Ethno-Political Inequalities and Intra-State Conflict

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Abstract:

This thesis investigates the relationship between ethnic-based political inequalities and political conflict. Building on recent theoretical and methodological advancements, I develop three empirical chapters that investigate distinct, yet unrelated mechanisms linking ethno-political configurations to disparate forms of contentious action. These chapters each utilise quantitative methods, and new subnational-level and actor-level data, to uncover a number of important findings regarding types of conflict behaviour not captured by civil war analyses.

The first empirical chapter focuses on ethnic riots, a type of non-militarised violence involving violent clashes between civilians of rival ethnic groups. I argue that this previously overlooked form of political violence is likely to emerge when there is: politically dominant ethnic groups coexisting with a group facing systematic political discrimination or a loss of power. I find support for this argument through the first cross-national and subnational analysis of ethnic riots in Africa. The second empirical chapter focuses on the incidence of mass nonviolent action, which involves the mobilisation of large numbers of diverse people. I argue that cleavages within and across ethnic groups often undermine this kind of political mobilisation, but that cross cutting grievances can overcome this issue and facilitate resistance. Testing this argument sub-nationally, I find support for my argument that the relationship between ethno-political inequalities and nonviolent action is dependent on the existence of cross-cutting grievances, as this provides opportunities for disparate groups to unite against the state. The final empirical chapter (co-authored with Govinda Clayton and Andrew Thompson) explores the relationship between ethnic militias, either recruited from politically dominant or disadvantaged ethnic groups, and civil war duration. We thereby move beyond assumptions that the government-side is unitary. We argue that coethnic PGMs (i.e. those recruited from the same ethnicity as the ruling elite) are associated with longer conflicts, as they have strong

incentives to maintain ethno-political power and further polarise ethnic divisions. We find strong support for these claims in a global time-series cross sectional analysis.

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Chapter 1. Introduction

1.1. Motivation

Inequality is often raised as an important determinant of political conflict. Contemporary research suggests that group-based inequalities are most likely to have a detrimental effect on conflict behaviour (see Stewart, 2002; Stewart, 2008).[1] This type of group-based inequality is referred to as 'horizontal inequalities' (HIs). HIs are inequalities between groups of people who share a common ethnic identity and heritage. In contexts where high levels of HIs exist, group grievances can be greatly enhanced and more easily politicised. This often facilitates collective mobilisation and political conflict (Stewart, 2010b).

HIs are distinguishable from 'vertical inequalities' which are disparities between individuals or households, rather than groups. Classical structural-grievance approaches have historically measured economic inequalities between individuals, drawing on relative deprivation theory. Relative deprivation occurs when there is a growing disparity between an individual's aspirations, and their actual standing in relation to others. Relative deprivation generates discontent, frustrations and anger over these disparities that motivates an individual to engage in violence (Gurr, 1970). With various studies finding little evidence that vertical inequalities relate to violent conflict behaviour, theories of inequality have largely moved in favour of group-based explanations (see Lichback, 1989; Brush, 1996). This new emphasis also builds upon theoretical objections that too much focus has been placed upon the individual, which undermines the symbolic importance of group identity and cleavages between ethnic groups. HIs theory builds upon this relational context in which common ethnic identity combined with overlapping inequalities generate grievances that are most likely to relate to conflict (Stewart, 2002; Ostby, 2008).

[1] Also see Stewart (2010a), Brown and Langer (2010), and Ostby (2017) for a review.

The concept of HIs has various similarities with earlier notions of ethnic inequalities, such as Gurr's (1993) relative deprivation between minority groups, Horowitz's (1985) ranked ethnic groups and Tilly's (1999) categorical inequalities. There are four dimensions of HIs that are likely to generate conflict: political (political participation), economic (wealth, state resources, assets), social (education, health, housing, sanitation), and cultural (recognition of language and cultural norms). Recent quantitative research has found strong evidence that the likelihood of armed conflict is increased by the existence of HIs and related group grievances. In particular, Large-N evidence shows that civil war is most likely to occur in contexts where socioeconomic and political HIs are at their greatest (Gurr, 2000; Ostby, 2008; Cederman, Weidmann and Gleditsch, 2011; Cederman, Gleditsch and Buhaug 2013; Deiwiks, Cederman and Gleditsch, 2012; Buhaug, Cederman and Gleditsch, 2014; Basedau et al., 2015).

Yet much of the contemporary quantitative literature treats conflict as synonymous with specific forms of armed violence. These studies rely on civil war datasets that impose exclusive criteria in order to measure this subset of political conflict. This has led quantitative studies to almost exclusively focus on *types of conflict* that are militarised and involve battlefield deaths, and *types of actors* that are included in definitions of civil war (i.e. the government and rebel forces).[2] Consequently, other forms of conflict behaviour and types of non-state actors that fall outside what the UCDP label 'normal warfare', have been largely underexplored.

Qualitative literature, however, highlights a number of possible relationships between high levels of HIs and various types of political conflict. A burgeoning collection of work, deriving mainly from the CRISE network at the University of Oxford, relates HIs to various

[2] Two leading data projects emerged setting thresholds based on a certain number of battlefield deaths and the type of actors involved. The Correlates of War (COW) project requires conflicts to experience at least 1000 annual battlefield deaths in order for this to warrant inclusion within their civil war dataset (Sarkees and Wayman, 2010). The University of Uppsala Data Project relaxes this threshold somewhat to include conflicts that experience at least 25 battlefield deaths per year, and reserve the 1000 battlefield deaths threshold to 'major conflicts' (Gleditsch et al., 2002).

types of political conflict not included in civil war analyses. Stewart (2002), who originally developed the concept of HIs, found early on that HIs have led to sporadic riots and criminality in the US and Brazil, race riots in Malaysia, coups in Fiji, as well as civil war in Sri Lanka, South Africa and Uganda. Other case-based literature provides similar findings (Horowitz, 2003; Ukiwo, 2008; Basedau, Vullers, Korner, 2013), which includes evidence from intra-country studies (Barron, Kaiser and Pradhan, 2004; Mancini, 2008; Ostby et al., 2011). The general conclusion is that inequalities impact different and disparate types of conflict behaviour. While research has 'bridged the gap' between qualitative and quantitative research on armed conflict (Ostby, 2013), more empirical research is needed to further explain other types of conflict behaviour. Various questions therefore persist. Is case study evidence replicable across different cases? Is there a systematic relationship between HIs and other types of conflict behaviour?

This thesis considers political conflict more broadly, as the "pursuit of incompatible goals by different groups" (Ramsbotham, Woodhouse, and Miall, 2011: pg27). Conflicts rarely result in battlefield deaths, are not always directed at the state, and in most cases do not involve violent methods at all. Actors have a repertoire of possible strategies at their disposal when responding to incompatibility interests such as high levels of inequality (Ackerman and DuVall, 2000; Florea, 2012).[3]

Together with the three empirical chapters, this thesis seeks to explore HIs theory more broadly in relation to different types of conflict behaviour that can be violent or nonviolent,

[3] Political conflict encompasses unconventional action against government, based on incompatibilities that relate to political motivations and political goals. This is distinguishable from criminal behaviour, such as gang violence. Political motivations may overlap with criminal aspects. For example, rioters and rebellious activity is often labelled as criminal. Some theories see armed actors are criminal entities greed theory (Collier and Hoeffler, 2004), and new wars perspective (Kaldor, 2013). Criminal gangs may also be motivation by structural and political conditions that facilitate their emergence, for example in El Salvador. For the purpose of this thesis, political behaviour is related to clear political incompatible goals. For discussions on possible overlaps between criminal and political conflict (see Kalyvas, 2015; Idler and Forest, 2015).

and are not restricted to dyadic violence between the government and rebels. This provides important contributions to our broader understanding of HIs and political conflict. Firstly, this thesis builds on existing case-based literature, to systematic ally explore the relationship between HIs and various types of conflict behaviour. In doing so, this thesis also provides two related and additional contributions: one theoretical and one methodological.

The theoretical contribution derives from the uncovering of new theoretical mechanisms that link HIs to different types of conflict behaviour. While HIs are not restricted to explaining conflict that results in civil war (Gurr, 1993; Stewart, 2002, 2008), it is unclear what mechanisms drive different types of conflict behaviour. Some studies show that different conflict outcomes are caused by specific factors that are distinct from civil war (Regan and Norton, 2005; Chenoweth and Ulfelder, 2017). Yet HIs theory merely suggests that different outcomes can be attributed to regime type or how accommodating or repressive the state is (Gurr, 2000; Stewart, 2008).

Other studies have relied on civil war mechanisms to explain the relationship between ethnic inequalities and other types of political conflict. As Chenoweth and Lewis (2013) state, this is problematic since civil war mechanisms are poorly suited to explain other outcomes that involve very different types of mobilisation. Some types of conflict are more sporadic and incidental and are likely to have much lower barriers to participation. Nonviolent action also involves the use of very different tactics and strategies than coercive action, meaning the mobilisation process is likely to be very different to those associated with armed conflict. Therefore, while ethnic grievances may provide general motivations to seek political change, these grievances are unlikely to facilitate different types of mobilisation in the same way.

This thesis clarifies the mechanisms between HIs and disparate types of conflict behaviour, by moving beyond a one-size-fits-all approach. As a whole, this thesis broadens our

theoretical understanding of the various causal pathways between HIs and distinct conflict behaviours. Across the three empirical chapters this thesis looks at how HIs relate to three largely unexplored types of conflict behaviour: ethnic rioting between civilians, mass nonviolent action against the government, and how HIs impact the behaviour of ethnic pro-government militias and the consequences this has for civil war duration. The individual contributions of these chapters are explored in greater detail when introducing the chapters below.

Finally, by expanding the focus of HIs theory to other types of conflict, this thesis also makes key methodological contributions. Most of these pertain to the use of new disaggregated data, both at the subnational-level and actor-level data, which captures conflict actors and behaviour not included in civil war analyses. Exploration at the subnational level improves upon existing quantitative literature that tends to focus on country-level comparisons or case studies. The exploration of new conflict actors moves beyond tendencies to treat dissimilar conflict actors and outcomes as monolithic. With regards to conflict outcomes, existing studies on HIs tend to lump together disparate types of protest rather than analysing nonviolent action and incidental violence separately.[4] In terms of conflict actors, existing literature largely assumes the government side is unitary, and often ignores the role of irregular armed groups that operate on behalf of the government, such as pro-government militia.[5]

These methodological issues can be largely explained by the previous lack of data. Here I build upon recent innovative data collection efforts, without of which this thesis would not have been possible. Firstly, new event data enables the disaggregation of conflict actors and

[4] For example studies 'social disturbances' lump together incidences of protest, demonstrations, and acts of terrorism (Urdal, 2008). Ostby's (2016) study of 34 cities from the Urban Social Disorder dataset, outlines the rising gap of inequality in cities as an important determinant of 'social disturbances'. Yet these types of disturbances differ from each other considerably

[5] Exceptions of course being literatures on fragmentation and pro-government militias which are explored in much detail in Chapter 4.

the exploration of conflict at the subnational-level. Most notably, outlets such the Social Conflict Analysis Dataset and Armed Conflict Location Event Dataset now provide geocoded conflict events in Africa.[6] These datasets provide various types of events including: protests, demonstrations, strikes, riots, and communal violence. Secondly, new data on non-state actors has also enabled the exploration of civil war actors not classified as rebel forces or as part of the state security apparatus. In particular, the Pro-Government Militia dataset (Carey, Mitchell, and Lowe, 2013) provides new data on militias (PGMs) that operate on behalf of the government, but outside of conventional security structures. Such data enables us to move beyond assumptions that the government is unitary, and now isolate the effect that pro-government non-state actors have upon civil war processes.

Thirdly, the above data has coincided with the development of new group-level data by the Ethnic Power Relations (EPR) project (Cederman, Wimmer, and Min, 2010). The EPR data provides information on levels of inequality between politically relevant ethnic groups. This data is used to explore HIs at the actor-level in Chapter 4, and the subnational-level in Chapters 2 and 3. The subnational analyses have been made possible by the extension of the EPR project to include the Geo-EPR dataset. The Geo-EPR data provides information of the location of ethnic settlement areas, and combined with EPR categories allows group-level inequalities to be explored at the subnational-level. Finally, exploring types of group settlement areas and the location of conflict events also requires an appropriate subnational unit of analysis. Here the development of the PRIO-GRID has been hugely influential (see Tollefsen, Strand and Buhaug, 2012). This has provided a standardised geographical grid structure that does not vary by country, and is exogenous to factors this thesis seeks to capture at the subnational-level. Building on data innovations, each chapter has produced unique data,

[6] See Raleigh et al (2010) (for ACLED), and Salehyan et al (2012) (for SCAD) for published introductions to these datasets. This thesis uses the SCAD dataset due to longer temporal coverage, and greater detail on each event that better enables the recoding and operationalisation of specific outcomes.

including: geo-referenced data on ethnic riots and nonviolent protests in Africa, and a global dataset on ethnic pro-government militias and there ethnic linkages to the state.

The remainder of this introduction will explore the existing literature, placing these contributions within the existing debate on inequality. The second section will then outline the institutional-grievance framework that is drawn upon throughout this thesis. The final section will introduce the empirical chapters and their more specific contributions.

1.2. Contributions to the Wider Literature

This following section places these broader contributions within the wider literature on political conflict. This section specifically highlighting existing strengths and weaknesses within the conflict literature. Broadly speaking there are four key structural approaches to political conflict: structural grievances (mentioned previously and largely related to vertical inequalities), institutional grievances, opportunism, and resource mobilisation. The first two perspectives emphasis the motivations to engage in conflict. The latter two approaches are built upon a more rationalist framework and focus on the 'feasibility' of conflict. The following section will explore these approaches sequentially in order to show the development of these approaches and related limitations.

1.3. Scepticism of Grievance Approaches by 'Feasibility Perspectives'

Many studies have long questioned the role of grievances, arguing that grievances are simply too common, and often citing the lack of empirical evidence from structural grievance studies on vertical inequalities (Brush, 1996; Cramer, 2006). Strong criticisms have come from studies that emphasise the value of opportunity structures and resources that make political conflict

more ‘feasible’ (Tilly, 1978; Skocpol 1979). Such theorists pointed to rational calculations, in which actors only engage in collective action when they have the adequate opportunities and resources to do so. This highlights two alternative rationalist approaches, known as the opportunities perspective and resource mobilisation theory. Similar to HIs research, quantitative studies from both ‘feasibility’ approaches have also focused on armed conflict.

In the early 2000s there was a clear shift to a greater rejection of grievances in support of opportunism, with the fruition of influential empirical studies that found no evidence that grievances were are cause of civil war (Fearon and Laitin, 2003; Gissinger, Hegre and Gleditsch, 2003; Collier and Hoeffler, 2004; for a review see: Blattman and Miguel, 2010). At the forefront of this body of work are two highly cited studies. The first interpretation by Collier and Hoeffler (2004), pointed to ‘greed’ as a cause of conflict, in which the existence of poverty produces lower opportunity costs of fighting, and natural resources that provides incentives for self-enrichment and looting. In the second interpretation, Fearon and Laitin (2003) argued that the opportunity to rebel is contingent on the weakness of state institutions and the state’s capacity to tackle the insurgency.

Qualitative studies on collective action have explored different outcomes, but remain vague on what opportunity factors relate to different types of outcomes.[7] This body of work has argued that particular political opportunities signal to opposition groups that general collective action is more feasible and arise: when the regime is unstable or is politically more open (Tilly, 1978; Goldstone 1991; Meyer, 2004), when divisions exists within the regime (McAdam, Tarrow, and Tilly, 2001), and when state institutions are weak (McAdam, 1999).

[7] Research on contentious action has tried to more broadly bring together different types of political conflict in order to highlight differences and similarities between different types of conflict (see McAdam, Tarrow, and Tilly, 2001; Tarrow, 2011). They associate different conflict outcomes with different opportunities structures but similar to HIs literature focus on characterises of the state such as regime type and levels of repression.

But what type of conflict behaviour are we likely to observe in response to the emergence of specific opportunities?

Resource mobilisation approaches instead relates feasibility to the capability of assembling adequate resources to engage in political conflict. This approach has also become a dominant explanation of civil war, with a strong emphasis on natural resources in providing a source of funding for armed rebellion. This literature has found empirical evidence that a range of natural resources, including oil, gas, drugs, diamonds and timber, increase the likelihood of civil war and help rebels sustain their fight (Ross, 2006; Rustad et al., 2008; Buhaug, Gates, and Lujala, 2009; Lujala, 2010).

Qualitative research on collective action also sets expectations that resources also increase the feasibility of other types of political behaviour (McAdam, Tarrow, and Tilly, 2001; also see Opp, 2009), but remains equally unclear on what specific resources are required for other outcomes. Research on civil resistance has taken some important steps in this regard, pointing to differences between nonviolent and violent mobilisation. Because mass participation is key for nonviolent movements to be effective, mobilisation potential must be very high (DeNardo, 1985; Chenoweth and Stephan, 2011). For scholars of civil resistance this relates to the existence of organisational capacity, information resources, people resources (such as innovation, different skillsets, and tactical diversity), and social resources and coordination advantages associated with urbanisation and social networks (Goldstone 1991; Lohmann, 1994; Olzak, Shanahan, and McEneaney 1996; Siegal, 2009; Chenoweth and Stephan, 2011; Wallace, 2013). Other research has shown that social networks have facilitated participation in ethnic rioting in Nigeria (Scacco, 2010), and in the Rwandan genocide (McDoom, 2013; 2014). This points to the strong possibility that different behaviours may require different types and levels of resources.

I argue here that it is inconceivable that opportunities and resources alone cannot explain conflict behaviour. While these approach explains how populations may mobilise, it does not explain why. In reality grievances and feasibility are likely to be complementary in explaining different conflict behaviours. But how this plays out in regards to disparate conflict outcomes remains unclear.

1.4. Additional Problems with Existing 'Feasibility' Approaches

Various studies have questioned the premature rejection of grievances with many citing poor data and poor proxies used to measure inequality (Sambinas 2005; Cramer, 2006). Criticism has most notably come from a new generation of grievance models, which refers us back to HIs theory. HIs builds directly on early research that points the importance of ethnic-based grievances, biased state institutions and the importance of ethnic politics, rather than mere economic determinism (Horowitz, 1985; Gurr, 1993; 2000; also see Stewart, 2008; Cederman, Gleditsch, Buhaug, 2013). From this emphasis, HIs literature outlines two key criticisms.

Firstly 'feasibility' approaches have largely relied on highly aggregated national-level data.[8] This level of aggregation is too high, since national-level data is poorly suited to capture mechanisms related to inequality, opportunities or resources. For example, GDP has been used to proxy both state weakness (Fearon and Laitin, 2003), and poverty (Collier and Hoeffler, 2004). National-level proxies are also unable to specify precise theoretical mechanisms that are in play, as they do not capture group-level factors such as HIs (Sambanis, 2005).[9] This level of aggregation also makes generalised assumptions about conditions within a country, without

[8] With notable exceptions (see Buhaug, Gates, Lujala, 2009; Lujala, 2010; Buhaug et al., 2011).
[9] Most studies test or control for the GINI coefficient. This national-level measure, captures inequality between individuals within society (i.e. vertical inequality), and ranging from 0 (perfect inequality) to 100 (perfect equality). The problems often associated with this measure is missing data, and also its capture of countries that appear to be more equal in terms of vertical inequality, but in fact are severely unequally along group lines (see Cramer (2003) for a critique).

being able to capture subnational variation in HIs, opportunity factors and access to resources (see Buhaug et al., 2011). Various studies have shown the importance of exploring subnational disparities between ethnic groups (Ostby, 2008; Hegre, Ostby, and Raleigh, 2009; Fjelde and Ostby, 2014; Raleigh, 2014), although the focus of these subnational studies has also been on armed conflict.

The final criticism relates to the tendency of many studies to view ethnicity as purely demographic. Cederman, Gleditsch, and Buhaug (2013) argue that this ignores the political context and the importance of ethnic politics in defining key differences between ethnic groups competing within the national arena. They contend that this relates largely to the state being treated as ethnically neutral, when in fact the state is central to ethno-exclusive policies and unequal distribution. This extends to empirical objections to proxy national-level measures of ethnic diversity, such as the ethnolinguistic fractionalisation index (ELF). These proxies merely reinforce "the apolitical rendering of ethnicity that fails to account for it as an explicitly political relationship of power" (Cederman, Gleditsch, and Buhaug, 2013; pg 16). Therefore, it is not surprising that measures of diversity have produced non-findings since they ignore the ethno-political context. Seeing ethnicity as purely demographic is also unlikely to capture the key disparities between ethnic groups that may relate to other types of conflict behaviours.

1.5. Ongoing Problems with the Institutional Grievance Perspective

The institutional grievance perspectives builds upon many of these criticisms. Horowitz's (1985) influential book Ethnic Groups in Conflict, was first major attempt to switch the attention to intergroup disparities, and away from economic determinism. He brings ethnic politics and biased institutions into our understanding of conflict by introducing the concept of

'ranked groups' where advantaged and disadvantaged compete over political power. This formed the basis for future research on HIs and political conflict.

While HIs literature has gone on to greatly enhance our knowledge of conflict, two limitations remain. Firstly, and returning to the motivations of this study the almost exclusive focus on civil war processes and civil war actors. There has been some movement in the study of HIs and other conflict behaviours, but not without limitations. Studies on HIs, protest, and rioting have drawn on data at the level of the ethnic group. In what was the first systematic attempt to measure ethnic inequalities in relation to the state, Ted Gurr and his team produced the Minorities at Risk Dataset. Using this data, studies found a strong relationship between ethnic inequalities and the onset of protest, rioting, and violent rebellion (Gurr, 1993, 2000; Olzak, 2006). However, although this moves away from the national-level to focus on important group characteristics, this data only codes minority groups rather than including all relevant groups regardless of political status or size. This data issue has recently been overcome by the EPR data but as yet has largely been used to explore civil war processes. More recent research on HIs remains largely split between the qualitative focus on broader conflict, and the quantitative focus on civil war.

The final withstanding issue is that while quantitative civil war literature has explored the impact of political HIs, studies on non-civil war outcomes continue to focus on economic HIs. Many studies looking at sporadic forms violence or protest have associated these outcomes with economic disparities within society (Blau and Blau, 1982; Olzak, Shanahan, and McEneaney, 1996; Barron, Kaiser and Pradhan, 2004; Mancini, 2008; Ostby et al., 2011). The innovative development of the EPR dataset has ushered in a new research agenda exploring the relationship between ethno-political inequalities, yet this agenda has focused its attention on explaining the onset and dynamics of civil war. However, as this thesis contends, switching the

focus to ethno-political HIs in order to explain wider forms of political conflict is important for two key reasons.

Firstly, ethno-political power does not only provide political advantages for groups included in the executive, but also has social and material consequences - i.e. who gets what, for members of groups that are included or excluded from power. This is not to say other dimensions are not important, but that political power enables groups to dictate the distribution of resources, and therefore can prevent excluded groups from gaining important socioeconomic goods and cultural rights in other dimensions (Stewart, 2008). Therefore, political motivations are also likely to generate mass grievances and demands for change, which moves beyond the common assumption that mass grievances within a population are more associated with socioeconomic HIs (Stewart, 2010b). Following the concept of HIs, ethno-political HIs involve restricted ethnic group access to political power and political decision making. Following Cederman, Gleditsch, and Buhaug (2013), this forms part of an ethno-political hierarchy in which groups exhibit various levels of political representation, with groups either facing inclusion or exclusion from governmental positions. These grievances are likely to manifest themselves in many forms, in outcomes that are not limited to armed rebellion against the state.

Secondly, new events data on various conflict outcomes and data on political inequalities, introduced in the motivation, now enables this thesis to assess political contexts in which politically relevant ethnic groups are more likely to engage in specific forms of contentious action. This thesis draws upon Ethnic Power Relations (EPR)'s hierarchical coding that captures the level of ethno-political inclusion and exclusion from power (Cederman, Wimmer, and Min, (2010). This hierarchy includes: monopoly groups (have a total monopoly on power), dominant groups (who include 'token' members from other groups), senior and junior partner groups (within a powersharing government), regional autonomy (regional power), separatist autonomy (defacto independence), powerless, and discriminated groups

(systematic). The next section outlines the theoretical approach of this thesis, before outlining the empirical papers that deploy this approach to different types of conflict behaviour.

1.6. Theoretical Framework

This thesis draws on a *two-stage theoretical framework*: firstly, political inequalities generate grievances that motivate potential conflict, and secondly, distinct mechanisms translate ethnic grievances into different conflict behaviours.

In the first stage of this framework, I draw upon the well-established institutional-grievance perspective that highlights how political HIs transform political inequality into ethnic grievances. This approach emphasises the importance of ethnic politics, and the role of state institutions in distributing power and resources unequally along ethnic lines (see Stewart, 2008; Cederman, Gleditsch, Buhaug, 2013). Ethno-exclusive policies of the state are unequal and target specific groups, which in turn, generates politicised grievances along ethnic lines.

