Homer-Dixon, Thomas F. (1999) *Environment, Scarcity, and Violence*. Ewing, NJ: Princeton University Press.
- Horowitz, Donald. (1985) *Ethnic Groups in Conflict*. Berkeley: University of California Press.
- Horowitz, Donald. (2001) *The Deadly Ethnic Riot*. Berkeley: University of California Press.
- Human Rights Watch. (2003) The Warri Crisis: Fuelling Violence. *Human Rights Watch* 15(18):1–30.
- Human Rights Watch. (2011) *World Report 2011–Nigeria*. January 24. Available at: <http://www.unhcr.org/refworld/docid/4d3e80220.html>.
- Justino, Patricia. (2011) Carrot or Stick?: Redistributive Transfers Versus Policing in Contexts of Civil Unrest. *IDS Working Paper*, 2011(382):1–29.
- Kahl, Colin H. (1998) Population Growth, Environmental Degradation, and State-Sponsored Violence: The Case of Kenya, 1991–93. *International Security* 23(2):80–119.
- Kimenyi, Mwangi. (1989) Interest Groups, Transfer-Seeking and Democratization: Competition for Benefits of Government Power May Explain African Political Instability. *American Journal of Economics and Sociology* 48(3):339–349.
- King, Gary, Michael Tomz, and Jason Wittenberg. (2000) Making the Most of Statistical Analysis: Improving Interpretation and Presentation. *American Journal of Political Science* 44(2): 347–361.
- Kreutz, Joakim, and Kristine Eck. (2011) Regime Transitions and Communal Violence. Paper presented at the 52nd International Studies Association conference, Montreal, March 16–19.
- Lichbach, Mark Irving. (1989) An Evaluation of “Does Economic Inequality Breed Political Conflict?” *World Politics* 41(4):431–470.
- Mancini, Luca. (2008) Horizontal Inequality and Communal Violence: Evidence From Indonesian Districts. In *Horizontal Inequalities and Conflict*, edited by F. Stewart. New York: Palgrave Macmillan.
- Meier, Patrick, Doug Bond, and Joe Bond. (2007) Environmental Influences on Pastoral Conflict in the Horn of Africa. *Political Geography* 26(6):716–735.

- Moore, Will H., Ronny Lindström, and Valerie O'Regan. (1996) Land Reform, Political Violence and the Economic Inequality–Political Conflict Nexus: A Longitudinal Analysis. *International Interactions* 21(4):335–363.
- Nordhaus, William D. (2006) Geography and Macroeconomics: New Data and New Findings. *Proceedings of the National Academy of Sciences* 103(10):3510–3517.
- Obioha, Emeka E. (2008) Climate Change, Population Drift and Violent Conflict over Land Resources in North Eastern Nigeria. *Journal of Human Ecology* 23(4):311–324.
- Østby, Gudrun. (2008) Polarization, Horizontal Inequalities and Violent Civil Conflict. *Journal of Peace Research* 45(2):143–162.
- Østby, Gudrun, Ragnhild Nordås, and Jan Ketil Rød. (2009) Regional Inequalities and Civil Conflict in Sub-Saharan Africa. *International Studies Quarterly* 53(2):301–324.
- Østby, Gudrun, Henrik Urdal, Zulfan Tadjoeeddin, S. Mansoob Murshed, and Håvard Strand. (2011) Population Pressure, Inequality and Political Violence: A Disaggregated Study of Indonesian Provinces, 1990–2003. *Journal of Development Studies* 47(3):377–398.
- Peters, Pauline E. (2004) Inequality and Social Conflict over Land in Africa. *Journal of Agrarian Change* 4(3):269–314.
- Posner, Daniel N. (2004) Measuring Ethnic Fractionalization in Africa. *American Journal of Political Science* 48(4):849–863.
- Posner, Daniel N. (2007) Regime Change and Ethnic Cleavages in Africa. *Comparative Political Studies* 40(11):1302–1327.
- Raleigh, Clionadh. (2011) Political Marginalization, Climate Change, and Conflict in African Sahel States. *International Studies Review* 12(1):69–86.