In the second stage of the causal chain, politicised ethnic grievances, under certain conditions, can result in different forms of conflict behaviour either against the state or in support of the state. Here I also draw inspiration from Tilly's (1978) rational-actor perspective that highlights the importance of opportunity when understanding the emergence of conflict. I argue that different ethno-political contexts and opportunity structures can jointly explain the proliferation of disparate types of conflict behaviour. Taken together with the nature of ethno-political exclusion, which prevents institutional avenues to address grievances, often prevents disputes from being channelled through conventional forms of action (see Stewart, 2008). Each empirical chapter highlights novel and unique mechanisms that link ethno-political inequalities to distinct types of conflict behaviour and conflict actors that fall outside of conventional definitions of civil war (i.e. dyadic armed violence between the government and rebels). Before

outlining this framework in more detail, it is important to explain why ethnicity is important in this process.

The Importance of Ethnicity

Those pointing to the importance of ethnicity highlight the ascriptive nature of ethnicity that makes ethnic group members more identifiable (Eck, 2009), and more salient than other social groupings (Mueller, 2004; Cederman, Gleditsch and Buhaug, 2013). For example, the football team you support has less social importance and an individual can change who they support. Similarly other membership categories such as ideology are more easily changed and are more difficult to identify. In contrast a person cannot change their race or readily change their language, religion or tribal afflictions, which is constrained by the social context (Stewart, 2008). Following Horowitz (1985), I define ethnicity as a broad and ascriptive identity based on lines of common descent and collective cultural affiliations such as: race (South Africa), language (Zambia), tribal (Kenya), religion (Nigeria), or a combination of these boundaries.

The salient and recognisable nature of ethnicity has provided a convenient way to organise politics and form political coalitions, since coethnic members share a common culture and are clearly identifiable sources of political support (Bates, 1983). This makes ethnic attributes more serviceable than other categories such as ideology or class (Fearon 1999; Wucherpfennig et al., 2012). Ethnicity therefore provides a convenient way to distribute state resources, particularly in post-colonial states that lack the state resources to provide public goods, such as jobs and healthcare, equally across the country (Wimmer, 2013). In line with HIs literature this thesis highlights the importance of the group-level that exists within the structures of the state and above the individual-level.[10]

[10] A group is a socially defined collection of individuals who identify with each other based on common and shared characteristics, such as beliefs, values, interests, experience, and in some cases cultural similarities such

What makes ethnic differences more socially significant and more likely to influence conflict behaviour? There are three different perspectives to ethnicity that seek to explore these questions and form foundation for different structural approaches to conflict considered above: primordialist, instrumentalist, and constructivist approaches (Young, 1993; Stewart, 2008).[11] The primordialist approach assumes ethnic identity is fixed, firmly bounded, and readymade from birth. Ethnic differences are considered to be the root cause of ethnic conflict due to the high emotive and often irrational attachment to ethnic affiliations (Lake and Rothchild, 1998). However, ethnic identity is not fixed, but rather is fluid and situational. Ethnic identity can change in significance over time, and the importance of a particular identity can often be short lived (Stewart, 2008). This thesis does not deny the importance of emotions or attachment to one's identity, but moving beyond mere ethnic differences, views conflict as a result of specific ethno-political contexts (Horowitz, 2003).

The instrumentalist approach instead takes a more rationalist viewpoint, and relates closely to 'feasibility' perspectives of conflict. Ethnic boundaries are seen as susceptible to manipulation by political elites who aim to achieve certain political goals. . Instrumentalists argue that ethnicity is not unique from other social memberships, rather is convenient in particularly contexts (Bates, 1983; Fearon, 1999). Ethnic conflict is therefore seen to be a cost-benefit calculation, where ethnicity is '(re)invented' and mostly irrelevant in wider social life. This is drawn upon by the opportunist approach which argues that ethnic grievances are simply a discourse used by political entrepreneurs to mobilise specific populations (Cramer, 2006).

as ethnicity. Generally groups must be identifiable to members and people outside the group, often using common markers to associate an individual with a group. In essence, group identity is important to social life, in which collective identity relates to social norms and emotional attachment, which impacts the collective behaviour of individuals (Tajfel, 1982; Hogg and Abrams, 1988).

[11] Also known as hard (primordial) and soft approaches (instrumental and constructivist) to ethnicity (Horowitz, 2003).

The constructivist approach instead takes the middle ground, accepting the rational logic within the instrumentalist approach, but also highlights the importance of the social context in shaping the political relevance of ethnicity. Ethnicity is instead considered costly to invent, arguing the remaking of ethnic boundaries relates to exhaustive elite attempts to continually emphasise ethnic differences (Bates, 2006; Stewart, 2008). This approach therefore sees ethnicity as relational and grounded in both political and social perceptions of group boundaries, in what Anderson (2006) describes as 'imagined communities'. Conflict is therefore rooted in the cognitive aspects of group identity and the social system that breeds it, rather than ethnic differences or pure elite pragmatism (Lake and Rothchild, 1998; Petersen, 2002).

From an institutional-grievance perspective and HIs approach, the constructivist view of ethnicity can help explain why high levels of ethnic-based inequalities are likely to cause political conflict. This relates to social comparisons over group disparities and elite incentives to manipulate ethnic differences for political gain. This constructivist approach also offers some response to questions on whether ethnic groups are meaningful actors due to the changing nature of ethnicity (Brubaker, 2004). I build on the constructivist idea that the significance of ethnicity is defined by politically relevance at a given point in time and is susceptible to change, which is reflected in the EPR data that is used throughout this thesis.

A more serious criticism is over the cohesion of ethnic groups, since intra-ethnic divisions do exist (Brubaker, 2004; Kalyvas, 2008). While this thesis is aware of this criticism, a cautious approach is taken when assuming ethnic groups are both unitary and meaningful conflict actors. Chapter 3 accepts that the existence of intra-ethnic and inter-ethnic divisions are likely to be a key obstacle for nonviolent mobilisation. Chapter 4 also accepts the ethnic defection that occurs during civil war, highlighting the emergence of ethnic defector PGMs that can be recruited from the same ethnic kin of the opposition. Chapter 2 makes stronger

assumptions about ethnic cohesion, but in relation to highly localised intergroup violence where cohesion is easier to maintain.

Stage 1: From Ethno-political HIs to Ethnic Grievances

Following Cederman, Gleditsch, and Buhaug (2013), I draw upon Tilly's (1978) polity model of ethno-exclusive states to explain the emergence of ethnic grievances. In this model politically included groups within the polity enjoy and seek to maintain their privileged access to power, while excluded groups outside of the polity seek to challenge this status quo (Wucherpfennig et al., 2012; Cederman, Gleditsch, and Buhaug, 2013; Wimmer, 2013). This conceptualisation places the state at the heart of competition between politically advantaged included ethnic groups and disadvantaged excluded groups over power and control of the distribution of state resources. This essentially politicises ethnic differences which in turn generate ethnic-based grievances. Exploring ethno-exclusive politics and patronage enables us to tease out the opposing motivations: for excluded groups to challenge the status quo, and for included groups to uphold it.

Ethno-exclusive policies form part of a political strategy to control and maintain political power (Cederman, Gleditsch, and Buhaug, 2013; Wimmer, 2013). Deploying this strategy serves two distinct purposes for included groups, which come at the expense of others. Firstly, this enables ethnic incumbents to dominate and consolidates the power of their own ethnic group, by enacting favourable policies that ensure the greater status of the group. Moreover, ethno-exclusive policies are often extended to the security sector, where coethnics are recruited into the police and army or are promoted to leading positions within these institutions to ensure the survival of the regime (Stewart, 2008; Wimmer, 2013). This strategy is often used to reduce to likelihood of coups within from rival ethnic factions (Roessler, 2011). However, ethno-exclusive policies generate security dilemmas and grievances among excluded

groups that fear repression, impunity and marginalisation, and therefore have strong incentives to challenge the status quo (Lake and Rothchild, 1998). From the perspective of included groups this creates strong collective incentives to maintain political power due to their own fears of marginalisation if they allow other groups to gain power (Horowitz, 1985).

Secondly, dominating state institutions allows government elites to gain economic advantages, and distribute patronage or "club goods" to coethnics in exchange for political support at the expense of others (Posner, 2005; Kitschelt and Wilkinson, 2007; Habyarimana et al., 2009; Wimmer, 2013; Kramon and Posner, 2013). This not only secures political support for the regime, but leads to the favouritism of government areas that reinforces expectation that access to state resources can only be gained through coethnic elites. Whether a community needs services such as improved sanitary systems, access to healthcare, land ownership or jobs, co-ethnic leaders are seen to be more reliable in providing patronage than leaders of other groups (Posner, 2005; Bangura, 2006; Habyriamana et al., 2009). This creates strong motivations for group members to uphold political power to secure advantaged access to state resources, and in turn, strong incentives for excluded groups to seek change in order to gain access to these resources.

Unequal ethno-political configurations effectively creates winners and losers, and little appetite for political accommodation by the regime (Stewart, 2008; Wucherpfennig et al., 2012; Cederman, Gleditsch, and Buhaug, 2013). Building on the discussion above, ethno-exclusive policies are likely to increase zero-sum rivalries over fears of political and economic marginalisation, which generate ethno-political grievances over disparities between a group's current access to resources and perceived entitlements (Gurr, 1993; Tilly, 1999; Stewart, 2008; Cederman, Gleditsch, and Buhaug, 2013). While included groups aim to uphold the status quo, excluded groups are likely to resent politically dominant groups who they perceive have no entitlement to their advantaged and exploitative position (Peterson, 2002). Groups who face

genuine hardships, have little or no access to state institutions, and fear the domination of other groups, have strong common motivations to challenge the status quo and seek coethnic representation (Tilly, 1978; Wimmer, 2013; Cederman, Gleditsch, and Buhaug, 2013). This relational approach to intergroup relations draws upon the constructivist approach to ethnicity.

As to the nature of unequal ethno-political systems, conventional forms of political action are either blocked or limited for groups excluded from power. This necessitates engagement in unconventional political conflict of various kinds. Excluded elites share similar aversions towards other groups over political disadvantages but have more narrow incentives to seek political power via political conflict.

Stage 2: From Ethnic Grievances to Conflict

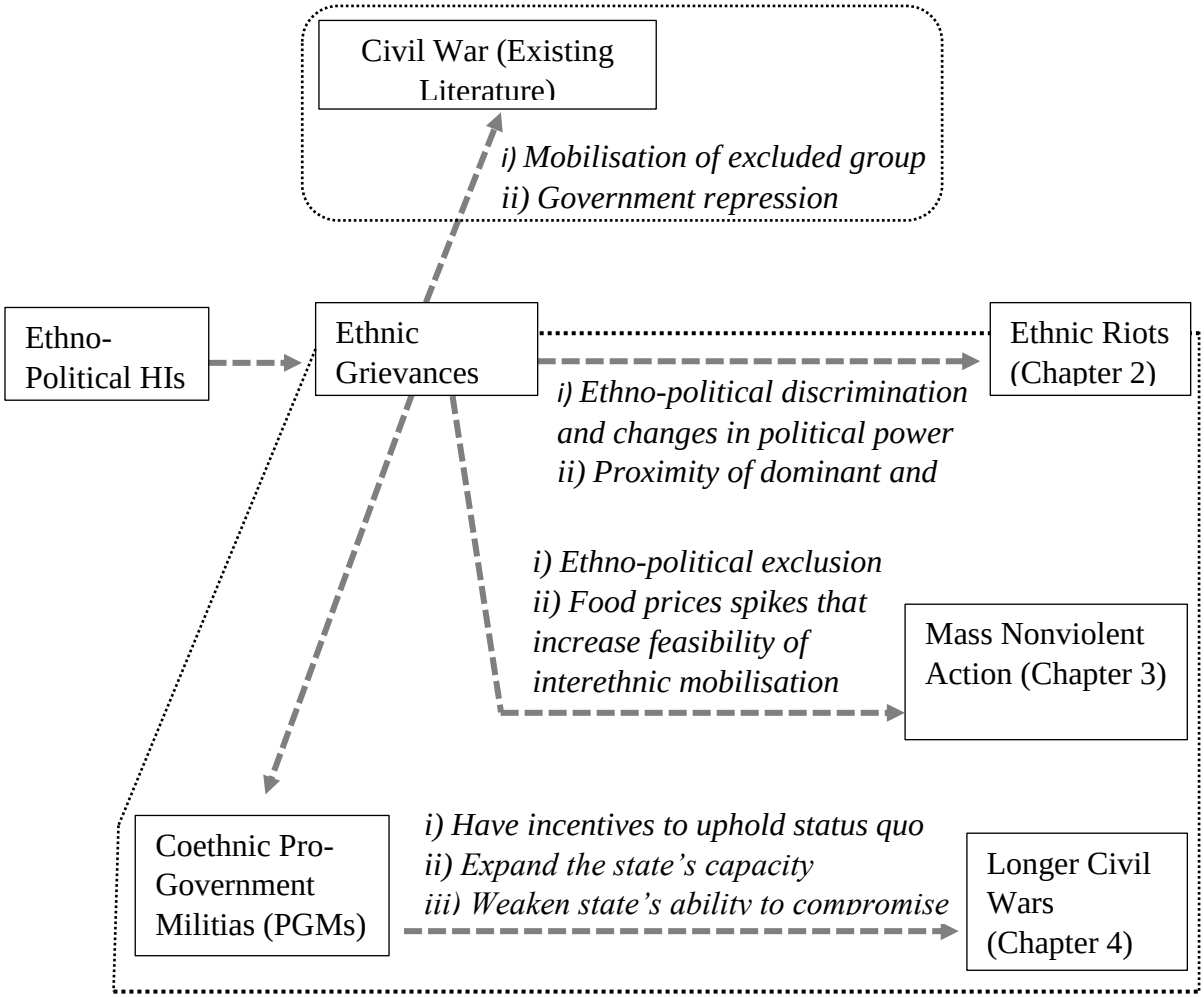
Various contexts can explain why ethnic grievances transform into specific types of conflict. Armed rebellion, which has long been the focus of the institutional-grievance approach, emerges when rebels use common ethnic grievances to arm and mobilise ethno-politically excluded groups against the state. The state is not an neutral actor and is often dominated by other ethnic groups. In order to maintain power the regime may respond with indiscriminate repression which only further aids the rebel's cause (i.e. Stewart, 2008; Cederman, Gleditsch and Buhaug, 2013). Ethnicity provides a convenient way to organise support, with rebels claiming to represent an ethnic group against the injustices of groups that hold a dominant position in the government and have incentives to sustain their dominance. Ethnicity also greatly facilities armed mobilisation, as it is more 'sticky' than other recruitment characteristics, and can be manipulated in order to generate strong collective emotions about group membership and makes potential recruits more identifiable (Eck, 2009).

Yet ethnic grievances do not always escalate into armed rebellion, and when they do, their influence is not limited to the behaviour of rebels and the government during civil war.

Specific conflict behaviours can be explained by certain ethno-political contexts, particular opportunity factors, and specific types of grievances that facilitate disparate forms of mobilisation. The interplay between these factors and different types of conflict behaviour are explored at length throughout this thesis.

The following and final section of this chapter will introduce the three empirical chapters and the unique mechanisms that each chapter has uncovered (see figure 1). Each build upon the institutional-grievance framework to explore the relationship between ethno-political HIs and three distinct conflict behaviours: ethnic riots, mass nonviolent action, and ethnic PGMs during the course of civil war.

Figure 1. Overview of Empirical Chapters and New Mechanisms



1.7. Introducing the Empirical Chapters

The three distinct empirical research chapters within this thesis utilise quantitative methodology, various statistical models, and new data to explore new mechanisms between ethno-political inequalities and various types of political conflict behaviour. I will now introduce these empirical chapters, the mechanisms that translate grievances to each type of behaviour and their respective contributions in more detail.

Chapter 2: The Language of the Unheard: Ethno-Political Exclusion and Ethnic Riots in Africa

This chapter explores the political determinants of ethnic rioting, and why ethnic riots occur in some locations but not others. Ethnic rioting has scarcely been explored by HIs literature, yet the ethnic nature of this violence means that ethnic motivations are likely to be central to understanding its emergence. Studies on incidental ethnic violence has emerged but remains confined to case-study evidence. Research has linked high HIs to an increased risk of various types of ethnic violence in Nigeria (Ukiwo, 2008), the Ivory Coast, Tanzania (Basedau, Vullers, Korner, 2013), and in the 2007 election violence in Kenya (Stewart, 2010a), while Horwitz (2003) remains one of the only attempts to link HIs specifically to ethnic rioting. Other more dominant explanations of ethnic rioting instead point to the incentives of elites to use violence to enhance their political power, while others attribute ethnic rioting to the proximity of antagonistic groups. Yet none of these factors are sufficient alone to explain the onset of ethnic riots. Intergroup interaction rarely leads to violence, while ethnic riots do not always relate to the incentives of instrumental elites or occur in all areas that have inequalities.

Other quantitative research on HIs and low-intensity and incidental ethnic violence has largely been limited to intra-country analyses, in particular Indonesian provinces (Barron, Kaiser and Pradhan, 2004; Mancini, 2008; Ostby et al., 2011), while Large-N quantitative

research has focused on militarised communal disputes between armed groups that often occur in the periphery and in rural areas. (Fjelde and Ostby, 2014; Raleigh, 2014). HIs research has yet to systematically explore ethnic rioting, a more urban and incidental form of ethnic violence. Therefore to the best of my knowledge, this chapter offers the first subnational analysis of ethnic riots across various African countries, and further contributes to existing studies of incidental ethnic violence and intra-country analyses of ethnic riots on India (i.e. Wilkinson, 2004; Varshney, 2002), Indonesia (i.e. Tajima, 2014), and Nigeria's middle belt (Scacco, 2010).

Ethnic rioting are distinct. They are sudden, sporadic, and involved non-militarised violence between civilians of at least two ethnic groups.[12] Violence is specifically directed at civilian members and buildings associated with the rival ethnic group (Horowitz, 2003; Wilkinson, 2004). This includes the burning of houses, shops, and cultural sites. The violent nature of these disputes clearly excludes peaceful forms of unconventional action. To be clear this violence does not include xenophobic violence or non-ethnic violence.

Ethnic riots involves large numbers of participants, which differs from urban neighbourhood brawls between rival group members, which instead are labelled as routine violence (Ostby et al., 2011; Brass, 2003). Finally, ethnic riots are incidental and are more loosely organised than other forms of contentious action (Horowitz, 2003). Although not entirely unplanned, ethnic riots lack the high level of planning and organisation associated with pogroms or genocide. This also differs from violent rebellions which are highly planned and orchestrated forms mobilisation, and militarised armed violence by organised non-state actors (Brass, 2003; Horowitz, 2003; Balcells, Daniels and Escriba-Folch, 2016).

[12] Ethnic riots have also been referred to as turmoil (unorganised mass violence) or episodic violence.

I argue that ethnic riots can be explained by both: sufficient ethnic motivations and the close proximity of particular groups which allows localised violence to occur. I argue that ethno-political discrimination and a recent loss of political representation provide sufficient motivations for low-intensity violence, while close proximity with dominant groups provides the opportunities for violence.

Moving beyond existing subnational studies on armed and organised violence, I explore the impact of ethno-political HIs on the location on ethnic riots across Africa (1990-2008). This also expands on existing literature on rioting, that either focused on riots against the state, or lumps different types of rioting together (Wilkinson, 2009). To capture ethnic riot outcomes, I generate a new variable using the SCAD data to capture their geographical location and onset.[13] Using a series of rare-events logistic regression models, these events are explored at the grid-level (PRIO-Grid) in conjunction with data on the settlement areas of ethnic groups and their level of political representation.

The chapter was presented at the European Peace Science Annual Conference (University of Warwick) in June 2015 and at various workshops at the University of Kent. This chapter is under review at *Journal of Global Security Studies*.

Chapter 3: The Hunger Games: Food Prices, Ethnic Cleavages and Nonviolent Unrest in Africa

This chapter studies the relationship between ethno-political cleavages and mass nonviolent action against the government. Incompatibilities are often challenged through nonviolent means, including in cases where high HIs exist (i.e. Gurr, 1993, Stewart, 2002). Nonviolentn

[13] Using information on the actors and details about the event I code all events where two ethnic groups classified in the EPR dataset engage in non-militarised interethnic violence. Coordinates are used to combine these events with the PRIO-Grid.

action can have both maximalist claims of regime change and claims relating to government policy, and encompasses hundreds of nonviolent methods. These methods can broadly characterised as persuasive tactics (i.e. protests, demonstrations), and noncompliant tactics (i.e. strikes, sit-ins, boycotts) (Sharp, 2005). Such methods are used outside of institutional channels, which differs from conventional nonviolent action such as lobbying (Chenoweth and Stephan, 2011).

Yet the emergence of nonviolent action remains poorly understood, especially when you compare this with the expansion of civil war literature, which has greatly improved our understanding of why armed conflict occur. Part of the problem is that structuralist literatures, which have relied on civil war mechanisms to explain nonviolent action, have grown in isolation to civil resistance literature, which instead argues that violent and nonviolent mobilisation are very different processes. While civil war requires a few hundred recruits that can often be recruited from one ethnic group, civil resistance literature argues that nonviolent action is successful with larger and diverse numbers, meaning recruitment during nonviolent mobilisation is more often conducted across ethnic lines.

This chapter combines two previously unrelated literatures on HIs and protest, which has tended to focus on minority ethnic groups and their engagement in ethnic protest (Gurr, 1993; Olzak, 2006; Brown, 2009), and civil resistance literature, which both favours agency over structural explanations of nonviolent action and has focused on the outcomes of nonviolent campaigns rather than why they emerge in the first place (Chenoweth and Ulfelder, 2017). Following civil resistance literature, I move beyond existing grievance approaches to protest to conceptualise nonviolent mobilisation as both vertical (against the state) and horizontal (in bringing diverse social groups into the protests). This broader conceptualisation moves beyond existing HIs studies that focuses on ethnic-based protests by minority ethnic groups (Gurr, 1993; Olzak, 2006). Instead mass nonviolent movements more often seek support

across social lines, and actively encourage diversity, in order to gain wider support and further pressure the government (see DeNardo, 1985; Sharp, 2005; Chenoweth and Stephan, 2011). As Thurber (2017) shows, only 13% of civil resistance campaigns are mobilised along ethnic lines in pursuit of ethnic goals.

The strategy of mobilising large numbers of people across group lines is often undermined by local-level cleavages both within and between ethnic groups. These cleavages which promote division and differing group goals that provide a distinct obstacle to cooperation across group lines (Svensson and Lindgren, 2011; Bhavnani and Jha, 2014). Yet activists operating in diverse locations have successfully managed to unify divided ethnic groups to engage in mass nonviolent action. Building upon this puzzle and this unique collective action problem, I explore how nonviolent movements overcome local ethnic barriers to engage in mass nonviolent action, providing a new understanding of how grievances relate to the emergence of nonviolent action.

Building on opportunism logic, I argue that the incidence of nonviolent action is greatly aided by the existence of broader cross-cutting grievances, which enable movements to broaden their appeal and unify various intra and interethnic groups. I focus on increases in domestic food price spikes due to their widespread economic impact on consumers from all ethnic groups. Food price spikes have been shown to cause general social unrest (see Smith, 2014), but have not been explored in relation to mass and more organised forms of nonviolent action. Food prices generate common cross-cutting grievances and immediate hardships, which coupled with political exclusion, provide strong short-term incentives to engage in protest. These incentives provide a unique opportunity for opposition movements to mobilise across group lines and link common hardships to wider political issues.

Bringing HIs research in line with research on civil resistance, I analyse local ethnic barriers to nonviolent action, across grid-cells (PRIO-GRID) of 41 peacetime African countries (1990-2008). I develop a new indicator of mass nonviolent action at the grid-level, coding SCAD events that are anti-government, nonviolent, organised, and involve at least 1000 participants. Fixed-effects logistic regression models are used to explore this outcome in relation to politically excluded ethnic settlement areas and changes in domestic food prices.

This chapter has been presented at the International Studies Association Annual Conference (Atlanta) in March 2016, the European Peace Science Annual Conference (Milan) in June 2016, and the Interdisciplinary Perspectives on Modelling Conflict Workshop (University of Essex) in September 2016. This chapter was also awarded the 2016 BISA African Affairs Postgraduate Paper Prize and the 2017 Cedric Smith Prize. I have revised and resubmitted this article to the *Journal of Peace Research*.

Chapter 4: Ethnicity, Pro-Government Militias and the Duration of Civil War

The final chapter is co-authored with Govinda Clayton (ETH-Zurich) and Andrew Thompson (Queens University Belfast). As lead author of this chapter I have led both the theoretical argument and empirical analysis.

This chapter covers the final type of political behaviour that is explored in this thesis, ethnic PGMs and their influence on civil war duration. This chapter moves beyond the existing tendency to focus on government and rebel dyads, which treats the government as a unitary actor in civil war processes. Missing from conventional definitions of civil war are Pro-Government Militias, which encompasses a range of non-state and pro-government actors, including: paramilitaries, self-defence forces, militias, and death squads. PGMs are organised armed groups, which operate on behalf on the incumbent government, but function outside of

conventional security forces (Carey, Mitchell, and Lowe, 2013: 250). These organisations are complex and exist for various purposes, so therefore can be categorised differently, in terms of: informal or semi-official links to the state, local or national links to society, the context in which militias emerge, and membership characteristics (Carey and Mitchell, 2017).