- Raleigh, Clionadh, and Håvard Hegre. (2009) Population Size, Concentration and Civil War. *Political Geography* 28(4):224–238.
- Scarritt, James R., and Susan McMillan. (1995) Protest and Rebellion in Africa: Explaining Conflicts Between Minorities and the State in the 1980s. *Comparative Political Studies* 28(3):323–349.
- Stewart, Frances, ed. (2008) *Horizontal Inequalities and Conflict: Understanding Group Violence in Multiethnic Societies*. New York: Palgrave Macmillan.
- Sundberg, Ralph, Kristine Eck, and Joakim Kreutz. (2012) Introducing the UCDP Non-State Conflict Dataset. *Journal of Peace Research* 49(2): 351–362.
- Sundberg, Ralph, and Erik Melander. (2013) Introducing the UCDP Georeferenced Event Dataset (UCDP GED). *Journal of Peace Research* 50(4):523–532.
- Tadjoeeddin, Mohammad Zulfan, and Syed Mansoob Murshed. (2007) Socio-Economic Determinants of Everyday Violence in Indonesia: An Empirical Investigation of Javanese Districts, 1994–2003. *Journal of Peace Research* 44(6):689–709.
- Tajfel, Henri, and John C. Turner. (1979) An Integrative Theory of Intergroup Conflict. In *The Social Psychology of Intergroup Relations*, edited by W. G. Austin and S. Worchel. Monterey, CA: Brooks-Cole.
- Tollefsen, Andreas F., Håvard Strand, and Halvard Buhaug (2012). PRIO-GRID: A Unified Spatial Data Structure. *Journal of Peace Research* 49(2):363–374.

- Turner, Matthew D. (2004) Political Economy and the Moral Dimensions of "Resource Conflicts": The Case of Farmer-Herder Conflicts in the Sahel. *Political Geography* 23(2004):863–889.
- Turner, Matthew, Augustine Ayantunde, Kristen Patterson, and Daniel Patterson. (2011) Livelihood Transitions and the Changing Nature of Farmer–Herder Conflict in Sahelian West Africa. *Journal of Development Studies* 47(2):183–206.
- UNHCR. (2012) *UN Voices Concern over Inter-Communal Violence in Northern Kenya*. UN News Service, January 5. Available at <http://www.unhcr.org/refworld/docid/4f06e5132.html>.
- UNMISS. (2012) Incidents of Inter-Communal Violence in Jonglei State. Report from the United Nations Mission in South Sudan. Available at <http://unmiss.unmissions.org/Portals/unmiss/Human%20Rights%20Reports/June%202012%20Jonglei%20Report.pdf>.
- Uppsala Conflict Data Program. (2011) UCDP GED Data set Download. Data version 1.0-2011, 1989–2010. Available at <http://ucdp.uu.se/ged/data.php>.
- Van Klinken, Gerry. (2007) *Communal Violence and Democratization in Indonesia*. Abingdon, UK: Routledge.
- Varshney, Ashutosh. (2001) Ethnic Conflict and Civil Society: India and Beyond. *World Politics* 53(3):362–398.
- Wilkinson, Steven I. (2004) *Electoral Competition and Ethnic Riots in India*. Cambridge Studies in Comparative Politics. New York: Cambridge University Press.
- Wimmer, Andreas. (1997) Who Owns the State? Understanding Ethnic Conflict in Post-Colonial Societies. *Nations and Nationalism* 3(4):631–665.
- Wimmer, Andreas, Lars-Erik Cederman, and Brian Min. (2009) Ethnic Politics and Armed Conflict: A Configurational Analysis of a New Global Data Set. *American Sociological Review* 74(2):316–337.
- World Bank. (2011) *World Development Report 2011: Conflict and Development: Overcoming Conflict and Fragility*. Washington, DC: World Bank.
- Wucherpfennig, Julian, Nils B. Weidmann, Luc Girardin, Lars-Erik Cederman, and Andreas Wimmer. (2011) Politically Relevant Ethnic Groups across Space and Time: Introducing The GeoEPR Data set. *Conflict Management and Peace Science* 28(5):423–437.