HIs literature has recently moved beyond the unitary actor assumption on the rebel-side to explore the impact that HIs and varying ethnic linkages of rebel organisations has on civil wars (Wucherpfennig et al., 2012). Like rebel groups, PGMs may also recruit along ethnic and non-ethnic lines and have their own motivations to fight depending on their ethnic linkages to the state. In this chapter we explores the different ethnic linkages of pro-government militias (labelled as Ethnic PGMs or EPGMs), highlighting government incentives to use coethnic PGMs (same ethnicity as the government) and defector PGMs (drawn from the opposition), and in turn, their respective effects on civil war duration. This builds on existing PGM research that has previously explored militias in relation to civilian violence, human rights abuses, and civil war intensity, but has yet to explore the impact of ethnic linkages on conflict duration (see Carey and Mitchell, 2017).

These categories are operationalised by combining politically relevant ethnic groups, and whether they are included or excluded from power (EPR data), with the Pro-Government Militia Dataset (Carey, Mitchell, and Lowe, 2013). This data is similar to the ACD2EPR, where rebel groups were coded in relation to their political linkage to ethnic groups (see Wucherpfennig et al., 2012). EPGMs are recruited from one ethnic group, or a coalition of aligned groups, where ethnic identity is used as a basis of inclusion within these groups. Various EPGMs may also recruit from the same ethnic group. In some cases this includes non-native PGMs which are recruited from a transnational ethnic-kin and support the host government, such as the numerous groups operating within the DRC. In addition to ethnic-based recruitment, EPGMs also have clear political aims to uphold ethnic goals, often relating

to maintaining ethno-political power, or providing community-based protection to a particular ethnic constituency. This conceptualisation of EPGM differs from 'ethnic militias' more generally, which may have the goal of protecting their community, but are often not pro-government or have no association with the state (Raleigh 2014; Alden, Thakur and Arnold 2011). For example, groups such as the non-affiliated Pokot militia in Kenya are distinguishable from EPGMs.

We argue that coethnic PGMs have strong motivations to uphold the existing ethno-political regime, and provide the government with unique opportunity to develop a cheap and loyal force to counter internal security threats. We argue that these motivations have long term consequences for conflict duration, since coethnic PGMs have strong incentives to fight on for longer and resist government concessions regarding power. In contrast, we argue defector PGMs provide the state with effective counter-insurgents that provide unique local knowledge and divide the opposition, which reduces conflict duration. However, this can lead to fragmentation within the opposition, which in turn, can complicate the bargaining process by increasing the number of interests that need to be resolved. Using Cox proportional hazard models and case analysis, these new typologies of PGMs are explored globally across all civil war episodes that have terminated between 1981 and 2007.[14]

This chapter has been presented at the International Studies Association Annual Conference (Atlanta) in February 2017. A previous version was presented at the Conflict Research Society in September 2016 (Canterbury), and at the Sié Chéou-Kang Center for International Security and Diplomacy (University of Denver) in November 2016. This paper is currently under review at *International Studies Quarterly*.

[14] We follow the UCDP definition (armed contestation that experience at least 25 battlefield deaths per year), due to the problem of measuring the exact number of battlefield deaths. Moreover, the UCDP definition) ensures the inclusion of conflicts in smaller countries that are proportionately more likely to experience fewer deaths. Civil war is treated as synonymous with the UCPD's civil violence (25-deaths) and major war (1000-deaths).

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Chapter 2.

The Language of the Unheard: Ethno-Political Exclusion and Ethnic Riots in Africa

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Abstract:

Ethnic riots are sporadic and localised incidents of low-intensity violence, with civilians from one ethnic group engaging in vicious attacks on a rival ethnic group. While systematic research on ethnic violence has almost exclusively focused on organised armed conflict, comparably little research has considered the determinants of low intensity ethnic violence. This article explores the relationship between political inequalities and ethnic riots. Building on existing case-based research on inequality and the geographical proximity of groups, it argues that ethnic rioting can be jointly explained by collective motivations for group violence that emerge from extreme political inequalities, and the close proximity of such groups. To test this argument, the article deploys a spatially disaggregated grid-level analysis of all African states between 1990 and 2008, combining new dyadic data capturing the location of ethnic riots with disaggregated grid-level data on ethno-political representation. I find ethnic riots are more likely to occur in discriminated group areas and where a group has recently lost political representation. I also find that the proximity of such groups increases the risk of violence.

2.1. Introduction

In recent decades research exploring the relationship between ethnicity and violent conflict has flourished. Yet empirical research has almost exclusively focused on organised armed conflict, relating ethnic inequalities and intergroup competition to armed rebellion against the government (see Stewart, 2008; Cederman, Gleditsch and Buhaug, 2013), inter-rebel violence (Bakke et al., 2012; Fjelde and Nilsson, 2012; Sundberg, Eck, and Kreutz, 2012) and violence between armed communal groups (Fjelde and Von Uexkull 2012; Butler and Gates, 2012; Eck 2014; Fjelde and Østby, 2014; Raleigh, 2014). As a consequence there has been much less systematic attention to low intensity violence or 'ethnic rioting'.

Understanding ethnic rioting is important for several reasons. First, ethnic rioting is a common phenomenon, and while some incidences are non-lethal (Wilikinson, 2004), others are very deadly; between 1990 and 2008, at least 268 ethnic riots occurred in Africa, resulting in more than 43,000 deaths.[15] Such violence is hard to predict, since it is sporadic involving civilians from one ethnic group specifically targeting persons or property associated with a rival ethnicity in non-militarised attacks (Horowitz, 2003; Varshney, 2002; Wilkinson, 2004).[16] This leaves us with fewer answers as to what systematic factors cause less intense ethnic violence.

Secondly, human insecurity is not solely threatened by organised armed violence. Many African countries experience these various forms of ethnic violence, which differ in terms of goals, level of organization, types of violence and the locations in which they occur. While systematic research has enriched our understanding of armed ethnic rebellion (i.e. Cederman, Gleditsch and Buhaug, 2013), it is a highly organised and largely rural endeavour, involving

[15] These 268 ethnic riots are recoded events from the SCAD dataset (see research design).
[16] Following Horowitz (1985), I define ethnic groups as broadly based on fluid but ascriptive identities including: race (South Africa), language (Zambia), religion (Nigeria), tribal (Kenya), or a combination of affiliations. Similar to Wilkinson (2004) and Varshney (2002), I focus specially on politically relevant ethnic groups that are competing in the national political arena.

the training and recruiting of an armed force that aims to overthrow the government or seeks to establish a new state (Sambanis, 2004). Another body of research on non-state conflict has enriched our understanding of communal violence that occurs between armed and organised identity groups. This is related to competition over local natural resources and grazing rights (Eck 2014; Fjelde and Østby, 2014; Raleigh, 2014), and often occurs in the periphery between politically irrelevant groups, where the state is weak and unable to mitigate armed disputes (Raleigh, 2014).

Ethnic riots are more localised and largely occur in towns and cities rather than in the periphery,[17] in which violence mobilisation is more loosely organised than large-scale forms of ethnic violence and highly orchestrated mass violence such as pogroms and genocide (Horowitz, 2003). Violence is perpetrated by civilians against members of the "other" and associated property but often involves non-lethal physical violence (Varshney, 2002; Wilkinson, 2004; Balcells, Daniels and Escriba-Folch, 2016).[18]

A final justification for attempting to explain ethnic riots is because they are distinct and are not simply a substitution of other forms of ethnic conflict. As suggested by Table 1, they largely occur outside of active armed conflict zones and can occur as long as 44 years after a civil-war.[19] There is also little spatial overlap with armed communal violence, which reflects a rural-urban distinction. Where violence does co-occur, this involves different actors engaged in different locations within a grid and is largely confined to Nigeria which is a country

[17] For example, Wilkinson (2004) finds that 93% of Hindu-Muslim riots in India between 1950 and 1995, have occurred in urban areas.

[18] Ethnic riots involve mass numbers of civilians, but differ from other community violence such as localised gang violence, neighbourhood brawls, and everyday social violence (Horowitz, 2003; Brass, 2003; Scacco, 2010).

[19] When looking at the distribution of violence events across geographical grid locations, only 15 ethnic riots have occurred in the same locations as an ongoing armed conflict. Of these armed events, only six were directly related to ethnic riots, all in South Africa. In these events violence occurrence between the ANC and IFP's armed wings and escalated from ethnic riots, not the other way around.

facing multiple security challenges. Lastly, ethnic riots are not simply the result of protests that have escalated into violence.[20]

Table 1. Spatial (PRIO-Grid) and Temporal (year) overlap between Conflict Types

Outcome	Escalating Protests	Armed Conflict Grid (UCDP)	Civil-War Year	One Year After a Civil-war	UCDP Communal Violence
Overlap with Ethnic Riots	39 (17%)	15 (7%)	28 (12%)	16 (7%)	29 (13%)
No Overlap with Ethnic Riots	186 (83%)	210 (93%)	197 (88%)	209 (93%)	196 (87%)

Much of what we currently know about ethnic rioting has relied on evidence from disparate case studies. A dominant approach argues that ethnic rioting is the result of the political incentives of elites to use violence to enhance their political power during elections and democratic transitions (i.e. Throup and Hornsby, 1998; Brass 2003; Wilkinson, 2004). Yet, while elites may have incentives to stoke violence in certain contexts, empirical evidence has been limited to India and Indonesia where there was clear elite collusion in the violence.[21] This is problematic since there is very little evidence of elite collusion in other contexts; including Jos in Nigeria (Scacco, 2010), post-conflict Northern Ireland (Balcells, Daniels and Escriba-Folch, 2016) and in the United States (Olzak, Shanahan and McEneaney, 1996) – thereby providing little support that elite incentives alone explain ethnic rioting.

Alternatively, other case-literature points to ethnic inequality and the competition it generates over urban resources such as jobs and public goods (i.e. Olzak, Shanahan, and McEneaney, 1996; Ukiwo, 2008; Basedau, Vullers, and Korner, 2013), or geographical proximity, since ethnic riots are common in towns and cities where intergroup interaction

[20] While 15% of ethnic riots overlap with areas with protests, only seven cases actually led to ethnic riots: an Fulani general strike in Cameroon (1991), an anti-government strike that escalated into Hutu-Tutsi clashes in Burundi (1994), four violent Muslims-Christian clashes in Kano after protests in Nigeria (1991), and Xhosa-Zulu violence in Johannesburg, South Africa (1994), after an IFP party march.
[21] Qualitative literature on Kenya also points to elite collusion (Throup and Honsby 1998).

provides opportunities for violence (Olzak, Shanahan and McEneaney, 1996; McDoom, 2013; Balcells, Daniels and Escriba-Folch, 2016). But these explanations are explored in isolation and are not solely sufficient to explain ethnic rioting. For instance, ethnic rioting does not occur in all contexts of intergroup inequality, while intergroup interaction alone cannot explain local variations in violence, since the mast majority of interaction in heterogenous communities does not result in violence. What explains the significant variation of where such violence occurs? Why do some groups engaged in ethnic rioting while others do not?

Building on these various arguments, I explore the local determinants of ethnic rioting and theorise that their occurrence is dependent on distinct extreme local ethno-political contexts, which produce sufficient *motivations* to engage in intergroup violence, and where such groups are in close enough *proximity* for such violence to occur. I argue that intergroup interaction increases the risk of ethnic rioting where politically dominant groups coexist with groups that are discriminated or have recently lost political power. These contexts raise the stakes in intergroup competition over jobs and access to public provisions and generate fear, thereby increasing the likelihood of what Horowitz (2003) labels, '*intergroup antagonisms'*. In these contexts antagonistic intergroup competition generate high social distance, translating geographical proximity into violence. In doing so, this article extends our understanding of spatial and temporal contexts in which ethnic rioting are likely to occur.

Using newly available events data, I assess these propositions at the geographical grid-level using a new dyadic measure of ethnic riots across subnational locations of all African countries. This approach contributes to existing case-based literatures on low intensity ethnic violence, by capturing varying contexts both within and across countries of where ethnic rioting does and does not occur. The results are consistent with my theoretical expectations; the location of ethnic riots is jointly determined by highly unequal ethno-political power configurations and the geographical proximity of politically unequal ethnic groups. The

findings make a notable contribution by explaining intra and cross-national variation of a type of violence that has been largely overlooked by wider quantitative literature on ethnic violence.

2.2. Existing Literature on why Ethnic Riots occur

In existing literature on ethnic riots, the most influential stream of research relates ethnic rioting to a number of contexts in which elites may wish to incite violence for political gain. For example, in highly competitive regions they may have local electoral incentives to use ethnic tensions to alter the ethnic composition of the electorate (Throup and Hornsby, 1998; Harris, 2012) or to strengthen their support among co-ethnic constituents (Brass, 2003; Wilkinson, 2004; Berenschot, 2011). Other studies point to elite incentives within the context of political transition and democratisation. These authors argue elites have local incentives to politicise interethnic tensions and draw support along ethnic lines in the political vacuum left by a departing authoritarian regime (van Klinken, 2007; Bertand, 2008; Tajima, 2014; Toha, 2017).

While some of this research is quantitative in nature, this evidence is largely derived from riots in India and Indonesia, where there is clear evidence of elite incentives and collusion. This selection bias is largely the result of data availability which has previously prevented cross-national analyses. A second, largely qualitative literature, challenges the notion that ethnic riots are a result of clear electoral purposes and incentives to organise along ethnic lines. Scacco (2010: 6) explores two ethnic riots in Nigeria (Kaduna and Jos in 2000-2001) where the political context provided incentives that discouraged elites from manipulating ethnic tensions. She instead argues that the onset of ethnic riots can be traced to poverty which motivates riot participation. Others move beyond absolute poverty to argue that inequalities between ethnic groups provide the broader ethnic motivations that drive this form of violence (Horowitz, 2003), with numerous case studies pointing to various group inequalities as a

contributing factor in Nigeria (Ukiwo, 2008), the Ivory Coast, Tanzania (Basedau, Vullers, and Korner, 2013), Indonesia (Tadjoeddin and Murshed, 2007; Østby et al., 2011) and the United States (Olzak, Shanahan, and McEneaney, 1996).[22] While inequalities have featured in studies of low-intensity ethnic violence, this literature is also limited to particular cases. It remains unclear what determinants of violence, and what types of inequality if any, have a broad nomothetic impact on ethnic rioting. Another concern is that ethnic grievances are often regarded as too common. In contrast, ethnic riots which are relatively rare, sporadic and only occur in specific areas.

The third literature argues that it is the 'proximity' of ethnic groups that provides opportunities for violence since it increases the likelihood of intergroup interaction (Olzak, Shanahan, and McEneaney, 1996; McDoom, 2013; Bhavnani et al., 2014; Balcells, Daniels and Escriba-Folch, 2016). Yet even in close proximity the vast majority of intergroup interactions are unlikely to lead to violence. Even in countries where violence does occur, violence is clustered in certain areas, only arises between certain ethnic groups. For example, in 2001 the Nigerian city Jos saw seven days of clashes between Christians and Muslims, resulting in more than a thousand deaths, while nearby towns and cities in the middle belt reported no intergroup violence. Ethnic riots are also episodic - occurring during some periods but not others. This literature fails to account for this variation or the fact that some types of inequalities between groups are more polarizing than others. In what context are two neighbouring groups more likely to engage in intergroup violence? Why did ethnic rioting in Kenya occur between the Luo, Kalenjin and Kikuyu, but did not extended to the Mijikenda or Somali communities?

[22] Following social psychology literature, studies on ethnic disparities assume the group is an important source of group member identity with individuals comparing the position of their own group with that of others. When a group has a lower status, individual identity is diminished (Tajfel, 1981).

This article addresses this gap, moving beyond much of the literature that explores motive and opportunity in isolation and either focuses on elite incentives or economic marginalisation. This article draws on the importance ethno-political inequalities which have largely been absent from most explanations of low-intensity violence despite being strongly and systematically related to armed communal violence (Raleigh, 2014), and civil war (Gurr, 1993; Stewart, 2008; Buhaug, et al., 2008; Østby, 2008; Cederman, Gleditsch and Buhaug, 2013). The next section develops an argument that ethno-political inequalities are central to explaining where ethnic rioting occurs and between what groups. This is built on the importance of ethnic politics and proximity that provide the foundations of how grievances manifest into violence.

2.3. The Importance of Ethnic Politics and Proximity

Ethnic politics is a key starting point when understanding the generation of ethnic grievances. Bates (1983) argues that in post-colonial African states, ethnic groups are a convenient and identifiable source of political support; they enable elites to build political coalitions based on a shared cultural identity. Accordingly, those in power tend to sponsor their own ethnic support base, at the expense of other groups, in an attempt to maintain political power (Kitschelt and Wilkinson, 2007; Habyarimana et al., 2009; Kramon and Posner, 2013). Constituents perceive that co-ethnic leaders are more reliable in channelling state resources than leaders are of other groups. In essence the state is not a neutral actor and the convenience of organising politics along ethnic lines makes ethnic groups important political agents (Wimmer, 2013; Raleigh, 2014). Having control over patronage enables a group to access public services such as: improved sanitary systems, healthcare, land, jobs and to gain security provisions such as co-ethnic police (Posner, 2005; Bangura, 2006; Habyriamana et al., 2009; Berenschot, 2011; Fourchard, 2012). Literature on party competition in Africa speaks of the importance of ethnic

identity in voting behaviour whereby co-ethnics vote along ethnic lines (Posner, 2005; Kitschelt and Wilkinson, 2007; Lindberg and Morrison, 2013).

Ethnic groups therefore provide the basis for zero-sum politics and intergroup competition. This nature of ethnic politics makes political representation in government particularly salient. Politically disadvantaged groups have poorer access to resources, such as jobs and land, and compare their relatively deprived access to patronage with that of other more politically advantaged groups. This comparison generates grievances over status concerns, disparities and access to state resources (Gurr, 1993; Stewart, 2008) While politically advantaged groups enjoy material advantages (state resources, patronage networks, public sector employment and land rights) and political advantages (favourable policies), politically disadvantaged groups have incentives to challenge this status quo in order to overcome political and material disadvantages (Tilly, 1999; Wimmer, 2013).[23] Such 'us' and 'them' comparisons as a result of unequal access can generate zero-sum contestation, antagonist outgroup behaviour and bread ethnic tensions particularly when jobs and state resources are scarce (Gurr, 1993; Olzak, Shanahan, and McEneaney, 1996).

Political disparities also generate security dilemmas as disadvantaged groups are also aware that groups included in power can gain security advantages, leaving excluded groups fearful of repression and marginalisation (Posen, 1993). This fear hardens collective grievances and generates hostility towards the politically included groups (Tilly, 1999; Horowitz, 1985; Gurr, 1993; Varshney, 2002; Petersen, 2002; Horowitz, 2003). Advantaged groups have fears of losing their dominance and muster their own hostility towards disadvantaged groups

[23] Østby and Fjelde (2014) argue that these grievances relate to economic inequalities. However, it is not only poorer groups that are likely to be disadvantaged, since the distribution of patronage depends not on which group is poorer, but on a group's level of political representation. For example, while the Kikuyu are relatively the wealthiest group in Kenya, before 2003 they were excluded from political power and held strong grievances over the unequal distribution of land.

(Horowitz, 1985). This in turn provides strong motivations for groups to act collectively and/or for elites to manipulate ethnic tensions for political gain.

While ethno-political inequalities generate motivations for potential violence, a growing literature points to a spatial relationship between this proximity and violence in flashpoint areas (Horowitz, 2003), shared spaces (Cunningham and Weidmann, 2010) or interfaces (Cunningham and Gregory, 2014; Balcells, Daniels and Escriba-Folch, 2016). These areas where groups coexist become arenas for disputed spaces over intergroup competition, group status and threat perceptions. The close proximity of groups greatly facilitates intergroup comparison, competition and fear between groups and provides opportunities for intergroup violence to occur (Balcells, Daniels and Escriba-Folch, 2016).

Intergroup contact can intensify group competition in shared spaces, particularly in contexts where relative gains matter, exacerbating inequalities and their consequences for access to public space and public goods, the ability to influence patronage, and decision making concerning policy and the distribution of public services (Olzak, Shanahan, and McEneaney, 1996; Horowitz, 2003; Field et al., 2008; Cunningham and Weidmann, 2010). The proximity of ethnic groups can also reduce trust and generate fear that increases social distance and segregation between groups. In turn, low levels of contact reduce the likelihood of positive interactions and increases negative perceptions of the "other" (Lichbach, 1995; Calame and Charlesworth, 2012; Kasara, 2017). In some instances, higher rates of intergroup contact can increase social distance by further entrenching perceived differences, prejudice and stereotypes (Forbes, 1997; Weidmann and Salehyan, 2013) particularly when mixing following prolonging periods of segregation (Olzak, Shanahan, and McEneaney, 1996).

Yet violence is effectively contingent on the extent of social distance between groups, which is not determined by geographic proximity alone (Horowitz, 1985; Bhavnani et al.,

2014). The vast majority of diverse areas, shared spaces or potential flashpoint areas do not witness violence between groups, even in situations of where groups compete and have high levels of mistrust towards out-groups. Moreover, in most contexts increased intergroup contact has a tendency to reduce social distance and the potential for violence rather than increase it.

2.4. Ethno-Political Contexts in which Ethnic Riots Occur

Building on previous research, I argue the extent of social distance of proximate groups is also closely determined by ethno-political contexts where disparities in political representation are at their greatest. I explore two types of extreme configurations. Where discriminated groups and dominant groups coexist and where an ethnic group recently loses political power. These contexts are most conducive to greater social distance and violence because they intensify zero-sum competition, produce higher levels of mistrust and generate the strong ethnic-based grievances that are necessary to provoke sporadic violence. Here I draw on Jasper (1998), who distinguishes between two types of emotions that provoke violence; *affective* emotions based on strong common identity and *reactive* emotions that emerge in response to provocative information and incidents. I argue that both are more likely to be present within these ethno-political contexts.

The geographical proximity of ethnic groups further facilitates ethnic rioting in extremely unequal contexts, because it raises the possibility of encounters between members of rival communities (Balcells, Daniels and Escriba-Folch, 2016). Ethnic riots are often triggered by antagonistic incidents that lead to reactive responses, such as interethnic neighbourhood or vicious rumours about the "other" which would otherwise be trivial in less polarised contexts (Horowitz, 2003; Scacco, 2010). Violence often occurs between groups, rather than against the state because it is reactive, requires fewer resources, less planning and

is less risky than other forms of violence (Horowitz, 2003; Wilkinson, 2004). Moreover, it is extremely rare to have all state institutions dominated by one ethnic group; at least some institutions, often security forces, are likely to be neutral in local disputes, meaning violence is directed at the 'other' (Varshney, 2002).

Ethno-Political Discrimination and Ethnic Riots

Ethno-political discrimination strongly facilitates affective emotions as it is the most restrictive type of political exclusion. While other groups may enjoy some representation at the regional level and powerless groups may have token access to patronage, discrimination by definition involves a systematic attempt to prevent a group from gaining representation. This systematic exclusion blocks group access to state resources and security provisions that are fundamental to everyday life, provoking strong emotive perceptions of common identity, collective grievances and shared fear of dominant groups (Wimmer, 2013). For their part, dominant groups have everything to lose and therefore are also likely to hold strong affective emotions about their own identity, built on strong incentives to maintain their status and uphold material and political advantages (Horowitz, 2003).

In heterogeneous areas containing both discriminated and dominant groups, interethnic tensions should be at their highest; with one group controlling policy and distribution of local resources and the other systematically removed from the process and facing local social exclusion (Østby, 2016). Here, stronger affective emotions increase the negative perceptions and mistrust between coexisting groups, and render intergroup comparisons as more visible (Horowitz, 2003; Petersen, 2002; Claassen, 2016). These strong affective emotions have two consequences. Firstly, they harden group boundaries by increasing the likelihood of hostile interactions and the salience of competition over patronage and material resources. (Horowitz, 1985, 2003; Østby, 2016). Secondly, strong affective emotions facilitate mobilisation through

denser ethnic networks that can draw coethnics into the violence (McDoom, 2013; Wimmer, 2013) and generate norms whereby members have an obligation to act in defence of group interests and have less opportunities to free-ride (Coleman, 1990; Jasso and Opp, 1997).

By hardening group identity, extremely unequal political contexts then increase the likelihood of reactive emotions in response to provocative 'antagonistic' incidents. Reactive emotions arise in response to symbolic incidents that strike at the heart of ethnic grievances, which provoke anger and violent behaviour (Horowitz, 2003; Claassen, 2016). For example, in Jos, Nigeria, ethnic riots suddenly erupted in 2001 after a routine argument between Muslims and Christians, but within a context of high levels of tensions between the groups (Scacco, 2010).

As political discrimination restricts institutional and peaceful avenues for political change, violence becomes a viable alternative strategy for political change. Violence in shared spaces is aimed at controlling contested territories in the defence of group interests (Stewart, 2008), in the interest of enhancing collective security (Balcells, Daniels and Escriba-Folch, 2016), in an attempt to gain access to local resources that are unequally distributed (Olzak, Shanahan, and McEneaney, 1996), or simply to challenge the local urban social order (Østby, 2016). For example, during Kenya's 2007 election, the violence largely involved the Luo, who had lacked political power since the end of 2005, and the Kikuyu, who had won the election. This election reaffirmed the discrimination of the Luo, and since political dominance is known to ensure access to these goods, violence occurred due to questions of as well as competition and access over resources such as jobs, public services and land (Field et al., 2008; Kasara, 2017). This leads us to expect that ethnic riots should occur wherever ethno-political discrimination exists and in locations where such groups coexist:

H1a: Ethnic riots are more likely to occur in areas where groups are explicitly discriminated against in obtaining political representation.

H1b: The risk of ethnic riots should increase where groups experiencing political discrimination are neighbours to or coexist with a politically dominant group.

Ethno-Political Changes in Power and Ethnic Riots

Other studies view ethnic rioting as a consequence of political change in the form of democratisation (van Klinken, 2007; Tajima, 2014; Toha, 2017) or elections; with one-third of African elections resulting in some form of violence (Harris, 2012; Salehyan and Linebarger, 2015). Yet the importance of ethno-political inequalities alerts us to the potential consequences of changes in ethno-political power (Wimmer, Cederman, and Min, 2009). The most detrimental form of political change is downgrading, where a group experiences a loss of political representation. Regardless of whether political downgrading comes in the form of elections, coups, or transitions, changes in ethno-political power is generally threatening due to the high stakes involved. Redrawing on the importance of proximity, I argue risk of ethnic riots is likely in areas where groups have experienced a loss of ethno-political power and co-exist with groups that have gained power.

Effectively political downgraded is an exogenous shock that can provoke strong emotions over the loss of power, prestige and control of resources which generates fears of future insecurity (Petersen, 2002; Horowitz, 2003). As a temporal shock, downgrading can provoke affective and more immediate reactive group emotions as it promotes uncertainty as to how change will impact and threaten the group (Horowitz, 2003; Bertand, 2008; Tajima, 2014). This uncertainty increases interethnic tension and competition, generating a unique sense of urgency among group members. Urgency combines with affective emotions can further lower risk estimations of collective action. In threatening situations brought about by

political change, urgency facilitates reactive violence as it is perceived as far less costly than waiting and facing imminent violence (Elster, 2009).

In 1999, the Hausa-Fulani in Nigeria lost their domination of governmental power which led to interethnic violence in both the middle-belt and major urban centres in the competitive environment that had replaced military rule. In Kenya, ethno-political representation is tied to patronage because of how it relates to land redistribution. After the 2002 elections, the Kikuyu had a strong-hold over government giving them control of land distribution. This led to post-election violence against the Kikuyu by the politically downgraded Kalenjin who feared land would be redistributed (Harris, 2012).

Finally, some types of downgrading are a greater political threat than others. More severe forms of downgrading, such as newly experienced discrimination or a recent removal from government, are likely to increase the risk of intergroup violence. In the most severe form of downgrading, groups have recently been systematically discriminated against in political representation. Clashes in the DRC occurred during the 2006 elections after the northern groups (Ngbandi, Mbandja, Ngbaka), represented by former rebel leader Jean Bemba lost the governmental representation they had enjoyed in the post-conflict power-sharing government. Significantly, the more severe the level of change the greater the uncertainty and intergroup tension. This notion informs my final hypotheses:

H2a: Ethnic riots are more likely in areas where a group has recently experienced a downgrade in political representation.

H2b: The more severe the political downgrading in an area the higher the likelihood of ethnic riots.

H2c: Ethnic rioting should be more likely in areas where politically downgraded groups coexist with politically upgraded groups.

2.5. Research Design

My theoretical claims and hypotheses are tested across geographical grid-years in Africa from 1990 to 2008. Based on the PRIO-Grid (Tollefsen, et al., 2012), the study's design permits a temporal and spatial analysis of when and where ethnic riots occur. I specifically focus on Africa for two reasons. Firstly, such violence is very common in Africa and the continent exhibits considerable variation in levels of ethno-political representation. Secondly, consistent and systematic data availability is limited for riot events outside of Africa. Ethnic riots have only occurred in 0.14% of all grid-years; therefore, I use a rare-events logistic regression model suitable for rare events and binary outcomes (Tomz, Zeng, and King, 1999). This method adjusts for the tendencies of conventional logistic models to underestimate the likelihood of rare-events (King and Zeng, 2001).[24]

Dependent Variable

Using new spatially disaggregated events data, this study develops a new indicator of ethnic riots in Africa (see Table 5, - appendix). The data were collected by recoding a subset of broader riot events found in the Social Conflict Analysis Database (SCAD) (Salehyan et al., 2012). For each event, the SCAD Dataset provides information on dates, geographical coordinates, and a description of incidents and actors, permitting a subnational analysis of ethnic riots across time and space.[25] I code ethnic riots as events that involve civilian members of two politically relevant ethnic groups engaged in violence against each other (Wilkinson, 2004). This dyadic conflict includes non-militarised forms of communal violence and inter-

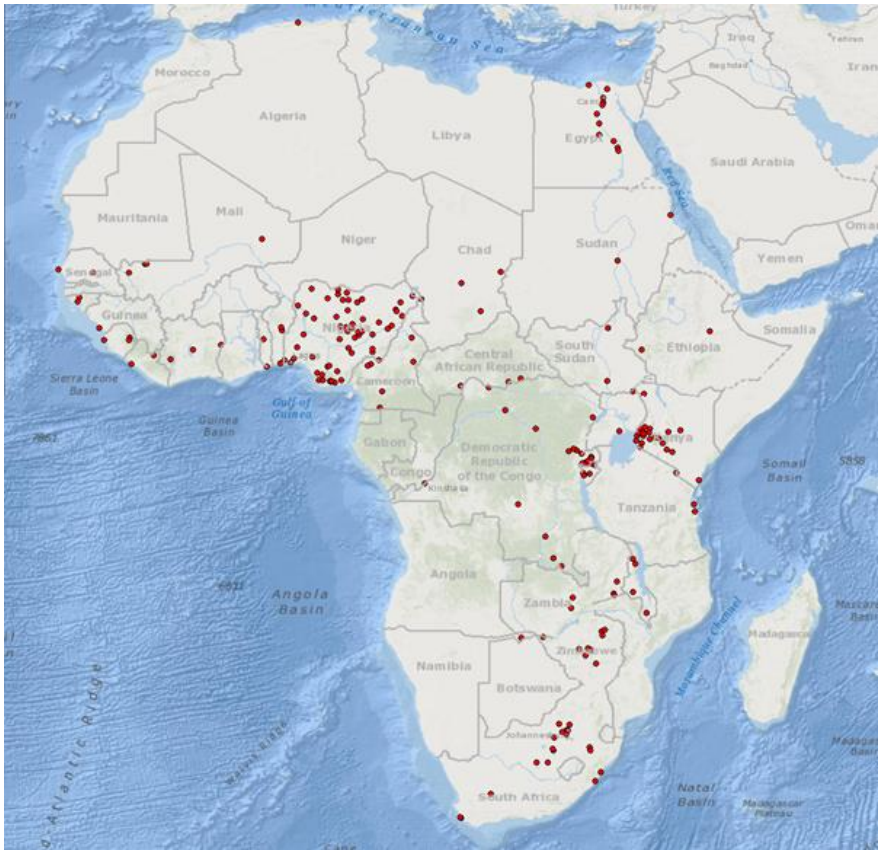
[24] While the results of logistic regression are identical to mine using rare-events logistic regression, the latter amends the standard errors which effect levels of statistical significance.

[25] While response bias is a concern when using events data, SCAD events are based on news reports from the Associated Press and Agence France Presse newswires, both of which use local news sources that have extensive knowledge of the countries they cover. SCAD also improves on other event datasets. For example, the Cross-National Time-Series (CNTS) Data Archive is based solely on reports from the New York Times. See Salehyan et al (2012) for a further discussion. Possible reporting bias over time is addressed in the robustness checks.

party violence when involving clearly defined ethnic political party supporters.[26] For example, clashes between Kikuyu supports of President Kibaki and Luo supporters of opposition leader Odinga in Kenya.

I add further criteria to my definition of ethnic riots. A second condition is that ethnic riots are sporadic events, in contrast to sustained types of action working towards a long-term political goal such as mass protests or armed conflict against the state. Finally, ethnic riots involve mass participation; I code events that have a minimum of 100 participants to exclude neighbourhood brawls (Brass, 2003). Grid-years containing at least one ethnic riot event are assigned a 1, otherwise a 0.

Figure 1. Locations of Ethnic Riots in Africa (1990-2008).



[26] An ethnic party is defined as clearly representing the interests of one group or set of groups at the specific exclusion of others (Chandra, 2011). Note: this is sensitive over time.

Overall, 268 ethnic riots occurred in 225 grid-cell locations across 28 African countries between 1990 and 2008 (Figure 1). As suggested in the theory, the majority of the violence was between politically advantaged and disadvantaged groups. Nevertheless, there is some variation in this dyadic relationship with violence occurring, albeit less commonly, between included groups and on very rare occasions, between excluded groups.

Independent Variables

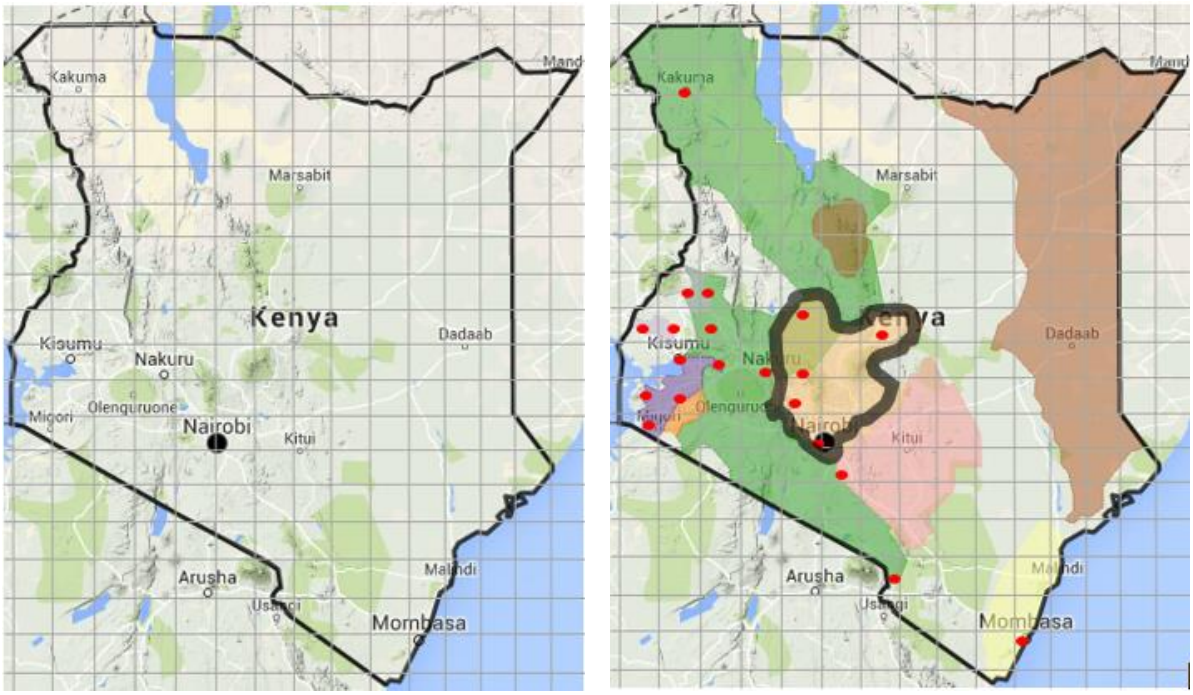
To operationalise ethno-political representation, I use existing ethnic group-level data from the EPR dataset (Version 3.0) which codes the levels of political representation of all politically relevant ethnic groups (Wimmer, Cederman, and Min, 2009).[27] The levels of ethno-political representation are broken down into a series of dichotomous variables for all groups in the ethno-political hierarchy of political power: undivided groups (have a monopoly on or dominate the executive), senior and junior partners (in a power-sharing government), regional autonomy (regional power), powerless, discriminated groups (systematic exclusion from power) and a dummy variable for grids without politically relevant ethnic groups.[28] For changes in ethno-political representation I generate three further dummy variables: groups experiencing a change in political power in the last two years (Cederman, Gleditsch and Buhaug, 2013), groups experiencing new discrimination, and groups facing serious downgrading (removed from government). I include identical variables to control for recently upgraded groups.

To capture ethno-political configurations at the subnational grid-level, I use geo-referenced data from the Geo-EPR dataset on the settlement areas of the different types of

[27] The lack of systematic data prevents an individual-level analysis of group member motivations. The Afrobarometer provides some individual-level data on ethnic affiliation. However, the Afrobarometer data provides no specific questions on group member motivations to engage in violence, meaning group-level assumptions would have to be made regardless of the unit of analysis. Furthermore, the data is only available in some countries across four rounds (years), which prevents the analysis of individual-level ethno-political dynamics over time and across all African countries.
[28] Excludes separatist areas as no events occur in these grid-years.

ethno-political groups (Wucherpfennig et al., 2011). I produce five dummy variables at the grid-level for the five types of political representation and a dummy variable for grids not inhabited by a politically relevant ethnic group.[29] Unlike previous group-level analyses (see Cederman, Gleditsch and Buhaug, 2013), my approach accounts for spatial variation across ethnic group settlement areas as not all areas within these settlements will witness ethnic violence (Varshney, 2002).

Figure 2. PRIO Grid, Group Settlement Areas, and Ethnic Riots in Kenya (1990-2008)



Using Kenya as an example, Figure 2 provides a visual illustration of the data, with ethnic riot locations and geo-referenced group areas overlaid by the PRIO-GRID. For the first hypothesis, the variable of interest is discriminated group areas. Figure 2 also highlights in bold the Kikuyu settlement areas in the centre of the country.

[29] Dominant group areas are used as the reference category against other ethno-political categories and grids without ethnic groups.

Before the 2002 elections, these Kikuyu grid-years are coded as politically discriminated areas to reflect the group's systematic removal from political power. Although the EPR data are based on ethnic homelands where a particular group is numerically dominant, the dyadic nature of ethnic riots show there is ethnic heterogeneity within these homelands. While the Geo-EPR is not best placed to capture this heterogeneity within group settlement areas, my dyadic coding of ethnic riots ensures the participation of other EPR groups in these areas. Moreover, violence is more likely in settlement areas where disadvantaged groups have a numerical advantage. This bigger presence reduces the risks to the ingroup of engaging in violence but also increases perceptions of threat within the out-group (Horowitz, 2003; Balcells, Daniels and Escriba-Folch, 2016).

To analyse the additional role of proximity within the first set of hypotheses, I generate an interaction term that captures grids where discriminated and dominant (have undivided power) groups coexist or border each other. Finally, to assess the proximity downgraded and upgraded groups, I create an interaction that captures the coexistence of upgraded and downgraded groups (both 1 otherwise 0).

Controls

This study includes a number of grid-level controls (see Table 6, - appendix). Firstly, it includes the natural log of grid-level GDP taken from G-Econ wealth estimates (Nordhaus, 2006) as poorer populations are more likely to participate in riots (Scacco, 2010). Secondly, it employs the natural log of grid-level population (CIESEN, 2005) since higher and more concentrated populations increase the risk of unrest (Raleigh and Hegre, 2009; McDoom, 2013).[30] Thirdly, I add a set of controls including the time (minutes) to the nearest urban centre, and distance

[30] Grid GDP and population data are estimated at 5-year intervals. I take the average between these time periods to extrapolate data within these time periods.

(kilometres) to the capital (Tollefsen et al, 2012) as urban areas facilitate social networks that enable unrest. Finally, I include a lagged dependent variable and a spatial lag (the percentage of riots in contiguous cells in a country year) to account for dependence over time (Wilson and Butler, 2007) and spatial correlation (Ward and Gleditsch, 2008).

The study includes standard national-level controls related to violence: a natural log of national population (World Bank, 2013), the Polity2 measure for regime type (Marshall and Jaggers, 2010), and the number of peace years. It also includes the size of excluded ethnic groups as larger groups are more willing and better placed to challenge dominant groups (Buhaug, Cederman and Gleditsch, 2014).[31] A dummy variable is added for national election years as African elections are particularly susceptible to unrest (Lindberg, 2009). Lastly, the number of excluded groups in the state is included since governments are less likely to compromise when facing many oppositional groups (Walter, 2006).

2.6. Results

This section presents the results of multiple rare-events logistic regression models across the 196852 grid-cell years of 56 African states.[32] My first hypothesis expects that areas containing politically discriminated groups are more likely to witness ethnic riots. With dominant (groups with undivided power) settlement areas used as the reference category, model 1 (Table 2) provides strong support for the hypothesis ($p < 0.01$). Since coefficients are difficult to interpret in logistic regression models, I run marginal effects with 95% confidence intervals to assess the marginal effect of this relationship. When I compare grids without a discriminated ethnic group to grids with this type of group, I find ethnic riots are twice as likely to occur.

[31] Also EPR data (Wimmer, Cederman and Min, 2009)
[32] Grid-cells with a sparse population less than 100 are excluded from the analysis.

Table 2. Rare-Events Regression: Ethno-Political Discrimination and Ethnic Riots

	Model 1 Ethnic Riot	Model 2 Ethnic Riot
Undivided Power (Dominant Group Grid)		0.200
		(0.274)
Dominant and Discriminated Coexist		1.334**
		(0.419)
Senior Group (power-sharing) Grid	-0.011	0.260
	(0.362)	(0.336)
Junior Group (power-sharing) Grid	-0.036	0.208
	(0.199)	(0.158)
Autonomous Group Grid	0.527	0.735
	(0.737)	(0.735)
Powerless Group Grid	-0.131	0.141
	(0.309)	(0.331)
Discriminated Group Grid	0.762***	0.594**
	(0.212)	(0.228)
No EPR Group in Grid	-1.198*	
	(0.535)	
Grid Wealth (GCP) (log)	0.044	0.104
	(0.099)	(0.111)
Grid Population (log)	0.843***	0.865***
	(0.088)	(0.085)
Riots in Neighbouring Grid	4.381***	4.213***
	(0.543)	(0.536)
Size of Excluded Group in Grid	0.528	0.402
	(0.448)	(0.513)
Time to Urban Centre (mins)	-0.002*	-0.002*
	(0.001)	(0.001)
Distance to Capital (km)	-0.000	-0.000
	(0.000)	(0.000)
No. Excluded Groups (nationally)	0.058	0.077+
	(0.040)	(0.040)
National Population (log)	-0.213+	-0.161
	(0.117)	(0.110)
Regime Type (Polity2)	0.091***	0.096***
	(0.026)	(0.028)
National Elections	0.805**	0.834**
	(0.281)	(0.291)
Number of Peace Years	0.006	0.007
	(0.007)	(0.007)
Years Since Last Ethnic Riot	-0.577***	-0.577***
	(0.118)	(0.129)
Spline1	-0.025	-0.029
	(0.035)	(0.036)
Spline2	-0.000	0.002
	(0.016)	(0.016)
Spline3	0.003	0.003
	(0.005)	(0.005)
Constant	-11.875***	-13.946***
	(1.557)	(1.569)
Observations	196852	196852

+ p<0.1 * p<0.05, ** p<0.01, *** p<0.001 Cluster-robust standard errors in parentheses.
All models are clustered around country-level standard errors (47 clusters). Reference category: Model 1: monopoly/dominant group settlement areas. Model 2: no EPR groups in the grid-year.

Table 3. Rare- events Regression: Ethno-Political Downgrading and Ethnic Riots

	Model 3 Ethnic Riot	Model 4 Ethnic Riot	Model 5 Ethnic Riot	Model 6 Ethnic Riot
Downgrade in Political Power	0.535*			0.168
	(0.211)			(0.184)
Upgrade in Political Power	0.267			-0.084
	(0.226)			(0.181)
Recent New Discrimination		1.160*		
		(0.489)		
Post Discrimination		-0.237		
		(0.511)		
Recent Loss of Govt Power			1.255*	
			(0.501)	
Recent Entry to Govt Power			-0.231	
			(0.249)	
Downgraded and Upgraded Coexist				1.092**
				(0.397)
No EPR Group in Grid	-1.179*	-1.207*	-1.230*	-1.183*
	(0.536)	(0.537)	(0.538)	(0.536)
Grid Wealth (GCP) (log)	0.022	0.021	0.054	0.013
	(0.083)	(0.083)	(0.083)	(0.078)
Grid Population (log)	0.876***	0.870***	0.858***	0.887***
	(0.094)	(0.095)	(0.096)	(0.096)
Riots in Neighbouring Grid	4.381***	4.213***	4.251***	4.178***
	(0.543)	(0.536)	(0.385)	(0.376)
Size of Excluded Group	0.528	0.402	0.529*	0.664**
	(0.448)	(0.513)	(0.242)	(0.229)
Time to Urban Centre (mins)	-0.002*	-0.002*	-0.002*	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)
Distance to Capital (km)	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
No. Excluded Groups	0.058	0.077+	0.061+	0.067+
	(0.040)	(0.040)	(0.033)	(0.035)
National Population (log)	-0.213+	-0.161	-0.232+	-0.202
	(0.117)	(0.110)	(0.128)	(0.132)
Regime Type (Polity2)	0.091***	0.096***	0.078***	0.084***
	(0.026)	(0.028)	(0.021)	(0.020)
National Elections	0.805**	0.834**	0.800*	0.744*
	(0.281)	(0.291)	(0.311)	(0.298)
Number of Peace Years	0.006	0.007	0.008	0.011+
	(0.007)	(0.007)	(0.006)	(0.007)
Years Since Last Ethnic Riot	-0.577***	-0.577***	-0.561***	-0.611***
	(0.118)	(0.129)	(0.107)	(0.105)
Spline1	-0.025	-0.029	-0.023	-0.035
	(0.035)	(0.036)	(0.034)	(0.034)
Spline2	-0.000	0.002	-0.001	0.004
	(0.016)	(0.016)	(0.015)	(0.015)
Spline3	0.003	0.003	0.003	0.003
	(0.005)	(0.005)	(0.005)	(0.005)
Constant	-17.74***	-17.89***	-18.46***	-12.573***
	(2.378)	(2.761)	(2.869)	(1.652)
Observations	196852	196852	196852	196854

+ p<0.1 * p<0.05, ** p<0.01, *** p<0.001

Cluster-robust standard errors in parentheses. All models are clustered around country-level standard errors (47 Clusters). Reference category: grids with no change in ethno-political representation.

I move to my second hypothesis that states the onset of ethnic riots should be more likely in areas where ethno-politically discriminated groups and dominant groups coexist. I include an interaction between discriminated and dominant group settlement areas in model 2 and find intergroup violence is more likely in these ethnically mixed regions ($p < 0.001$). Marginal effects show that ethnic riots are five time more likely to occur in these highly contentious heterogeneous grids than in other grids.

I now evaluate my final set of hypotheses. Firstly, ethnic rioting should be more likely in areas where a group has recently faced a downgrade in political representation. Secondly, the risk of violence should be higher for more severe types of downgrading. Finally, the risk should also be exacerbated by the close proximity of downgraded and upgraded groups. These claims are strongly supported by models 3-6 (Table 3). Model 3 shows the risk of ethnic riots is increased in areas inhabited by a group that has faced a loss of power in the last two years ($p <0.001$). Models 4-5 show that the likelihood of ethnic violence is further increased when the type of downgrading is more severe; in locations where a group has recently lost governmental power or has been newly politically discriminated against (both $p <0.05$). These three results are in contrast to the results found in areas inhabited by a group that has experienced an upgrade in political representation (not statistically significant). This supports my theoretical expectations, because upgraded groups have access to patronage and face fewer security dilemmas and should have less incentive to engage in violence. Finally, model 6 provides strong support that the proximity of downgraded and upgraded groups also increases the likelihood of ethnic rioting.

To assess the nature of the relationship between ethno-political downgrading and ethnic riots, I run further marginal effects. The risk of intergroup violence in areas where groups have recently been downgraded is nearly twice as likely as in areas without change. The risk of violence is exacerbated by the close proximity of downgraded groups. Areas where a group

has gained political power and another has lost power are three times more likely to see ethnic rioting than areas without these groups. Finally, more severe types of downgrading also increases the risk of violence with ethnic riots being three times more likely to occur where a group has been completely removed from power or are removed and also face discrimination. Table 4 provides a summary of the marginal effects of all key explanatory variables on the onset of ethnic rioting.

Table 4. Marginal Effect Differences in Ethno Political Status: Present (1) vs. Not Present (0)

Explanatory Variable	% Risk (0)	% Risk (1)	Increase risk in Ethnic Riots
Discriminated Group Area	0.00106***	0.00215***	Twice as likely
Coexistence of Discriminated and Dominant Groups	0.00110***	0.00375**	Three times more likely
Downgraded Group Area	0.00108***	0.00177***	Nearly twice as likely
Newly Discriminated Area	0.00111***	0.00318*	Three times more likely
Recent Loss of Power Area	0.00109***	0.00347*	More than three times likely
Coexistence of Downgraded and Upgraded Groups	0.00108***	0.00308*	Three times more likely

Significance of predictive margins: * p<0.05, ** p<0.01, *** p<0.001

The control variables have generally behaved as expected. More populated grids, recent violence in previous years, and violence in neighbouring locations are consistently strong predictors of violence. Larger excluded groups also impact the likelihood of ethnic riots although this is not always statistically significant. In contrast to Scacco's (2010) findings at the individual-level, I find no significant relationship between levels of wealth and intergroup violence at the grid-level. I also find little evidence that the distance to capitals although ethnic riots are more likely to occur close to urban centres. At the country-level, violence is more likely to take place in more democratic rather than autocratic states and is strongly related to

national election years, one potential cause of ethno-political downgrading. Finally, the number of excluded groups has a small effect but larger national populations and peace years have no significant effect on ethnic riots.

Robustness Checks

To further determine the soundness of my findings I run a series of robustness checks (see Tables 7-12, - appendix). Firstly, I check whether the theoretical mechanisms are unique to ethnic riots and not simply a substitution of organised and armed communal violence as the descriptive statistics suggest. Following Fjelde and Østby (2014), I rely on data from the Uppsala Conflict Data Program (UCDP) Georeferenced Event Dataset (UCDP-GED; (Sundberg and Melander, 2013) to capture armed communal violence.[33] Models 7-10 (Table 7 – Appendix) show that while armed communal violence increases the likelihood of ethnic rioting, most probably through further increasing ethnic tensions, this does not change the main results.

I then explore armed and organised communal violence as an alternative outcome (Models 11-12). There is one similarity, in that ethnic discrimination drives both ethnic rioting and communal violence. Yet there are mostly key distinctions. Firstly, powerless groups as well as discriminated groups are more likely to engage in communal violence, while downgrading has no effect. Secondly, unlike ethnic rioting, communal violence is also likely to occur in the periphery where no politically relevant ethnic groups reside (*No EPR Group in Grid*), giving support to Raleigh's (2014) argument that communal violence occurs between remote and politically irrelevant ethnic groups. Most significantly is that proximity has no impact on communal violence unlike ethnic rioting. In fact, communal violence does not occur

[33] This includes violence between organised ethnic groups, and excludes violence between rebel groups.

in at all in areas where dominant and discriminated groups, and downgraded and upgraded groups coexist. The joint importance of proximity and ethno-political inequalities sets ethnic rioting apart from more organised forms of ethnic violence.

Next I test for potential endogeneity between ethno-political representation and violence by rerunning the results with lagged independent variables and the results produced are identical (Models 13-14). Fourthly, I control for other possible alternative explanations for the onset of ethnic rioting. The findings could be explained by heightened by particular institutional designs with the debate continuing on whether parliamentary or presidential systems reduce the likelihood of violence (see Horowitz, 1985; Linz, 1990). I find that parliamentary systems reduce the risk of ethnic rioting, but which does not change the results. Next I account for other controls that may explain ethnic rioting: economic group inequalities (Fjelde and Østby, 2014), the lack of political rights (Freedom House), national resource rents which can create intergroup competition over natural resources (Basedau and Pierskalla, 2014), youth bulges, as younger populations are more likely to participate in political action (Urdal, 2008), and state repression which can result in violent backlashes (Tables 8-10). While state repression and youth bulges are positive predictors of ethnic rioting, this does not change the robustness of my explanatory variables.

Fifthly, I explore the possibility that the results are driven by reporting bias. I include the year as a control to account for any reporting bias of events, and include a dummy variable for Nigeria where 34% of the ethnic riots occurred. My results still remain robust (Tables 10-11).[34] Lastly, I rerun the analyses with alternative models to check if the results are driven by model choice. I rerun the models using a country-year fixed effect logistic regression, which

[34] When I exclude Nigeria from the analysis,

restricts the analysis to country-years where violence occurs.[35] I then rerun the main analyses with count model. Both produce similar findings.

2.7. Conclusion

For the most part, the local ethno-political drivers of ethnic rioting has been overlooked in the literature on ethnic riots. While literatures on ethnic violence have tended to focus on the incentives of elites to provoke ethnic rioting, other literatures have pointed to the broader importance of ethnic politics and the proximity of groups. This article contributes to the literatures on low-intensity ethnic violence by bringing approaches together to explain why ethnic riots occur in some locations, but not others, and why violence occurs between some groups, but not others. I argue that the location of violence can be explained by highly unequal ethno-political configurations and changes in power, that produce collective group motivations that derive from tense intergroup contestation over state resources, and increasing fear of the other. Ethnic riots are localised and are facilitated further by the close proximity of such groups which increases the likelihood of intergroup interaction and antagonistic incidents that provoke ethnic rioting.

My results provide convincing evidence that ethno-political discrimination, downgrading and close proximity with dominant or newly ungraded groups help to explain where ethnic riots are likely to occur. This allures to the second key contribution of this study; the systematic exploration of ethnic rioting both within and across various African countries. This builds on case-study literature that has provided important and nuanced contributions to our understanding of low-intensity violence, but which often are often liable to selection bias

[35] While it is important to test alternative models, I do not believe a FEs model best complements my research design, since a lot of variation is lost by removing country-years without ethnic rioting (see Beck and Katz, 2001).

and questions of external validity. Using newly available geographically disaggregated events data has allowed this study to highlight general ethno-political conditions that increase the risk of ethnic riots and where they occur. This highlights the value of using large-N quantitative subnational research to explore the locations of ethnic violence.

The article also has important policy implications. For one thing, the discrimination of certain ethnic groups not only increases the risk of armed rebellion and communal violence, but also entails a greater risk of low-intensity violence, namely ethnic riots. This highlights the importance of reducing inequalities and developing inclusive systems to manage ethnic relations peacefully. For another, governments need to be responsive to the concerns of their citizens by providing fairly distributed public services, security, and strong institutions to address citizen concerns. Last but by no means least, policy makers should be particularly mindful of the consequences of political change in tense interethnic environments such as national elections and democratic transitions. Such instruments are considered a key part of peacebuilding and ongoing state-building, but if incorrectly implemented could lead to further conflict.

This study focuses on group-level ethno-political configurations and asks how these influence the location of violence, but individual motivations are likely to play a part as well. Future research should develop more systematic micro-level survey data on ethnic motivations to participate in conflict and explore these motivations more closely. This would help to explain why some individuals participate and others do not. Moreover, further research is also needed to understand other mechanisms related to participation such as economic drivers of participation. This article does not suggest ethno-political configurations are the only drivers of violence. Other quantitative studies should explore other mechanisms, such as infighting between governmental groups and resource structures. While this analysis considers one type of communal conflict, future research could seek to explain other distinct forms of communal

conflict. For instance, service delivery protests, xenophobic violence and intra-ethnic violence. Finally, more multilevel theoretical and empirical research is needed to explore the complex inter-play between the individual, group, elite, and country-levels that all jointly relate to conflict

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Appendix

Table 1. List of Ethnic riots in Africa (taken from SCAD data)

Event ID (SCAD)	Country	Year	PRIO Long	PRIO Lat	Actor 1 (SCAD)	Actor 2 (SCAD)	Political Status	Notes (based additional research and on SCAD issue notes)
4040036	Guinea-Bissau	2005	-15.75	11.75	Vieira supporters	Sanha supporters	Included Excluded	Sanha's PAIGCC is Balanta dominated party. Vieira a Papel draws support from other ethnic groups - ethnic tensions were exacerbated during elections
4040009	Guinea-Bissau	2000	-15.25	12.25	Mandinges	Balantes	Included Excluded	
4320019	Mali	1999	0.75	17.25	Kunta Muslim hermits	Rival Arab ethnic group	Included Included	Not in EPR but relevant political presence - main role in the region also
4330021	Senegal	2000	-17.25	14.75	Citizens	Opposition supporters	Included Included	Loser of election Diouf is from Fula and Serere groups - winner Wade is from largest group Wolof
4330058	Senegal	2007	-17.25	14.75	Citizens	Opposition supporters	Included Included	Winner of election Wade is from Wolof group where he draws support - opposition from other groups such Dieng, a Serere, who came third froom Socialist Party of Senegal
4330020	Senegal	2000	-14.25	14.25	Ruling party supporters	Opposition supporters	Included Included	Loser of election Diouf is from Fula and Serere groups - winner Wade is from largest group Wolof
4340042	Benin	2002	2.25	6.25	Soglo supporters	polling stations	Included Excluded	Kerekou represents northern groups despite marxist ideology prior to 1990 transition - opposition gain main support from southern ethnic groups

								some of which are excluded and included
434000 6	Benin	199 1	2.75	9.25	Kerekou supporters	opposition groups	Included Included	Kerekou represents northern groups despite marxist ideology prior to 1990 transition - opposition gain main support from southern ethnic groups
434003 3	Benin	200 1	2.75	9.75	unknown	polling stations	Not clear - opposition were both junior and powerless groups	Kerekou represents northern groups despite marxist ideology prior to 1990 transition - opposition gain main support from southern ethnic groups
437019 4	Cote d'Ivoire	200 5	-7.25	6.75	Ivorian youths	Dioula citizens	Included Included	Dioula are Mande group and in a Mande area also inhabited by the Kru
437000 9	Cote d'Ivoire	199 0	-5.25	7.75	Presidential supporters	Opposition supporters	Included Included	President represents southern coalition
437008 2	Cote d'Ivoire	200 0	-5.25	7.75	Ivorian Popular Front supporters	Republican Alliance supporters	Included Excluded	President represents southern coalition
437010 1	Cote d'Ivoire	200 1	-5.25	7.75	Opposition supporters	Incumbent supporters	Included Excluded	President represents southern coalition
438000 7	Guinea	199 8	-13.75	9.75	Political supporters of the President	Opposition supporters	Included Excluded	From rival groups
450007 1	Liberia	200 4	-10.75	6.25	Christians	Muslims	Included Included	Mandingo are mainly Muslim while southern groups are Christian
450003 7	Liberia	200 0	-8.75	7.25	Mano tribe	Mandingo tribe	Included Excluded	From rival Gio and Mandingo groups
451007 4	Sierra Leone	200 7	-13.25	8.25	Sierra Leone People's Party supporters	opposition supporters	Included Included	Opposition gain support from Northern Groups (Limba and Temne) - ruling party gain support from Mende in the south

4510076	Sierra Leone	2007	-11.25	8.25	All People's Congress supporters	Sierra Leone People's Party supporters	Included Included	Opposition gain support from Northern Groups (Limba and Temne) - ruling party gain support from Mende in the south
4510074	Sierra Leone	2007	-10.75	8.75	Sierra Leone People's Party supporters	opposition supporters	Included Included	Opposition gain support from Northern Groups (Limba and Temne) - ruling party gain support from Mende in the south
4610018	Togo	1992	0.75	8.75	Kotokoli tribe	Kaybe tribe		Kaybe are a key EPR group but the Kotokoli (Gur) are not listed in EPR despite political relevance - EPR does list Kabye and "other groups" which likely includes Kotokoli
4610011	Togo	1991	1.25	6.25	protesters	Gen. Eyadema supporters	Included Included	EKPEMOG movement are from the Ewe group and Eyadema and his supports are from the Kabye group
4610035	Togo	1994	1.25	6.25	youth	opposition	Included Excluded	Opposition largelly from Ewe group suppressed by Kabre dominated government until early 1990s
4710069	Cameroon	2007	10.25	6.25	Boyo residents	Oku residents	Included Included	Oku tribe (bamikele group) are linked to the government - current PM and govenor of Western state are from this tribe - Boyo residents are Mbessa part of North Western group
4710050	Cameroon	2002	10.75	6.25	Social Democratic Front	Cameroon People's Democratic Movement	Included Included	Opposition from the Anglophone Western groups (SDF) (and Northern Muslims) - EPR dataset calls Northwestern Anglophones
4710065	Cameroon	2006	11.25	2.25	Bamoun tribe	police	Included Included	Rival ethnic groups - Bamoun part of Bamileke and Ntumu part of Beti group

471001 5	Cameroon	199 2	11.75	3.75	presidential candidate supporters	presidential candidates	Included Included	Escalated to riots - opposition have Anglowestern supports
471003 3	Cameroon	199 7	11.75	3.75	opposition supporters	pro-government groups	Included Included	Opposition from the Anglophone Western groups (Main opposition party) (and Northern Muslims) - EPR dataset calls Northwestern Anglophones
471003 3	Cameroon	199 7	14.25	8.75	opposition supporters	pro-government groups	Included Included	Opposition from the Anglophone Western groups (Main opposition party) (and Northern Muslims) - EPR dataset calls Northwestern Anglophones
475038 6	Nigeria	200 1	2.75	6.25	Itsekiri community	Urhobo community	Included Excluded	Itsekiri part of Yoruba group and while the Urhobo are not listed as a EPR but are a major group, particuarly in the Delta region
475013 4	Nigeria	199 7	3.25	6.25	Democratic Party of Nigeria	Congress for National Consensus	Included Included	Parties draw rival support from North and South groups
475017 3	Nigeria	199 8	3.25	6.25	Yoruba youths	Hausa youths	Included Included	EPR groups
475023 8	Nigeria	199 9	3.25	6.25	Yoruba traders	Hausa traders	Included Included	EPR groups
475041 3	Nigeria	200 2	3.25	6.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	EPR groups
475022 0	Nigeria	199 9	3.75	6.75	Yoruba Christians	Hausa Muslims	Included Included	EPR groups
475017 9	Nigeria	199 8	3.75	7.75	Ilaje tribe	Ijaw tribe	Included Excluded	Ilaje part of Yoruba group and Ijaw are EPR group

4750496	Nigeria	2003	4.25	11.75	All Nigeria's People Party	People's Democratic Party	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups (Yoruba and Delta groups)
4750286	Nigeria	2000	4.75	8.75	Tsaragi community	Share community	Included Included	From rival ethnic groups Nupe and Yoruba - Nupe are not listed as EPR but are politically important in the middle belt.
4750441	Nigeria	2002	4.75	10.75	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750569	Nigeria	2004	4.75	10.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750720	Nigeria	2006	5.25	6.75	Ijaws	Ireles	Included Excluded	Ireles is a Yoruba group - Ijaws are EPR
4750716	Nigeria	2006	5.25	10.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups

4750252	Nigeria	2000	5.25	13.25	Muslims	Christians and the Government	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750161	Nigeria	1998	5.75	4.75	Ijaw tribesmen	Urhobo tribesmen	Included Excluded	The Urhobo are not listed as a EPR but are a major group, particuarly in the Delta region - Ijaw are a EPR group
4750372	Nigeria	2001	5.75	5.75	Itsekiri community	Urhobo community	Included Excluded	Itsekiri part of Yoruba group and while the Urhobo are not listed as a EPR but are a major group, particuarly in the Delta region
4750527	Nigeria	2003	5.75	5.75	Ijaw youths	Itsekiri militants	Included Excluded	Itsekiri part of Yoruba group
4750215	Nigeria	1999	6.25	4.75	Ijaw youths	Itsekiri tribesmen	Included Excluded	Itsekiri part of Yoruba group
4750237	Nigeria	1999	6.25	5.25	Isoko tribesmen	Urhobo tribesmen	Excluded Excluded	The Isoko and the Urhobo are not listed as a EPR but are a major group, particuarly in the Delta region
4750046	Nigeria	1993	6.75	4.75	Ogoni tribe	Andoni tribe	Included Excluded	Andoni are part of Ijaw, while Ogoni is a EPR group
4750504	Nigeria	2003	6.75	4.75	Peoples Democratic Party supporters	All Nigeria People's Party supporters	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
4750715	Nigeria	2006	6.75	6.25	Christians	Muslims	Included Included	North and south groups

4750378	Nigeria	2001	6.75	12.25	All People's Party	People's Democratic Party	Not clear – PDP gain support from included and excluded groups from the south	Chrisitan - Muslim, North and South groups
4750017	Nigeria	1992	7.25	10.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750118	Nigeria	1996	7.25	10.75	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750273	Nigeria	2000	7.25	10.75	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750250	Nigeria	2000	7.75	5.75	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750351	Nigeria	2001	7.75	8.75	Tiv tribesmen	Azeri tribesmen	Included Excluded	Tiv and Hausa groups

4750022	Nigeria	1992	7.75	9.75	Jukun tribe	Tiv tribe	Included Excluded	Jukun is important group in Central and Eastern Nigeria and politically represented, but not listed as EPR - Tiv tribe is an EPR group
4750692	Nigeria	2005	7.75	12.25	Peoples Democratic Party	All Nigeria People's Party supporters	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
4750012	Nigeria	1992	7.75	12.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	Parties draw rival support from North and South groups
4750225	Nigeria	1999	7.75	12.75	Muslims	Christians and the Government	Not clear – Yoruba Christians are included but Delta migrants are not	Parties draw rival support from North and South groups
4750359	Nigeria	2001	7.75	12.75	Muslims	Non-Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	Parties draw rival support from North and South groups
4750714	Nigeria	2006	7.75	12.75	Muslims	Christians	Not clear – Yoruba Christians are included but	Parties draw rival support from North and South groups

							Delta migrants are not	
475038 9	Nigeria	200 1	8.25	9.25	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	Parties draw rival support from North and South groups
475031 1	Nigeria	200 0	8.25	9.75	Hausas	Yorubas	Included Included	Listed together but both EPR groups
475050 6	Nigeria	200 3	8.25	9.75	Peoples Democratic Party supporters	All Nigeria People's Party supporters	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
475057 8	Nigeria	200 4	8.25	9.75	Peoples Democratic Party supporters	All Nigeria People's Party supporters	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
475075 5	Nigeria	200 6	8.25	9.75	Citizens	Local governments	Included Included	Parties draw rival support from North and South groups
475077 1	Nigeria	200 7	8.25	9.75	Citizens	Opposing party supporters	Included Included	Elections between candidates of northern and southern (ethno-religious) groups
475033 7	Nigeria	200 1	8.25	11.25	Kwale tribesmen	Tiv tribesmen	Included Excluded	Kwale part of major Ukwuani group - which is not listed as an EPR group but is politically active especially in the Delta regions

4750543	Nigeria	2003	8.25	12.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	Elections between candidates of northern and southern (ethno-religious) groups
4750373	Nigeria	2001	8.75	9.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750591	Nigeria	2004	8.75	9.75	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750824	Nigeria	2008	8.75	9.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750009	Nigeria	1991	8.75	12.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	Escalated to ethnic riot
4750092	Nigeria	1995	8.75	12.25	Ibo tribesmen	Hausas tribesmen	Included Excluded	EPR groups

4750221	Nigeria	1999	8.75	12.25	Yoruba Christians	Hausa Muslims	Included Included	Both EPR groups
4750382	Nigeria	2001	8.75	12.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
4750500	Nigeria	2003	8.75	12.25	Peoples Democratic Party supporters	All Nigeria People's Party supporters	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
4750804	Nigeria	2007	8.75	12.25	People's Democratic Party supporters	All Nigerian People's Party	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
4750811	Nigeria	2008	8.75	12.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	Escalated to ethnic riot
4750593	Nigeria	2004	9.25	8.75	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups

475074 6	Nigeria	200 6	9.25	11.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475059 9	Nigeria	200 4	9.75	9.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475000 3	Nigeria	199 1	9.75	10.25	Islamic fundamentali sts	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475029 8	Nigeria	200 0	9.75	10.25	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475035 3	Nigeria	200 1	9.75	10.25	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475063 0	Nigeria	200 4	9.75	10.25	Muslims	Christians	Not clear – Yoruba	North and south groups

							Christians are included but Delta migrants are not	
475071 4	Nigeria	200 6	9.75	10.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475076 7	Nigeria	200 7	9.75	10.25	People's Democratic Party supporters	All Nigeria People's Party supporters	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
475001 1	Nigeria	199 1	10.75	7.75	Jukun tribe	Tiv tribe	Included Excluded	Jukun is important group in Central and Eastern Nigeria and politically represented, but not listed as EPR - Tiv tribe is an EPR group
475037 4	Nigeria	200 1	10.75	7.75	Tiv tribesmen	Jukun tribesmen	Included Excluded	Jukun is important group in Central and Eastern Nigeria and politically represented, but not listed as EPR - Tiv tribe is an EPR group
475034 8	Nigeria	200 1	11.25	10.25	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475051 5	Nigeria	200 3	12.25	9.25	Christians	Muslims	Not clear – Yoruba	North and south groups

							Christians are included but Delta migrants are not	
475060 3	Nigeria	200 4	12.25	9.25	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475026 0	Nigeria	200 0	12.75	11.25	Christians	Muslims	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
475067 2	Nigeria	200 5	12.75	11.25	Peoples Democratic Party supporters	All Nigeria People's Party supporters	Not clear – PDP gain support from included and excluded groups from the south	Parties draw rival support from North and South groups
475071 4	Nigeria	200 6	13.25	11.75	Muslims	Christians	Not clear – Yoruba Christians are included but Delta migrants are not	North and south groups
482004 0	Central African Republic	199 8	18.25	4.25	Ruling party supporters	Opposition party supporters	Included Included	Ruling party aligned to Patasse representing northern groups - and opposition from southern groups

4820042	Central African Republic	1999	18.25	4.25	Movement for the Liberation of the People of Centrafique (MLPC)	Supporters of Andre Kolingba	Included Included	MPLC is Sara party and Kolimba represents Yakoma group
4820038	Central African Republic	1998	22.75	4.75	Political supporters	Political supporters	Included Included	Clearly Ethnic -
4820038	Central African Republic	1998	23.75	5.25	Political supporters	Political supporters	Included Included	Clearly Ethnic
4830036	Chad	2006	20.25	11.25	Ethnic Arab villagers	Ethnic African villagers	Included Excluded	Both Arab and African groups
4830042	Chad	2007	22.25	14.75	Tama ethnic group	Zaghawa ethnic group	Included Excluded	Tama are an important group - during the civil-war Tama made up a large proportion of the FUC fighting the Zaghawa government - but are not coded in EPR
4900017	Democratic Republic of the Congo	1991	15.75	-4.25	Supporters of Etienne Tshisekedi	Mobutu supporters	Included Excluded	Supports of rival politians from rival ethnic groups
4900260	Democratic Republic of the Congo	2006	15.75	-4.25	Joseph Kabila supporters	Jean Pierre Bemba supporters	Included Included	Parties represent regional groups in DRC
4900068	Democratic Republic	1996	28.25	-1.25	Hutu mobs	Tutsis	Included Excluded	

	of the Congo							
4900262	Democratic Republic of the Congo	2006	21.25	4.25	Joseph Kabila supporters	Jean Pierre Bemba supporters	Included Included	Parties represent regional groups in DRC
4900263	Democratic Republic of the Congo	2006	22.25	2.25	Joseph Kabila supporters	Jean Pierre Bemba supporters	Included Included	Parties represent regional groups in DRC
4900205	Democratic Republic of the Congo	2005	23.75	-6.25	Supporters of Union for Democracy and Social Progress	People's Party for Reconstruction and Democracy	Included Included	Rival ethnic parties
4900090	Democratic Republic of the Congo	1997	25.25	0.75	Rwandan refugees	Villagers	Excluded Excluded	Since coded as ethnic issue - Rwandan refugees (Hutu) likely to have attacked Tutsi as has been done on many occassions in the region
4900027	Democratic Republic of the Congo	1992	26.25	-9.25	Katangas	Kasais/Baluba	Included Excluded	Kaisais/Baluba labelled as Luba Kaisai in EPR data - Etienne Tshisekedi gains support from Luba Shaba listed here as Katangas (actually the region)
4900037	Democratic Republic of the Congo	1993	26.25	-9.25	Katangas	Kasais/Baluba	Included Excluded	Kaisais/Baluba labelled as Luba Kaisai in EPR data - Etienne Tshisekedi gains support from Luba Shaba listed here as Katangas (actually the region)

4900028	Democratic Republic of the Congo	1992	26.75	-10.75	Katangas	Kasais/Baluba	Included Excluded	Kaisais/Baluba labelled as Luba Kaisai in EPR data - Etienne Tshisekedi gains support from Luba Shaba listed here as Katangas (actually the region)
4900260	Democratic Republic of the Congo	2006	27.25	-11.75	Joseph Kabila supporters	Jean Pierre Bemba supporters	Included Included	Parties represent regional groups in DRC
4900038	Democratic Republic of the Congo	1993	28.25	-1.25	Nyanga tribe	Hutus	Excluded Excluded	Hunde could be listed as "other Kivu" groups - but nevertheless are political relevant and important in the DRC
4900038	Democratic Republic of the Congo	1993	28.75	-1.25	Nyanga tribe	Hutus	Excluded Excluded	Hunde could be listed as "other Kivu" groups - but nevertheless are political relevant and important in the DRC
4900165	Democratic Republic of the Congo	2003	30.25	1.75	Ethnic factions	Ethnic factions	Excluded Excluded	In a region with important ethnic groups with a history of inter-group violence
5000059	Uganda	2007	32.75	0.25	Citizens	Citizens of Asian descent		Asians not politically relevent but still important group
5010280	Kenya	2007	34.75	-1.25	Odinga supporters	Kibaki supporters	Included Excluded	Odinga supporters are mainly Luo and Kibaki are Kikuyu
5010167	Kenya	2001	34.25	-0.75	KANU Youth	FORD party	Included Excluded	From rival groups

5010065	Kenya	1995	34.25	-0.25	KANU supporters	FORD supporters	Included Excluded	From rival groups
5010280	Kenya	2007	34.75	-0.75	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010039	Kenya	1992	34.75	-0.25	Political factions	Political factions	Included Excluded	Ethnically defined parties in 2007 elections
5010201	Kenya	2002	34.75	-0.25	Political Parties	Political Parties	Included Excluded	Ethnically defined parties in 2002 elections
5010280	Kenya	2007	34.75	-0.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010201	Kenya	2002	34.75	0.25	Political Parties	Political Parties	Included Excluded	Ethnically defined parties in 2002 elections
5010280	Kenya	2007	34.75	0.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010036	Kenya	1992	34.75	0.75	FORD supporters	KANU supporters	Included Excluded	From rival groups
5010054	Kenya	1994	34.75	0.75	KANU supporters	FORD supporters	Included Excluded	From rival groups
5010280	Kenya	2007	35.25	-0.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010280	Kenya	2007	35.25	0.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010280	Kenya	2007	35.25	0.75	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010259	Kenya	2006	35.75	-0.25	Kalenjins	Kikuyu	Included Included	Both EPR groups
5010280	Kenya	2007	35.75	-0.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010280	Kenya	2007	36.25	-0.75	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010280	Kenya	2007	36.25	-0.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu

5010028	Kenya	1992	36.75	-1.25	Supporters of Odinga	Supporters of Matiba	Included Excluded	Ethnically defined parties in 2007 elections - Matiba also Kikuyu
5010066	Kenya	1995	36.75	-1.25	Luo	Nubians	Excluded Excluded	Nubian are important and historical group - but lack political recognition
5010089	Kenya	1997	36.75	-1.25	KANU supporters	Opposition parties	Included Excluded	Ethnically defined parties in 1997 elections
5010180	Kenya	2001	36.75	-1.25	Young men	Slum dwellers	Excluded Excluded	Nubian are important and historical group - but lack political recognition
5010200	Kenya	2002	36.75	-1.25	NARC Party	KANU Party	Included Excluded	Ethnically defined parties in 2002 elections
5010280	Kenya	2007	36.75	-1.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5010285	Kenya	2008	36.75	0.25	Kikuyus	Turkana	Included Included	Turkana and Kikuyu both EPR groups
5010063	Kenya	1995	37.25	-1.75	KANU supporters	FORD supporters	Included Excluded	From rival groups
5010174	Kenya	2001	37.75	-3.25	KANU youths	Democratic Party supporters	Included Excluded	From rival groups
5010032	Kenya	1992	38.25	0.25	Political parties	Political parties	Included Excluded	Ethnically defined parties in 1997 elections
5010107	Kenya	1997	38.25	0.25	Kenya African National Union	Opposition parties	Included Excluded	Ethnically defined parties in 1992 elections
5010275	Kenya	2007	38.25	0.25	Political parties	Political parties	Included Excluded	From rival groups
5010053	Kenya	1993	39.75	-4.25	Kenya National African Union	FORD party	Included Excluded	From rival groups

5010201	Kenya	2002	39.75	-4.25	Political Parties	Political Parties	Included Excluded	Ethnically defined parties in 1992 elections
5010280	Kenya	2007	39.75	-4.25	Odinga supporters	Kibaki supporters	Included Excluded	Luo and Kikuyu
5100030	Tanzania	2000	39.25	-6.25	Opposition supporters	Ruling party followers	Included Excluded	CUF although a liberal party draw most their support from Zanzibar Muslims, CCM represent mainland and Afro-Sharaz group in Zanzibar - Zanzibar is Tanzania's Northern Ireland
5100035	Tanzania	2001	39.25	-6.25	Ruling party supporters	CUF supporters	Included Excluded	CUF although a liberal party draw most their support from Zanzibar Muslims, CCM represent mainland and Afro-Sharaz group in Zanzibar - Zanzibar is Tanzania's Northern Ireland
5100066	Tanzania	2005	39.25	-6.25	Youths	Citizens	Included Excluded	CUF although a liberal party draw most their support from Zanzibar Muslims, CCM represent mainland and Afro-Sharaz group in Zanzibar - Zanzibar is Tanzania's Northern Ireland
5160007	Burundi	1994	29.25	-3.75	Hutus	Tutsi	Included Excluded	
5160007	Burundi	1994	29.25	-3.25	Hutus	Tutsi	Included Excluded	
5160018	Burundi	1994	29.75	-3.25	Hutu	Tutsi	Included Excluded	
5160007	Burundi	1994	30.25	-2.75	Hutus	Tutsi	Included Excluded	
5160024	Burundi	1995	30.25	-2.75	Tutsi	Hutu	Included Excluded	
5170026	Rwanda	1994	29.25	-2.25	unknown	Hutu refugees	Included Excluded	Hutu-Tutsi violence

5170012	Rwanda	1993	29.25	-1.75	Hutus	Tutsi	Included Excluded	
5170020	Rwanda	1994	29.75	-2.25	Social Democratic Party members	Martin Bucyana, leader of Coalition for the Defense of the Republic	Included Excluded	Ethnic parties before the genocide
5170034	Rwanda	1995	29.75	-2.25	village residents	returning Hutu refugees	Included Excluded	Hutu-Tutsi violence
5170050	Rwanda	1997	29.75	-2.25	unknown	released prisoners	Included Excluded	Hutu-Tutsi violence
5170003	Rwanda	1992	30.25	-2.25	Hutus	Tutsi	Included Excluded	Hutu-Tutsi violence
5170004	Rwanda	1992	30.25	-1.75	ruling party supporters	opposition parties	Included Excluded	Hutu-Tutsi violence
5300045	Ethiopia	2005	40.75	9.25	Oromo ethnic group	Somali ethnic group	Included Excluded	EPR groups
5510014	Zambia	1995	25.75	-17.75	Black Zambians	Asian Zambians		Asian Zambians not politically active
5510006	Zambia	1991	28.25	-15.25	Supporters of Movement for Multiparty Democracy party	Supporters of United National Independence Party	Included Included	Ethnically defined parties?
5510057	Zambia	2001	28.25	-15.25	Supporters of Movement for Multiparty Democracy party	Supporters of Forum for Democracy and Development	Included Included	Ethnically defined parties

5510099	Zambia	2006	28.25	-15.25	Supporters of President Levy Mwanawasa	Supporters of opposition candidate Michael Sata	Included Included	Ethnically defined parties in 2006 elections
5510109	Zambia	2008	28.25	-15.25	Supporters of ruling party	Supporters of opposition party	Included Included	Ethnically defined parties in 2006 elections
5510087	Zambia	2005	28.25	-14.25	Supporters of President Levy Mwanawasa	Opponents of the president	Included Included	Ethnically defined parties prior to the 2006 elections
5510018	Zambia	1996	32.25	-14.25	Supporters of President Frederick Chiluba	Supporters of former president Kenneth Kaunda	Included Included	Ethnically defined parties in 1996 by-election
5510091	Zambia	2006	32.25	-14.25	Ruling party members	Opposition party supporters	Included Included	Ethnically defined parties
5510013	Zambia	1995	32.25	-13.25	Rival party supporters	Rival party supporters	Included Included	Ethnically defined parties
5520266	Zimbabwe	2005	29.25	-19.25	unknown	white farmers	Included Excluded	Black-White dimension - EPR labels Whites as European
5520110	Zimbabwe	2000	29.75	-19.75	MDC supporters	ZANU-PF supporters	Included Excluded	Ruling party ZANU-PR drew majority of its support from the Shona group
5520093	Zimbabwe	2000	29.75	-18.75	ZANU-PF youth members	white farmers	Included Excluded	White - black groups
5520108	Zimbabwe	2000	30.25	-20.25	MDC supporters	ZANU-PF supporters	Included Excluded	ZANU-PF represent Shona
5520166	Zimbabwe	2001	30.25	-19.25	MDC supporters	ZANU-PF	Included Excluded	ZANU-PF represent Shona

5520087	Zimbabwe	2000	31.25	-17.75	ruling party members	Movement for Democratic Change supporters	Included Excluded	Ruling party ZANU-PR drew majority of its support from the Shona group
5520101	Zimbabwe	2000	31.25	-17.25	ZANU-PF	MDC	Included Excluded	Violence between parties - ZANU-PR gain support from Shona in 2000
5530031	Malawi	1996	33.75	-13.75	MCP supporters	UDC supporters	Included Included	MCP represents Chewa and Nyanja groups and UDC represents Yao group
5530040	Malawi	1999	33.75	-11.25	Alliance for Democracy supporters	Mosques	Included Included	From rival groups
5530040	Malawi	1999	34.25	-11.25	Alliance for Democracy supporters	Mosques	Included Included	From rival groups
5530041	Malawi	1999	34.75	-15.75	Alliance for Democracy supporters	UDC candiates	Included Included	MCP represents Chewa and Nyanja groups and UDC represents Yao group
5600374	South Africa	1995	18.25	-33.75	White students	Black students	Included Included	
5600324	South Africa	1994	18.75	-33.75	National Party supporters	Nelson Mandela	Included Included	Afrikaans and Xhosa parties (respectively)
5600222	South Africa	1993	21.25	-31.75	Inkatha Freedom Party supporters	ANC supporters	Excluded Excluded	
5600010	South Africa	1990	25.25	-29.25	United Democratic Front	Inkatha Freedom Party	Excluded Excluded	Xhosa and Zulu groups
5600757	South Africa	2008	26.25	-29.25	Black students	White students	Included Included	

5600035	South Africa	1990	26.75	-27.75	black National Union of Mineworkers	white Mine Workers Union	Included Excluded	White - black groups
5600121	South Africa	1991	26.75	-27.75	Xhosa miners	Basotho miners	Included Included	EPR groups
5600453	South Africa	1996	26.75	-26.75	Xhosas	Sothos	Included Included	EPR groups
5600460	South Africa	1996	27.25	-25.75	Xhosas	Sothos	Included Included	EPR groups
5600396	South Africa	1995	27.75	-26.75	Xhosas	Sotho migrant workers	Included Included	Sotho not foreign to South Africa - EPR groups
5600110	South Africa	1991	27.75	-26.25	African National Congress supporters	IFP supporters	Excluded Excluded	Xhosa-Zulu
5600451	South Africa	1996	27.75	-26.25	National Union of Mineworkers	United Workers Union	Included Included	Rival Xhosa and Zulu Unions
5600110	South Africa	1991	28.25	-26.25	African National Congress supporters	IFP supporters	Excluded Excluded	Xhosa-Zulu
5600222	South Africa	1993	28.25	-26.25	Inkatha Freedom Party supporters	ANC supporters	Excluded Excluded	Xhosa-Zulu
5600330	South Africa	1994	28.25	-26.25	African National Congress	Inkatha Freedom Party	Included Included	Violent not non-violence clashes between groups

5600436	South Africa	1996	28.25	-25.75	Black university students	White university students	Included Included	
5600058	South Africa	1990	29.75	-27.75	Zulu mine workers	Xhosa mine workers	Excluded Excluded	Xhosa-Zulu
5600674	South Africa	2004	30.25	-30.75	ANC supporters	IFP supporters	Included Included	Xhosa and Zulu parties (respectively)
5600222	South Africa	1993	30.25	-28.25	Inkatha Freedom Party supporters	ANC supporters	Excluded Excluded	Xhosa and Zulu parties (respectively)
5600675	South Africa	2004	30.75	-29.75	ANC supporters	IFP supporters	Included Included	Xhosa and Zulu parties (respectively)
5650002	Namibia	1993	23.75	-17.75	Mafwe tribespeople	Mayeyi tribespeople	Excluded Excluded	Mayeyi important group - especially in Caprivi Stripe - but not listed as EPR
6150075	Algeria	1998	4.25	36.75	Berbers	Fundamentalists	Included Excluded	EPR groups - fundamentalists from Arab group - history of political action
6250133	Sudan	2005	31.75	4.75	John Garang supporters	Government	Included Excluded	Africa - Arab groups
6250133	Sudan	2005	31.75	9.75	John Garang supporters	Government	Included Excluded	Africa - Arab groups
6250133	Sudan	2005	32.75	15.75	John Garang supporters	Government	Included Excluded	Africa - Arab groups
6250166	Sudan	2007	32.75	15.75	National Congress students	SPLM students	Included Excluded	Arab and African groups
6510177	Egypt	2005	29.75	31.25	Muslims	Coptic Christians	Included Excluded	EPR groups
6510240	Egypt	2007	29.75	31.25	Muslim youths	Coptic Christian youths	Included Excluded	EPR groups

6510084	Egypt	1999	30.75	26.75	Muslim villagers	Coptic Christian villagers	Included Excluded	EPR groups
6510263	Egypt	2008	30.75	27.75	Muslims	Coptic Christians	Included Excluded	EPR groups
6510104	Egypt	2002	30.75	28.75	Muslim villagers	Coptic Christian villagers	Included Excluded	EPR groups
6510236	Egypt	2007	31.25	29.25	Muslims	Coptic Christians	Included Excluded	EPR groups
6510084	Egypt	1999	31.25	29.75	Muslim villagers	Coptic Christian villagers	Included Excluded	EPR groups
6510234	Egypt	2007	31.25	29.75	Muslim villagers	Coptic Christian villagers	Included Excluded	EPR groups
6510189	Egypt	2005	31.75	30.75	Muslim villagers	Coptic Christian villagers	Included Excluded	EPR groups
6510192	Egypt	2006	32.25	25.75	Muslim villagers	Coptic Christian villagers	Included Excluded	Participation at least 100 - described as massive riots with at least 55 injured
6510084	Egypt	1999	32.25	26.25	Muslim villagers	Coptic Christian villagers	Included Excluded	EPR groups
6510247	Egypt	2007	32.75	25.25	Muslims	Coptic Christians	Included Excluded	EPR groups

Table 6. Descriptive statistics for all variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Ethnic Riots	196852	0.001	0.037	0	1
Undivided – Dominant Group in Grid	196852	0.156	0.363	0	1
Senior Group (Powersharing) in Grid	196852	0.157	0.364	0	1
Junior Group (Powersharing) in Grid	196852	0.246	0.431	0	1
Autonomous Group in Grid	196852	0.021	0.143	0	1
Powerless Group in Grid	196852	0.241	0.428	0	1
Discriminated Group in Grid	196852	0.067	0.249	0	1
Downgraded Group (one-level) in Grid	196852	0.031	0.173	0	1
Upgraded Group (one-level) in Grid	196852	0.036	0.187	0	1
Newly Discriminated Group in Grid	196852	0.007	0.085	0	1
New Loss of Group Power in Grid	196852	0.016	0.126	0	1
Post Group Discrimination in Grid	196852	0.011	0.103	0	1
Group Upgraded to Government in Grid	196852	0.022	0.147	0	1
No EPR Group in Grid	196852	0.278	0.448	0	1
Grid-Level Controls					
Grid Wealth (GCP) (log)	196852	7.384	1.206	4.621	16.705
Grid Population (log)	196852	9.483	2.085	4.605	16.319
Unrest Previous Year (grid)	196852	0.001	0.033	0	1
Violence in Neighbouring Grid	196852	0.001	0.015	0	1
Time to Urban Centre (mins)	196852	684.686	699.883	0	6133
Distance to Capital (kilometre)	196852	645.764	411.957	4	1948
National-Level Controls					
Size of Excluded Group (%)	196852	0.057	0.128	0.000	0.850
No. Excluded Groups	196852	2.885	3.641	0	12
National Population (log)	196852	16.590	1.085	13.668	18.834
PolityIV2	196852	-0.746	5.277	-10	10
Elections	196852	0.192	0.394	0	1
Number of Peaceyears	196852	12.998	15.639	0	57

Table 7. Robustness checks I

	Model 7 Communal Violence IV	Model 8 Communal Violence IV	Model 9 Communal Violence IV	Model 10 Communal Violence IV	Model 11 Communal Violence DV	Model 12 Communal Violence DV[36]	Model 13 EPR Data T-1	Model 14 EPR Data T-1
Undivided Power (dominant group)		0.267						
		(0.289)						
Dominant and Discriminated Coexist		1.349**						
		(0.429)						
Senior Group (powersharing)	-0.138	0.181			0.469		0.428	
	(0.307)	(0.280)			(0.609)		(0.335)	
Junior Group (powersharing)	-0.114	0.178			0.233		0.395*	
	(0.199)	(0.170)			(0.316)		(0.169)	
Autonomous Group	0.247	0.517			0.454		0.549	
	(0.758)	(0.751)			(0.352)		(0.701)	
Powerless Group	-0.299	0.020			0.896***		-0.061	
	(0.318)	(0.341)			(0.261)		(0.274)	
Discriminated Group	0.592**	0.441			1.030**		0.716***	
	(0.228)	(0.275)			(0.382)		(0.215)	
Downgrade in Political Power			0.600**	0.170		-0.632		0.965***
			(0.219)	(0.197)		(0.533)		(0.210)
Upgrade in Political Power			0.139	-0.259		-0.221		-0.126
			(0.257)	(0.211)		(0.287)		(0.208)
Downgraded and Upgraded Coexist				1.327**				
				(0.427)				
No EPR Group in Grid	-1.344*		-1.218*	-1.226*	1.111**	0.491	-0.921+	-1.157*
	(0.550)		(0.546)	(0.545)	(0.371)	(0.339)	(0.530)	(0.542)
Grid Wealth (GCP) (log)	0.029	0.085	0.026	0.024	-0.252	-0.275	0.067	0.033
	(0.098)	(0.104)	(0.085)	(0.081)	(0.188)	(0.192)	(0.093)	(0.092)
Grid Population (log)	0.804***	0.822***	0.824***	0.826***	0.490**	0.492*	0.831***	0.874***
	(0.090)	(0.088)	(0.097)	(0.096)	(0.168)	(0.195)	(0.089)	(0.094)
Size of Excluded Group	0.822+	0.669	0.695**	0.664**	-1.036	0.083	0.841*	0.758*
	(0.424)	(0.510)	(0.237)	(0.240)	(0.936)	(0.482)	(0.410)	(0.294)

[36] Note: No communal violence events occur in areas of coexistence between dominant and discriminated groups, and downgraded and upgraded groups. Therefore, the model with this interaction could not be replicated for communal violence outcomes. This is further evidence that ethnic riots and armed communal violence are distinct forms of conflict, caused by different ethnic-based mechanisms.

Time to Urban Centre (mins)	-0.002*	-0.002*	-0.002*	-0.002*	-0.000	-0.000	-0.002*	-0.002+
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Distance to Capital (km)	-0.000	-0.000	-0.000	-0.000	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
No. Excluded Groups	0.056	0.075+	0.052	0.056	-0.125**	-0.106*	0.071+	0.053
	(0.044)	(0.043)	(0.040)	(0.040)	(0.048)	(0.053)	(0.037)	(0.033)
National Population (log)	-0.257*	-0.190+	-0.256*	-0.238+	0.144	0.090	-0.189	-0.216+
	(0.120)	(0.111)	(0.127)	(0.127)	(0.200)	(0.196)	(0.117)	(0.128)
Regime Type (Polity2)	0.096***	0.102***	0.080***	0.085***	0.063**	0.068***	0.067**	0.080***
	(0.021)	(0.024)	(0.020)	(0.019)	(0.021)	(0.020)	(0.022)	(0.019)
National Elections	0.762**	0.792**	0.761*	0.754*	-0.032	0.040	0.866***	0.896***
	(0.279)	(0.295)	(0.315)	(0.293)	(0.194)	(0.165)	(0.256)	(0.244)
Number of Peace Years	0.005	0.006	0.007	0.008	-0.001	-0.002	0.006	0.006
	(0.007)	(0.007)	(0.006)	(0.006)	(0.011)	(0.012)	(0.007)	(0.006)
Years Since Last Ethnic Riot	-0.462**	-0.437*	-0.425**	-0.600***	-1.333***	-1.285***	-0.589***	-0.564***
(or Communal Violence)	(0.170)	(0.180)	(0.161)	(0.103)	(0.357)	(0.354)	(0.129)	(0.122)
Spline1	-0.005	-0.005	0.000	-0.037	-0.067	-0.049	-0.026	-0.021
	(0.046)	(0.047)	(0.045)	(0.033)	(0.086)	(0.085)	(0.036)	(0.037)
Spline2	-0.007	-0.007	-0.009	0.005	-0.000	-0.008	0.000	-0.002
	(0.019)	(0.020)	(0.019)	(0.015)	(0.036)	(0.035)	(0.016)	(0.016)
Spline3	0.004	0.004	0.005	0.002	0.012	0.014	0.003	0.004
	(0.006)	(0.006)	(0.005)	(0.005)	(0.012)	(0.012)	(0.005)	(0.005)
UCDP Communal Violence	2.703***	2.706***	2.750***	2.780***				
	(0.379)	(0.393)	(0.369)	(0.386)				
Constant	-10.508***	-12.832***	-10.969***	-11.227***	-10.871***	-9.343**	-12.622***	-12.288***
	(1.617)	(1.562)	(1.424)	(1.387)	(2.768)	(2.917)	(1.521)	(1.909)
Observations	196854	196854	196854	196854	196854	196854	196852	196852

Table 8. Robustness checks II

	Model 15 Parliamentary vs. Presidential	Model 16 Parliamentary vs. Presidential	Model 17 Parliamentary vs. Presidential	Model 18 Parliamentary vs. Presidential	Model 19 Freedom House	Model 20 Freedom House	Model 21 Freedom House	Model 22 Freedom House
Undivided Power (dominant group)		0.156				0.232		
		(0.272)				(0.271)		
Dominant and Discriminated Coexist		1.371**				1.342***		
		(0.431)				(0.401)		
Senior Group (powersharing)	0.047	0.302			-0.012	0.286		
	(0.354)	(0.328)			(0.360)	(0.337)		
Junior Group (powersharing)	0.017	0.243			0.015	0.288+		
	(0.194)	(0.151)			(0.189)	(0.148)		
Autonomous Group	0.621	0.817			0.753	0.965		
	(0.728)	(0.726)			(0.797)	(0.792)		
Powerless Group	-0.053	0.203			-0.107	0.176		
	(0.283)	(0.302)			(0.304)	(0.322)		
Discriminated Group	0.804***	0.622**			0.745***	0.587*		
	(0.218)	(0.234)			(0.216)	(0.236)		
Downgrade in Political Power			0.594**	0.119			0.543**	0.184
			(0.216)	(0.177)			(0.192)	(0.153)
Upgrade in Political Power			0.274	-0.091			0.221	-0.086
			(0.245)	(0.186)			(0.222)	(0.172)
Downgraded and Upgraded Coexist				1.242**				1.051**
				(0.380)				(0.381)
No EPR Group in Grid	-1.136*		-1.173*	-1.197*	-1.358*		-1.362*	-1.388*
	(0.542)		(0.538)	(0.534)	(0.560)		(0.568)	(0.574)
Grid Wealth (GCP) (log)	0.076	0.146	0.065	0.060	0.130	0.187+	0.109	0.109
	(0.103)	(0.114)	(0.087)	(0.081)	(0.107)	(0.106)	(0.093)	(0.087)
Grid Population (log)	0.854***	0.878***	0.887***	0.881***	0.827***	0.853***	0.860***	0.870***
	(0.089)	(0.086)	(0.093)	(0.097)	(0.091)	(0.086)	(0.097)	(0.099)
Riots in Neighbouring Grid	4.151***	3.965***	4.001***	4.053***	4.255***	4.102***	4.105***	4.045***
	(0.582)	(0.594)	(0.404)	(0.354)	(0.529)	(0.521)	(0.387)	(0.385)
Size of Excluded Group	0.504	0.391	0.509*	0.585**	0.218	0.145	0.236	0.338+
	(0.435)	(0.496)	(0.220)	(0.210)	(0.431)	(0.491)	(0.237)	(0.204)
Time to Urban Centre (mins)	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Distance to Capital (km)	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No. Excluded Groups	0.050	0.068+	0.059+	0.062+	0.016	0.038	0.021	0.024
	(0.038)	(0.039)	(0.031)	(0.032)	(0.041)	(0.042)	(0.031)	(0.033)
National Population (log)	-0.192+	-0.144	-0.223+	-0.204+	-0.210+	-0.158	-0.227+	-0.199
	(0.109)	(0.102)	(0.120)	(0.121)	(0.112)	(0.104)	(0.126)	(0.128)
Regime Type (Polity2)	0.092***	0.096***	0.082***	0.088***	0.151***	0.154***	0.140***	0.148***
	(0.025)	(0.027)	(0.020)	(0.019)	(0.030)	(0.032)	(0.027)	(0.025)
National Elections	0.811*	0.844*	0.810*	0.840*	0.839***	0.871***	0.840**	0.790**
	(0.324)	(0.342)	(0.361)	(0.329)	(0.249)	(0.263)	(0.279)	(0.267)
Number of Peace Years	0.005	0.006	0.008	0.009	0.009	0.010+	0.012*	0.016**
	(0.007)	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Years Since Last Ethnic Riot	-0.501***	-0.509***	-0.478***	-0.632***	-0.567***	-0.564***	-0.554***	-0.622***
	(0.115)	(0.114)	(0.104)	(0.113)	(0.128)	(0.138)	(0.117)	(0.114)
Spline1	-0.011	-0.017	-0.007	-0.038	-0.025	-0.028	-0.023	-0.038
	(0.034)	(0.033)	(0.033)	(0.034)	(0.036)	(0.037)	(0.035)	(0.035)
Spline2	-0.005	-0.003	-0.007	0.004	0.000	0.002	-0.000	0.004
	(0.016)	(0.016)	(0.015)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Spline3	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Parliamentary Systems (Dummy)	-0.803***	-0.873***	-0.832***	-1.049***				
	(0.187)	(0.227)	(0.250)	(0.240)				
Freedom House (political rights)					0.351**	0.329**	0.344***	0.368***
					(0.110)	(0.104)	(0.093)	(0.094)
Constant	-12.691***	-14.768***	-12.599***	-12.767***	-13.976***	-16.026***	-14.064***	-14.772***
	(1.472)	(1.517)	(1.519)	(1.497)	(1.570)	(1.537)	(1.701)	(1.677)
Observations	196852	196852	196852	196854	196852	196852	196852	196854

+ p<0.1 * p<0.05, ** p<0.01, *** p<0.001 Cluster-robust standard errors in parentheses. All models are clustered around country-level standard errors (47 Clusters).

Table 9. Robustness checks III

	Model 23 Resource Rents	Model 24 Resource Rents	Model 25 Resource Rents	Model 26 Resource Rents	Model 27 Youth Bulge	Model 28 Youth Bulge	Model 29 Youth Bulge	Model 30 Youth Bulge
Undivided Power (dominant group)		0.261				0.198		
		(0.292)				(0.287)		
Dominant and Discriminated Coexist		1.261**				1.319**		
		(0.404)				(0.422)		
Senior Group (powersharing)	-0.024	0.263			0.001	0.259		
	(0.383)	(0.343)			(0.361)	(0.333)		
Junior Group (powersharing)	-0.032	0.233			-0.017	0.208		
	(0.201)	(0.151)			(0.197)	(0.158)		
Autonomous Group	0.454	0.680			0.567	0.736		
	(0.755)	(0.742)			(0.744)	(0.735)		
Powerless Group	-0.163	0.116			-0.099	0.142		
	(0.313)	(0.330)			(0.314)	(0.330)		
Discriminated Group	0.781***	0.637**			0.696***	0.591**		
	(0.208)	(0.232)			(0.203)	(0.209)		
Downgrade in Political Power			0.499*	0.110			0.526**	0.174
			(0.218)	(0.177)			(0.201)	(0.186)
Upgrade in Political Power			0.226	-0.112			0.284	-0.059
			(0.237)	(0.184)			(0.201)	(0.163)
Downgraded and Upgraded Coexist				1.153**				1.048**
				(0.392)				(0.389)
No EPR Group in Grid	-1.230*		-1.206*	-1.213*	-1.161*		-1.131*	-1.134*
	(0.539)		(0.534)	(0.533)	(0.530)		(0.529)	(0.529)
Grid Wealth (GCP) (log)	0.041	0.097	0.021	0.013	0.038	0.103	0.018	0.012
	(0.100)	(0.107)	(0.084)	(0.078)	(0.097)	(0.104)	(0.081)	(0.079)
Grid Population (log)	0.842***	0.862***	0.873***	0.882***	0.847***	0.866***	0.881***	0.894***
	(0.086)	(0.083)	(0.094)	(0.096)	(0.086)	(0.083)	(0.091)	(0.094)
Riots in Neighbouring Grid	4.446***	4.274***	4.349***	4.289***	4.321***	4.205***	4.113***	4.046***
	(0.522)	(0.519)	(0.365)	(0.363)	(0.587)	(0.552)	(0.425)	(0.385)
Size of Excluded Group	0.610	0.488	0.575**	0.701**	0.525	0.403	0.540+	0.686*
	(0.448)	(0.511)	(0.222)	(0.217)	(0.467)	(0.507)	(0.288)	(0.268)
Time to Urban Centre (mins)	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Distance to Capital (km)	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No. Excluded Groups	0.056	0.075+	0.057+	0.063+	0.062	0.077+	0.071*	0.077*
	(0.042)	(0.041)	(0.033)	(0.035)	(0.040)	(0.041)	(0.034)	(0.036)
National Population (log)	-0.283*	-0.234*	-0.287*	-0.268*	-0.212+	-0.162	-0.232+	-0.201
	(0.110)	(0.107)	(0.114)	(0.115)	(0.121)	(0.110)	(0.139)	(0.142)
Regime Type (Polity2)	0.095***	0.102**	0.081***	0.088***	0.088***	0.096**	0.076***	0.082***
	(0.028)	(0.032)	(0.022)	(0.021)	(0.027)	(0.030)	(0.021)	(0.020)
National Elections	0.812**	0.843**	0.805**	0.755**	0.797**	0.832**	0.791*	0.727*
	(0.267)	(0.276)	(0.296)	(0.278)	(0.277)	(0.289)	(0.309)	(0.294)
Number of Peace Years	0.005	0.006	0.007	0.010+	0.006	0.007	0.009	0.012+
	(0.007)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.006)	(0.006)
Years Since Last Ethnic Riot	-0.560***	-0.560***	-0.545***	-0.591***	-0.577***	-0.577***	-0.564***	-0.632***
	(0.126)	(0.137)	(0.119)	(0.118)	(0.119)	(0.129)	(0.108)	(0.105)
Spline1	-0.023	-0.028	-0.021	-0.032	-0.025	-0.029	-0.025	-0.041
	(0.036)	(0.037)	(0.035)	(0.035)	(0.035)	(0.036)	(0.035)	(0.034)
Spline2	-0.000	0.002	-0.001	0.003	0.000	0.002	0.000	0.006
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Spline3	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Resource Rents (% of GDP)	0.009	0.010	0.008	0.009				
	(0.006)	(0.007)	(0.007)	(0.007)				
Youth Bulges (% of population)					0.074	0.008	0.139*	0.130*
					(0.081)	(0.090)	(0.068)	(0.062)
Constant	-10.760***	-12.758***	-11.050***	-11.496***	-13.441***	-14.095***	-14.840***	-15.324***
	(1.689)	(1.836)	(1.548)	(1.550)	(2.439)	(2.594)	(2.131)	(2.110)
Observations	196852	196852	196852	196854	196852	196852	196852	196854

+ p<0.1 * p<0.05, ** p<0.01, *** p<0.001 Cluster-robust standard errors in parentheses. All models are clustered around country-level standard errors (47 Clusters).

Table 10. Robustness checks IV

	Model 31 PTS Index Repression	Model 32 PTS Index Repression	Model 33 PTS Index Repression	Model 34 PTS Index Repression	Model 35 Years Dummy	Model 36 Years Dummy	Model 37 Years Dummy	Model 38 Years Dummy
Undivided Power (dominant group)		0.228				0.190		
		(0.271)				(0.269)		
Dominant and Discriminated Coexist		1.096**				1.295**		
		(0.381)				(0.435)		
Senior Group (powersharing)	0.036	0.297			-0.009	0.254		
	(0.376)	(0.347)			(0.366)	(0.335)		
Junior Group (powersharing)	-0.021	0.227			-0.028	0.208		
	(0.193)	(0.148)			(0.199)	(0.156)		
Autonomous Group	0.704	0.882			0.480	0.695		
	(0.796)	(0.782)			(0.746)	(0.740)		
Powerless Group	-0.043	0.207			-0.133	0.135		
	(0.312)	(0.331)			(0.304)	(0.328)		
Discriminated Group	0.700***	0.588*			0.749***	0.587*		
	(0.199)	(0.238)			(0.219)	(0.229)		
Downgrade in Political Power			0.496*	0.161			0.535**	0.177
			(0.197)	(0.182)			(0.200)	(0.182)
Upgrade in Political Power			0.221	-0.097			0.319	-0.041
			(0.218)	(0.177)			(0.232)	(0.191)
Downgraded and Upgraded Coexist				0.995*				1.065**
				(0.418)				(0.386)
No EPR Group in Grid	-1.241*		-1.266*	-1.263*	-1.185*		-1.157*	-1.166*
	(0.536)		(0.541)	(0.544)	(0.534)		(0.532)	(0.533)
Grid Wealth (GCP) (log)	0.052	0.100	0.029	0.023	0.059	0.116	0.045	0.030
	(0.096)	(0.101)	(0.081)	(0.079)	(0.099)	(0.109)	(0.079)	(0.076)
Grid Population (log)	0.838***	0.857***	0.869***	0.880***	0.835***	0.859***	0.863***	0.878***
	(0.085)	(0.083)	(0.090)	(0.093)	(0.093)	(0.089)	(0.099)	(0.102)
Riots in Neighbouring Grid	3.996***	3.912***	3.862***	3.836***	4.301***	4.165***	4.122***	4.105***
	(0.508)	(0.495)	(0.386)	(0.363)	(0.545)	(0.527)	(0.399)	(0.369)
Size of Excluded Group	0.180	0.146	0.263	0.391	0.676	0.514	0.705*	0.789**
	(0.428)	(0.480)	(0.237)	(0.249)	(0.488)	(0.571)	(0.282)	(0.281)
Time to Urban Centre (mins)	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Distance to Capital (km)	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No. Excluded Groups	0.023	0.046	0.030	0.036	0.061	0.078*	0.064*	0.069+
	(0.042)	(0.042)	(0.035)	(0.038)	(0.039)	(0.040)	(0.032)	(0.035)
National Population (log)	-0.289*	-0.227+	-0.310*	-0.278+	-0.241*	-0.185+	-0.269*	-0.225+
	(0.133)	(0.124)	(0.145)	(0.152)	(0.113)	(0.106)	(0.124)	(0.128)
Regime Type (Polity2)	0.086**	0.092**	0.076***	0.080***	0.084**	0.091**	0.068***	0.076***
	(0.026)	(0.029)	(0.020)	(0.019)	(0.027)	(0.029)	(0.020)	(0.020)
National Elections	0.829**	0.855**	0.822**	0.769**	0.800**	0.830**	0.795**	0.737*
	(0.266)	(0.280)	(0.295)	(0.283)	(0.276)	(0.287)	(0.307)	(0.294)
Number of Peace Years	0.013+	0.012+	0.015*	0.017**	0.006	0.007	0.009	0.012+
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.007)
Years Since Last Ethnic Riot	-0.589***	-0.585***	-0.580***	-0.612***	-0.596***	-0.591***	-0.585***	-0.617***
	(0.126)	(0.135)	(0.111)	(0.109)	(0.119)	(0.130)	(0.108)	(0.107)
Spline1	-0.029	-0.032	-0.029	-0.037	-0.029	-0.032	-0.028	-0.037
	(0.037)	(0.037)	(0.035)	(0.035)	(0.035)	(0.036)	(0.035)	(0.034)
Spline2	0.001	0.002	0.001	0.004	0.001	0.003	0.001	0.004
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.015)
Spline3	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
State Repression (PTS)	0.363**	0.296*	0.355**	0.333**				
	(0.125)	(0.119)	(0.111)	(0.120)				
Year Variable					0.018	0.014	0.026	0.018
					(0.016)	(0.016)	(0.016)	(0.016)
Constant	-11.829***	-13.713***	-11.784***	-12.383***	-48.346	-41.379	-63.122*	-47.914
	(1.546)	(1.550)	(1.719)	(1.759)	(31.458)	(31.986)	(30.986)	(30.722)
Observations	196852	196852	196852	196852	196852	196852	196852	196854

+ p<0.1 * p<0.05, ** p<0.01, *** p<0.001 Cluster-robust standard errors in parentheses. All models are clustered around country-level standard errors (47 Clusters).

Table 11. Robustness checks V

	Model 39 Nigeria Dummy	Model 40 Nigeria Dummy	Model 41 Nigeria Dummy	Model 42 Nigeria Dummy	Model 43 Count Model	Model 44 Count Model	Model 45 Count Model	Model 46 Count Model
Undivided Power (dominant group)		0.320				0.039		
		(0.303)				(0.234)		
Dominant and Discriminated Coexist		1.165**				1.693***		
		(0.387)				(0.425)		
Senior Group (powersharing)	-0.100	0.231			-0.029	0.251		
	(0.412)	(0.357)			(0.342)	(0.343)		
Junior Group (powersharing)	-0.116	0.198			-0.130	0.096		
	(0.233)	(0.163)			(0.216)	(0.179)		
Autonomous Group	0.350	0.643			0.792	0.961		
	(0.743)	(0.726)			(0.938)	(0.918)		
Powerless Group	-0.235	0.090			-0.164	0.097		
	(0.318)	(0.333)			(0.270)	(0.289)		
Discriminated Group	0.778***	0.654**			0.695**	0.343		
	(0.194)	(0.219)			(0.258)	(0.236)		
Downgrade in Political Power			0.478*	0.063			0.449+	0.109
			(0.213)	(0.176)			(0.229)	(0.197)
Upgrade in Political Power			0.225	-0.167			0.351	0.052
			(0.239)	(0.185)			(0.244)	(0.200)
Downgraded and Upgraded Coexist				1.214**				1.105*
				(0.415)				(0.442)
No EPR Group in Grid	-1.384*		-1.260*	-1.283*	-1.437**		-1.381*	-1.703**
	(0.558)		(0.534)	(0.534)	(0.545)		(0.539)	(0.568)
Grid Wealth (GCP) (log)	0.083	0.117	0.051	0.051	0.018	0.101	0.013	0.017
	(0.092)	(0.097)	(0.084)	(0.075)	(0.079)	(0.088)	(0.081)	(0.084)
Grid Population (log)	0.858***	0.873***	0.884***	0.895***	0.838***	0.864***	0.868***	0.889***
	(0.084)	(0.081)	(0.092)	(0.094)	(0.099)	(0.094)	(0.101)	(0.090)
Riots in Neighbouring Grid	4.464***	4.264***	4.384***	4.313***	5.581***	5.400***	5.372***	5.091***
	(0.497)	(0.508)	(0.357)	(0.362)	(1.211)	(1.174)	(1.207)	(0.966)
Size of Excluded Group	0.558	0.424	0.533*	0.647**	0.368	0.340	0.342	0.232
	(0.441)	(0.508)	(0.223)	(0.224)	(0.496)	(0.552)	(0.312)	(0.421)
Time to Urban Centre (mins)	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Distance to Capital (km)	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No. Excluded Groups	0.067	0.083*	0.066*	0.073*	0.043	0.062+	0.052	0.013
	(0.043)	(0.041)	(0.032)	(0.035)	(0.036)	(0.038)	(0.034)	(0.047)
National Population (log)	-0.430**	-0.329*	-0.384**	-0.387**	-0.146	-0.087	-0.166	-0.031
	(0.143)	(0.139)	(0.135)	(0.137)	(0.129)	(0.120)	(0.137)	(0.148)
Regime Type (Polity2)	0.096***	0.102***	0.079***	0.085***	0.088**	0.088**	0.072**	0.058*
	(0.028)	(0.031)	(0.021)	(0.019)	(0.030)	(0.030)	(0.024)	(0.025)
National Elections	0.804**	0.836**	0.797*	0.758**	0.806**	0.820**	0.795**	0.661**
	(0.287)	(0.296)	(0.309)	(0.293)	(0.268)	(0.273)	(0.293)	(0.228)
Number of Peaceyears	0.002	0.003	0.005	0.008	0.010	0.012	0.013*	0.014+
	(0.006)	(0.007)	(0.006)	(0.006)	(0.008)	(0.007)	(0.007)	(0.008)
Years Since Last Ethnic Riot	-0.523***	-0.531***	-0.518***	-0.564***	-0.471***	-0.473***	-0.439***	-0.386***
	(0.124)	(0.132)	(0.117)	(0.116)	(0.122)	(0.125)	(0.115)	(0.108)
Spline1	-0.019	-0.024	-0.018	-0.030	-0.019	-0.025	-0.016	-0.007
	(0.035)	(0.036)	(0.034)	(0.034)	(0.037)	(0.037)	(0.038)	(0.034)
Spline2	-0.002	0.000	-0.002	0.002	0.001	0.004	0.001	-0.003
	(0.016)	(0.016)	(0.015)	(0.015)	(0.017)	(0.017)	(0.017)	(0.016)
Spline3	0.003	0.003	0.003	0.002	0.001	0.001	0.001	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Nigeria	0.692*	0.557+	0.502+	0.610*				
	(0.298)	(0.312)	(0.273)	(0.270)				
Constant	-8.767***	-11.420***	-9.777***	-9.916***	-12.734***	-15.121***	-12.975***	-15.587***
	(2.298)	(2.330)	(1.755)	(1.787)	(2.052)	(2.048)	(2.157)	(2.359)
Log n Alpha					2.220***	2.176***	2.199***	2.265***
					(0.505)	(0.511)	(0.524)	(0.372)
Observations	196852	196852	196852	196854	196852	196852	196852	196854

+ p<0.1 * p<0.05, ** p<0.01, *** p<0.001 Cluster-robust standard errors in parentheses. All models are clustered around country-level standard errors (47 Clusters).

Table 12. Robustness checks

	Model 47 Country and Year FEs	Model 48 Country and Year FEs	Model 49 Country and Year FEs	Model 50 Country and Year FEs
Undivided Power (dominant group)		0.694+		
		(0.373)		
Dominant and Discriminated Coexist		1.882***		
		(0.479)		
Senior Group (powersharing)	-0.367	-0.030		
	(0.369)	(0.339)		
Junior Group (powersharing)	-0.242	0.129		
	(0.211)	(0.166)		
Autonomous Group	0.688	1.003		
	(1.068)	(1.068)		
Powerless Group	-0.236	0.123		
	(0.414)	(0.423)		
Discriminated Group	0.360+	0.342		
	(0.184)	(0.208)		
Downgrade in Political Power			0.253+	-0.126
			(0.230)	(0.243)
Upgrade in Political Power			0.226	-0.119
			(0.263)	(0.262)
Downgraded and Upgraded Coexist				1.032+
				(0.552)
No EPR Group in Grid	-1.410**		-1.201*	-1.232*
	(0.487)		(0.506)	(0.493)
Grid Wealth (GCP) (log)	0.865***	0.833***	0.845***	0.836***
	(0.063)	(0.079)	(0.070)	(0.076)
Grid Population (log)	0.747***	0.768***	0.747***	0.759***
	(0.105)	(0.101)	(0.105)	(0.106)
Riots in Neighbouring Grid	2.845***	2.694***	2.917***	2.992***
	(0.595)	(0.545)	(0.541)	(0.531)
Size of Excluded Group	0.108	0.251	0.084	0.146
	(0.898)	(0.789)	(0.888)	(0.931)
Time to Urban Centre (mins)	-0.003**	-0.003**	-0.003*	-0.003*
	(0.001)	(0.001)	(0.001)	(0.001)

Distance to Capital (km)	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
No. Excluded Groups	0.140	0.067	0.184	0.204
	(0.192)	(0.194)	(0.188)	(0.200)
National Population (log)	-3.621	-2.109	-4.434*	-4.773*
	(2.268)	(2.492)	(1.996)	(2.123)
Regime Type (Polity2)	0.165***	0.158**	0.144**	0.160***
	(0.049)	(0.050)	(0.049)	(0.048)
National Elections	0.837***	0.853***	0.852***	0.832***
	(0.207)	(0.213)	(0.201)	(0.197)
Number of Peaceyears	0.006	0.005	0.007	0.009
	(0.009)	(0.009)	(0.007)	(0.007)
Years Since Last Ethnic Riot	-0.516**	-0.526**	-0.524**	-0.541***
	(0.184)	(0.180)	(0.186)	(0.139)
Spline1	-0.050	-0.052	-0.051	-0.066+
	(0.041)	(0.041)	(0.042)	(0.035)
Spline2	0.013	0.013	0.013	0.021
	(0.017)	(0.016)	(0.016)	(0.015)
Spline3	-0.002	-0.002	-0.002	-0.005
	(0.005)	(0.004)	(0.005)	(0.005)
Country and Year Fixed Effects?	Yes	Yes	Yes	Yes
Observations	130777	130777	130777	130777

+ p<0.1 * p<0.05, ** p<0.01, *** p<0.001 Cluster-robust standard errors in parentheses.

Chapter 3.

The Hunger Games: Food Prices, Ethnic Cleavages and Nonviolent Unrest in Africa

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Abstract:

Nonviolent movements are more successful when mobilising large and diverse numbers of participants. A growing literature suggests ethnic divisions undermine the ability of activists to engage in mass and diverse nonviolent mobilisation. Yet large and diverse social movements have emerged in numerous ethnically divided societies. I argue that mass nonviolent mobilisation is made possible in ethnically polarised contexts when broader cross-cutting grievances are present as they enable local activists to widen their appeal across social lines. I focus on food price spikes as an example of a cross-cutting issue that is likely to affect consumers from different ethnic groups. Using new spatially disaggregated data on government targeted nonviolent action I analyse grid-cell years across 41 African countries (1990-2008). I find strong evidence that food price spikes increase the likelihood of nonviolent action in ethnically diverse locations.

3.1. Introduction

In recent years, mass nonviolent resistance has become an increasingly prevalent form of anti-government dissent. Movements have been remarkably successful in effecting political change using unconventional nonviolent action (i.e. Chenoweth and Stephan, 2011), which is broadly defined as a combination of persuasive tactics (i.e. protests and demonstrations) and noncompliant methods (i.e. strikes and sit-ins) (Sharp, 2005).[37] The growing civil resistance literature relates this success to a movement's ability to mobilise *large* and *diverse* numbers of participants across social lines, which builds legitimacy and draws support away from the government (DeNardo, 1985; Schock, 2005; Sharp, 2005; Svensson and Lindgren, 2011; Chenoweth and Stephan, 2011).

Yet while there has been considerable research on the outcomes of nonviolent campaigns, far less is known about the initial emergence of nonviolent action (Chenoweth and Ulfelder, 2017), in particular, how movements succeed in mobilising large numbers of people across diverse support bases. There are many prominent examples where activists have engaged in mass nonviolent action after successfully unifying otherwise disparate social groups. This includes activists from divided societies involved in the "Arab Spring" and movements that have emerged in countries with a history of ethnic conflict (i.e. Burundi and Bosnia). Yet a number of recent studies have shown that ethnic cleavages undermine nonviolent mobilisation across group lines, by reducing the ability of activists to attract mass numbers of people from different social groups (Svensson and Lindgren 2011; Arriola, 2013;

[37] While nonviolence is a contested concept, this widely used definition of nonviolent action focuses on mass and unconventional measures of action, undertaken by individuals and organisations that aim to overthrow a regime or change government policy (see also Schock 2003; Chenoweth and Stephan, 2011; Butcher and Svensson, 2016).

Vidovic and Gleditsch, 2015; Thurber, 2017).[38] How do nonviolent movements mobilise sufficient numbers in societies with ethnic divisions?

This article seeks to unravel this question and extend our understanding of emergence by highlighting a process through which nonviolent activists overcome local ethnic divisions to engage in mass and diverse mobilisation. I argue that cross-cutting grievances, which transcend local divisions within and between politically relevant ethnic groups, provide opportunities for activists to appeal to individuals across ethnic boundaries, thereby greatly facilitating mass and diverse nonviolent mobilisation in more challenging ethnically divided contexts. I focus on one example of a cross-cutting issue, spikes in domestic food prices, which are likely to impact consumers from all social groups, enabling a movement to mobilise individuals based on a common economic grievance.

To test these claims I disaggregate the emergence of nonviolent action to the subnational-level, using new geocoded events data. This approach advances existing quantitative research that has tended to explore emergence using country-level variables that do not reflect subnational realities (i.e. Chenoweth and Ulfelder, 2017; Butcher and Svensson, 2016). Ethnic cleavages are a social barrier faced by activists locally and vary considerably within countries along with other structural factors that influence the viability of nonviolent mobilisation. I explore the emergence of nonviolent action across subnational grid-cells of 41 peacetime African countries (1990-2008). Specifically I explore the settlement areas of ethnic groups included and excluded from power, and diverse locations where excluded ethnic groups coexist with other groups. The findings provide strong evidence that the cross-cutting nature of food price spikes increase the feasibility of nonviolent action in diverse areas that would otherwise be unlikely to observe nonviolent action.

[38] I define ethnicity as a socially constructed ascriptive identity, based on common descent and collective cultural affiliations such as: language, tribe, race, and religion (Horowitz, 1985).

The article begins by exploring existing research and ways local ethnic cleavages may constrain nonviolent action, before theorising food prices as a cross-cutting issue that facilitates mass and diverse mobilisation. This is followed by the research design, empirical evidence and concluding remarks.

3.2. Ethnic Divisions and Nonviolent Mobilisation

The goal of mass nonviolent action is to generate enough leverage to undermine the state's legitimacy and ability to rule or impose particular policies (Schock, 2005). The civil-resistance literature argues that leverage is achieved through greater numbers and the diverse participation of various social groups, which provides sufficient popular support to disrupt state functions (DeNardo, 1985; Schock, 2005; Sharp, 2005 Chenoweth and Stephan, 2011; Svensson and Lindgren, 2011). Few governments confronting nonviolent action from 5% of the population have avoided political change (Lichbach, 1998).

Studies of civil resistance tend to explain the emergence of nonviolent action through forms of political agency, such as the skills and leadership of activists (Sharp, 2005; Schock, 2005). Yet, mass and diverse mobilisation is also likely to be dependent on existing structural contexts that remain outside the control of political activists (Goldstone, 1994; Chenoweth and Ulfelder, 2017; Butcher and Svensson, 2016). Nepstad (2015), for example, points to three broad determinants of the emergence of nonviolent action: widely held grievances against the government, inter-group coalitions, and space or openings to organise nonviolent action. While the latter has synergies to opportunity factors and resources that provide 'space' for mobilisation, the former largely correspond to two interconnected forms of mobilization unique to nonviolent action: *vertical* mobilisation against the regime (i.e. widespread anti-government grievances) and *horizontal* mobilisation across diverse social groups (coalition building). In

using mass grievances to mobilise vertically against the regime, nonviolent action seeks to dislocate the regime from its so-called 'pillars of support', e.g. police, military, workers, civil servants, business, political parties and religious organisations that provide key sources of power, which if removed, limit the regime's ability to rule (Sharp, 2005). This vertical challenge aims to generate sympathy within these institutions and encourage loyalty switches; especially amongst security forces that carry out state repression (Chenoweth and Stephan, 2011; Nepstad, 2015).

Nonviolent mobilisation also occurs horizontally across social lines, as movements attempt to appeal to key social groups and win popular support. Nonviolent action is more effective when movements appeal to individuals from different social backgrounds, ages, occupations and political ideologies that have differing relationships with the state and can hurt it in different ways (Chenoweth and Stephan, 2011; Svensson and Lindgren, 2011; Butcher and Svensson, 2016). While nonviolent mobilisation has fewer moral and physical barriers to participation (Chenoweth and Stephan, 2011), mobilising thousands of people across social lines is extremely challenging, particularly in ethnically polarised societies with high social distance within and across ethnic group lines (Svensson and Lindgren, 2011; Arriola, 2013; Bhavnani and Jha, 2014; Vidovic and Gleditsch, 2015; Thurber, 2017). Existent research remains poorly placed to explain the emergence of nonviolent action in divided societies, in which ethnic cleavages have rarely featured in explanations of nonviolent action (see Thurber, 2017).

3.3. Grievances and Nonviolent Action

Unlike the civil resistance literature, a large literature on grievances has focused on emergence of contentious action and its relationship to ethnic grievances. The grievance approach

emphasises the importance of ethno-political hierarchies, which generate salient ethnic divisions by reinforcing unequal distributions of power and wealth (Stewart, 2008; Cederman, Gleditsch and Buhaug, 2013; Wimmer, 2013). This literature assumes that mass participation can be achieved by solely appealing to collective ethnic grievances that derive from political inequalities, with empirical evidence suggesting that ethnic grievances motivate engagement in nonviolent action (Gurr, 1993; Olzak, 2006; Jazayeri, 2016), as well as armed rebellion (Stewart, 2008; Østby, 2008; Cederman, Gleditsch and Buhaug).

By exploring ethnic-mobilisation, the grievance approach has greatly extended our understanding of vertical mobilisation or *why* people are motivated to engage in unrest, but has largely ignored horizontal nonviolent mobilisation or *how* movements mobilise across group lines. This relates, in part, to the wider research agenda that has almost exclusively focused on civil war and has emerged in isolation to civil resistance literature. This has led many grievance scholars to draw on civil war mechanisms that are poorly suited to explain nonviolent action, since nonviolent and violent mobilisation are distinct (Chenoweth and Lewis, 2013). While armed opposition only needs to recruit a few hundred fighters, nonviolent movements must attract tens of thousands of participants. In other words, while the existence of ethnic cleavages aids the vertical mobilisation of armed groups, ethnic-based recruitment is less suited to nonviolent resistance because the greater scale of mobilisation often requires horizontal mobilisation across group lines.

Recent research suggests that nonviolent movements may be able to bypass the problems of horizontal mobilisation when having the support of a larger ethnic group which effectively provides a bigger recruitment pool (White et al., 2015; Dahl et al., 2016). Yet the exploration of nonviolent action at the group-level provides distinct methodological; existing empirical studies miss the numerous cases where nonviolent actions involve multiple ethnic groups (Gurr, 1993; Olzak, 2006; Jazayeri, 2016) and are limited to explaining a subset of

nonviolent action involving groups that are sufficiently large enough to mobilise mass numbers. This is a significant issue since only 13% of civil resistance campaigns are mobilised in pursuit of ethnic goals (Thurber, 2017). This literature also has two key theoretical limitations.

Firstly, by assuming ethnic preferences are consistent within a group, these models do not consider differing interests and internal divisions, such as class, language and clans. Ethnic movements must overcome these if they wish to mobilise large numbers of co-ethnics (Gorenburg, 2000; Goldstone, 2011). For example, although the Oromo represent the largest ethnic group in Ethiopia, intra-ethnic divisions have limited the group's ability to engage in nonviolent action (Arriola, 2013). Existing grievances studies provide little indication of how a movement may unify sub-groups.

Secondly, by focusing on groups, grievance studies cannot explain horizontal nonviolent mobilisation that occurs across ethnic lines. Even when movements can draw on the support of a larger ethnic base, ethnic movements are rarely able to adequately challenge the government or generate wider loyalty-shifts with the backing of a single ethnic group. Broad-based support is essential because some ethnic groups are more tied to the state than others, and are often clustered in certain occupations, sectors, worker associations and settlement types.

Different ethnic groups therefore have the potential to undermine the government in different ways (DeNardo, 1985; Lichbach, 1998; Schock, 2005; Butcher and Svensson, 2016). Failing to gain support across ethnic lines alienates potential supporters, increases intergroup polarisation, limits wider public support and legitimacy and allows the government to isolate such movement with more targeted repression (Chenoweth and Stephan, 2011; Svensson and Lindgren 2011; Butcher and Svensson, 2016). This is illustrated by nonviolent struggle against

Apartheid in South Africa, where the United Democratic Front also appealed to Asians and Coloureds even though Blacks made up 85% of the population.

3.4. Resources, Opportunities and Nonviolent Action

The alternative structural literatures on revolution and social movements, provide a better indication of *how* movements may engage in mass nonviolent mobilisation, pointing to the importance of resources and political opportunities. Resources such as social networks and pre-existing organisations facilitate meso-mobilisation; temporary coalitions that occur between organisations (Gerhards and Rucht, 1992), while information and economic resources, most often found in urban locations and industrialised countries, assist mass mobilisation (Goldstone 1991; Lohmann, 1994; Siegal, 2009; Butcher and Svensson, 2016). Other studies point to political opportunities that signal to opposition groups that nonviolent action is feasible, for example, state weakness (McAdam, 1999), regime instability and political openness (Tilly, 1978; Meyer, 2004; Goldstone 1991).

Here there is some overlap with the case literature on civil resistance, which points to the importance networks such as religious organisations and trade unions in providing "free space" and "openings" that provide opportunities for people to organise (Ackermann and DuVall, 2000; Nepstad, 2015). However, studies of revolution and social movements often regard ethnic grievances as too common (Tilly, 1978), and therefore, fail to account for the importance of ethnic cleavages as a social barrier to horizontal nonviolent mobilisation. While important, resources are likely to be distributed along ethnic divisions rather than across them and activists may be unable to act on political opportunities if ethnic cleavages divide the wider population that activists seek to mobilise.

3.5. Local Structures and the Emergence of Nonviolent Action

The preceding discussion provides the expectation that ethnic cleavages are an important social structure that influences the feasibility of nonviolent action. While ethnic cleavages may facilitate armed rebellion that can rely solely on vertical mobilisation, such cleavages more generally undermine horizontal mobilisation that is unique to the emergence of nonviolent action. However, ethnic diversity alone does not generate social divisions, while some cleavages are more salient and detrimental to social relations than others. Grievance literature has consistently pointed to the role of ethno-political inequalities in hardening group boundaries and generating animosities between groups (Stewart, 2008; Cederman, Gleditsch and Buhaug, 2013; Wimmer, 2013). Ethno-political exclusion has a particularly negative impact on the emergence of nonviolent action because it hardens social boundaries and reduces the likelihood of having coethnics within the pillars of power. Both reduce the likelihood of intergroup coalitions and loyalty switches among politically included groups (Thurber, 2017; Svensson and Lindgren, 2011).

Yet nonviolent mobilisation and activism is often carried out locally, with activists drawing on communal and informal networks that loosely bind would-be participants together and on occasions draw people into contentious action (Goldstone, 1994; Kuran, 1991). If ethno-political exclusion impacts the national and movement-level (Svensson and Lindgren, 2011; Thurber, 2017), this should also be evident at the subnational-level by hindering localised attempts to build coalitions and organise nonviolent action.

There are two ways ethnic cleavages are likely to undermine localised attempts to engage in nonviolent mobilisation. Firstly, ethnic and intra-ethnic identities often form the basis of membership in social networks in politically exclusive societies (Wimmer, 2013), increasing social distance between groups that live in close proximity, thereby dividing local

populations into separate mobilisable groups that undermines the scope of mobilisation. In societies where high levels of political inequalities exist between groups, ethnic boundaries tend be salient and ethnic networks are more socially 'closed' (Gurr, 1993; Stewart, 2008; Wimmer, 2013). This limits intergroup interaction in everyday life and precludes the formation of intergroup ties—a distinct obstacle to horizontal mobilisation across group lines.

Secondly, ethnic and often intra-ethnic groups, have differing grievances and goals against the government, with differing ideas of how to overcome these grievances. Without superordinate goals that cut across social lines, it is difficult for groups to cooperate, find common ground and build coalitions, even when in close proximity (Tajfel, 1982; Goldstone, 1994). Political inequalities in particular increase the salience of divisions between ethnic groups, thereby reducing the viability of horizontal mobilisation and coalition building (Thurber, 2017). Consequently, as seen in Oromia (Ethiopia), the inability to coordinate strategy, forge intergroup alliances and engage in horizontal mobilisation is more closely connected to oppositional infighting and a switch to violent strategies, rather than the engagement in nonviolent action (Cunningham, 2015). The preceding discussion provides the expectation that ethnic cleavages do matter and should influence nonviolent mobilisation at the local-level.

H1a: Mass nonviolent action is less likely to occur in locations with politically excluded ethnic groups.

H1b: Mass nonviolent action is less likely to occur in diverse locations where politically excluded ethnic groups coexist with other groups.

However, existing research provides little indication of how movements overcome these social barriers. The next section builds on these research areas, highlighting the importance of cross-cutting issues as a means to mobilise disparate groups and engage in nonviolent action.

3.6. Food Prices Spikes and Overcoming Ethnic Obstacles to Nonviolent Mobilisation

The main argument of this article is that the emergence of nonviolent action is greatly facilitated by the existence of broader cross-cutting grievances, which enable movements to mobilise horizontally across sub-groups of ethnic group and across ethnic lines. Sharp increases in domestic food prices, known as 'spikes'[39] are a good example of a cross-cutting issue, as when large enough, they generate widespread economic grievances that impact consumers from all social groups. Regardless of ethnic or social affiliations, food is a basic need for all consumers and is accessed when affordable (Barrett, 2013). Cross-cutting grievances therefore provide an *opportunity* or *opening* for movements to broaden their appeal and move beyond ethno-political divisions, thereby simultaneously increasing their vertical mobilisation potential and ability to forge horizontal alliances across group lines.

Higher spikes in food prices facilitate horizontal mobilisation across intra-ethnic and inter-ethnic divides because they are what Tilly (1978) calls a 'symbolic issue.' In Bosnia, protests in 2014 over high prices and low wages were framed around the powerful message: 'We are hungry in three languages' (Hopkins, 2014). In Egypt, the famous 'bread helmet' was a symbol that transcended political ethno-religious lines, and was easily replicated by various segments of the population and in different locations.

The cross-cutting nature of increases in food prices sets this apart from other types of issues. For example, while disputed elections often spark unrest (*vertical mobilisation*), many major political parties in Africa gain the majority of their support from one or a few ethnic groups (i.e. Kitschelt and Wilkinson, 2007), which reduces the likelihood that protests will

[39] On a continuum, more dramatic price spikes, i.e. 24% increases in Egypt in 2008, are more detrimental than normal price spikes, i.e. 1% increases in Botswana (Barrett, 2013).

attract a diverse spectrum of participants across group boundaries (*horizontal mobilisation*). Food price spikes also differ from other economic shocks: climatic disasters and rainfall variation (see Buhaug, 2015), negative economic growth (see Blattman and Miguel, 2010), downturns in food production (Wischnath and Buhaug, 2014), or shock declines in food prices (i.e. Dube and Vargas, 2013). These types of shocks typically impact certain ethnic groups residing in specific, often rural, parts of a country, and instead have been related to armed conflict due to the likelihood that they reinforce ethnic-based grievances rather than cut across them.

I argue that the unique and symbolic nature of food price spikes provide two types of motivation that facilitate the emergence of nonviolent action: common intergroup grievances, which eases *horizontal mobilisation* in ethno-politically exclusive environments, and anti-government short-term incentives that fosters *vertical mobilisation*.

Firstly, the greater the magnitude of price spikes, the more likely a higher number of social groups, across and within ethnic groups, will be impacted. Higher prices make economic hardship more 'visible', but they also display the hardship of others (Weinberg and Bakker, 2014), increasing the perception that larger segments of the population share similar grievances and have a common interest in addressing them. Between 2007 and 2008, the Egyptian opposition was able to mobilise 400,000 people, using record high food prices spikes to unify individuals from different classes and across Arab and Coptic Christian communities (Bush, 2010). Higher spikes encourage the participation of affluent segments and groups that have political power (Barrett and Bellemare, 2011; Barrett, 2013), including professionals and intellectuals, who tend to purchase more of their food, and are more likely to participate due to a higher sense of entitlement (Tilly, 1978). This, in turn, is likely to encourage the participation of poorer and often politically marginalised consumers, who are the most vulnerable to price spikes (Ivanic et al., 2012), but are less likely to have the coordination or resources required to

engage in nonviolent action (Gamson, 1990; Tilly, 1978). In other words, food prices facilitate horizontal mobilisation by generating superordinate goals for normally divided groups.

Secondly, high food price spikes create short-term incentives to participate in nonviolent action because of their sudden economic impact. Households generally have very little warning of the impending economic hardships, placing significant pressure on established coping mechanisms. Moreover, attempts to adapt are often constrained by poor government social protection; for example, African countries, on average, spend the least on social protection programs relative to their GDP (Ortiz et al., 2014), and static wages that are far exceeded by high price spikes (Wodon and Zaman, 2010). Faced with significant economic pressure and few avenues to redress economic hardships, individuals have extraordinary short-term participation incentives to force immediate concessions from the government.

Higher food price spikes provide movements with a unique opportunity to overcome ethnic obstacles to *horizontal mobilisation* by conflating non-ethnic food-related grievances with anti-government sentiments that facilitate *vertical mobilisation*. Grievances are targeted against the government, because it is solely to blame for widespread economic hardship (Barrett, 2013; Smith, 2014; Weinberg and Bakker, 2014). A movement can link the inability of the government to deal with food prices with its broader ineffectiveness and misuse of political power, and offer an alternative vision that advance its opposition as a viable alternative (Chenoweth and Stephan, 2011), thereby drawing intergroup support away from government. This is illustrated in Uganda, where the opposition remains severely weakened by the legacy of a 19-year ban on opposition parties. The main leading opposition leader, Kizza Besigye, has increasingly used food price spikes to unite the fragmented opposition in demonstrations against the government and to appeal across group lines by conflating economic hardships with the political issue of government corruption and misuse of political power (Kron, 2011). In 2008, food price spikes enabled movements in a number of ethno-politically exclusive

countries to organise nonviolent action by politicising various issues linked to increasing food prices, including high wages, employment, lower tax levels, social protection, subsidies and corruption (Bush, 2010; Smith, 2014). Based on the preceding discussion, I offer the final hypothesis:

> H2: In ethnically excluded and diverse locations, spikes in domestic food prices increase the likelihood of mass nonviolent action.

3.7. Research Design

To test these hypotheses, I undertake a subnational analysis of all African countries between 1990 and 2008. The unit of analysis is grid-cell-years, based on the PRIO-GRID data-structure which consists of 0.5 X 0.5 degree geographical grid-cells (approximately 55 X 55 kilometres near the equator) (Tollefsen et al., 2012). This approach advances existing studies on the emergence of nonviolent action that rely on country-level data that assumes that conditions are consistent across a given country, which conceals a great deal of variation that is occurring at the subnational-level. Not all parts of a country and not all cities experience nonviolent action. Moreover, different locations have different types of ethnic groups, varying levels of diversity, population and wealth that either facilitate or undermine the feasibility of local nonviolent action. This can only be captured by a subnational analysis using subnational data, which enables the exploration of spatial variations in the occurrence of nonviolent action and subnational variations in mobilisation potential across distinct local ethno-political contexts. Compared to administrative units, grid-cells are arbitrarily constructed and do not vary in size or change over time and are consistently more comparable across countries (Tollefsen et al., 2012).

Dependent Variable

To capture mass nonviolent action against the government at the grid-level, I use georeferenced events data from Social Conflict Analysis Dataset (SCAD) (Salehyan et al., 2012). SCAD events are based on news reports from the Associated Press and Agence France Presse newswires; both rely on local news sources.[40] SCAD provides the most comprehensive collection of georeferenced social conflict events in Africa, and offers detailed information on dates, coordinates, numbers of participants and a description of the incident and actors involved.[41] Using this information, I include SCAD events coded as: (1) targeting the national government, (2) involving unconventional nonviolent methods of noncompliance or persuasion, i.e. peaceful protests, demonstrations and strikes (Sharp, 2005), (3) being organised, not sporadic and (4) involving a minimum of 1,000 participants. The last criteria follows the widely used NAVCO 2.0 dataset (Chenoweth and Lewis 2013) and captures events with a high participation threshold that was achieved despite potential barriers to nonviolent mobilisation. Since nonviolent action does not use physical violence to resist the government (Butcher and Svensson, 2016), this also excludes violent forms of unrest (i.e. communal violence and armed conflict) and incidental violence such as riots.[42] While it is difficult to ascertain whether these nonviolent events are mobilised along ethnic or interethnic lines, the cross-cutting mechanism works equally well for ethnic movements attempting to unify intra-ethnic groups and movements mobilising across ethnic lines.

The SCAD data has two limitations. Firstly, the number of participants in some events is coded as unknown. For events where participation numbers are unknown, I only include

[40] This improves on the Cross-National Time-Series (CNTS) Data Archive which is based solely on reports from the *New York Times*.
[41] The SCAD data has much better temporal coverage than the ACLED dataset (starts at 1997), and the Afrobarometer (limited to sporadic rounds of surveys).
[42] While food prices impact protest and riots more broadly (Smith, 2014), the focus of this article is on nonviolent action which uniquely involves large, diverse, and nonviolent mobilisation, which is distinct from sporadic rioting that does not require cross-cutting issues. This is explored further in the robustness checks.

events which have clear evidence of involving at least 1000 persons, using secondary information on the event, its geographical scope and the size of the organisations involved. For example, many strikes far surpass this threshold, such as the 1994 general strike in Burundi against the military regime, which occurred across the capital.

Secondly, many widespread events are often not accurately georeferenced. For example, events coded as nationwide are assigned to the geographical centre of the country, while regional events are georeferenced in the centre of the region. These events cannot be excluded as they represent one-third of the total events (see Table 1) and are important examples of mass nonviolent action, including, for example, numerous anti-Apartheid events in South Africa.[43] Another concern is that nationwide events exclusively occur in 91 out of the 340 country years and would wrongly be coded as a 'false 0s', despite it being clear nonviolent action did occur somewhere in the country.

To avoid dropping these cases, I generate different specifications to approximate the location of the non-geocoded events. These approximations closely resemble the types of events that are geocoded, in which 93% occur in major cities (with a population over 100,000).[44] Approximations are also based on SCAD's description of each event and its actors; in this way, I can ensure the geocoding reflects spatial realities. For example, dockland strikes in Algeria are coded as occurring in port cities and tea-producer strikes in Kenya are coded as occurring in tea producing areas.

For the main analysis, I use an estimated dependent variable (DV) that includes all geocoded mass nonviolent events and estimates non-geocoded events as occurring in the

[43] These represent one-third of all event locations (see Table 1) but, in reality, are likely to represent a much wider number of event locations as they are occurring across the country.
[44] There is no global definition of an urban area with population thresholds based on various densities and travel times (see Uchida and Nelson, 2010). To remain consistent, I follow SCAD coding procedure of coding cities if they have a population greater than 100,000, obtained from http://www.geonames.org/countries/ and www.worldatlas.com. Coordinates are taken from http://itouchmap.com/latlong.html.

capital and the country's (or region's) five largest cities (*Top5_est*). This is a conservative assumption since most nationwide campaigns occur in multiple urban centres (Chenoweth and Stephan, 2011), as illustrated by the January 2018 Iranian protests that occurred in at least 19 cities amid dramatic spikes in food prices. I generate other DVs that estimate these events as occurring more widely across a country as a robustness check. Using the most modest estimated DV (*Top5_est)* in the main analysis balances potential bias induced by not including the non-geocoded events and bias induced from including too many estimated locations (see Table 1). Each event is aggregated to the relevant PRIO-GRID year. Grid-years with at least one nonviolent event are coded as 1 (otherwise 0).

Table 1. Number of geocoded estimates across events and PRIO-GRID locations

	Total Events	National Estimates	Regional Estimates	Unknown Estimates	Other Estimates	Total Estimates
No. SCAD Events	5823	1637	145	298	67*	2080 (35.7%)
No. Grids with SCAD Events	1494	802	89	180	56*	992 (56.2%)**

*The 'other' category (rural, dockland and areas) overlaps with national, regional and unknown estimates.
**153 estimated locations overlap with geocoded SCAD events, meaning 839 locations are uniquely estimated.

Independent Variables

To capture domestic food price spikes, I take the highest percentage change in domestic food indices from one month to the next and aggregate this to the year.[45] Following Smith (2014), I take domestic food price data from indices collected by the International Labour Organisation (ILO) (2014). This is a continuous variable with price spikes ranging from minimal increases in price, to very high price spikes that I expect are more likely to increase the risk of nonviolent action.[46] Most peacetime African countries have monthly indices available from 1990 to

[45] While monthly data is aggregated to the year, this correlates highly with yearly increases in prices.
[46] I cap price increases at 100% to prevent hyperinflation from biasing the results. To retain data, I recode these extreme values to the next highest % increase below 100%.

2008,[47] based on the price of a basket of the most important foods in the capital or major city.[48] Using the highest percentage changes in food indices captures the short-term nature of spikes and provides a comparable indicator across countries.

I focus on domestic food prices, rather than international prices, as they are less distorted by state market interventions (Ivanic et al., 2012; Hendrix and Brinkmann, 2013; Smith, 2014) and more closely reflect the price that people pay, with 90% of all food consumed in Sub-Saharan Africa being produced domestically (Barrett, 2013). I exclude country-years in which civil war is ongoing, because of the clear endogenous relationship between civil war and food price spikes (Gates et al., 2012). Unfortunately, these national-level data do not capture subnational variations in prices, which may differ within a country.

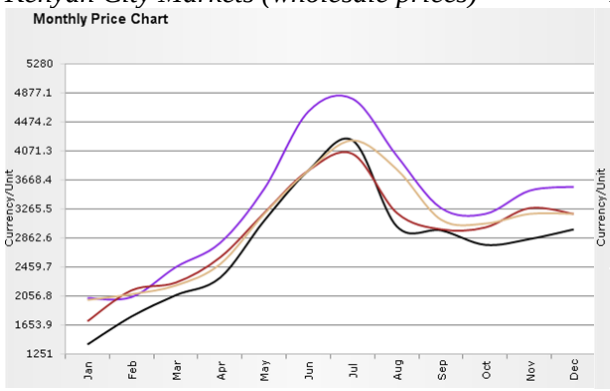
However, I remain confident the ILO data are appropriate for a number of reasons. Firstly, current disaggregated data remains limited. Recent data from the World Food Programme (WFP) only comprehensively cover some African countries and are confined largely to the years 2015 and 2016. Secondly, the WFP data shows that price spikes vary little across different urban areas, where the vast majority of nonviolent action occurs (see Figure 2).

Figure 1 displays two examples of Kenya and Malawi, comparing the monthly price changes of urban and rural markets (each line is a local market), for the year 2011 when prices achieved record highs and good data is available. This figure shows that price trends in urban markets tend to move in the same direction in Kenya (spike in July) and Malawi (dip around May and June), while much more price variation occurs across rural markets.

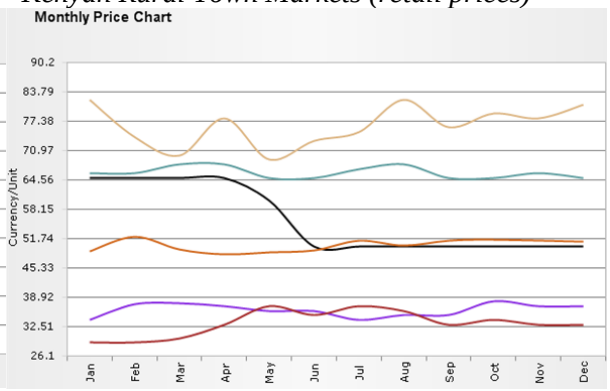
[47] When the government artificially alters food indices, these data are excluded from the analysis. The following countries have no data: Democratic Republic of Congo, Eritrea, Liberia, Libya, Somalia, and Sudan.
[48] Where two food indices exist within a country, the most complete is chosen.

Figure 1. Food Price Variation across Urban and Rural areas of Kenya and Malawi (2011)

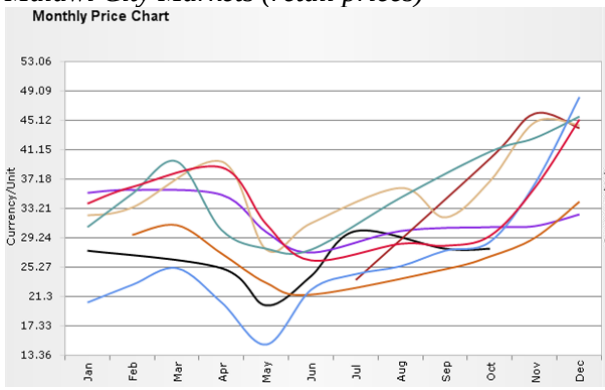
Kenyan City Markets (wholesale prices)



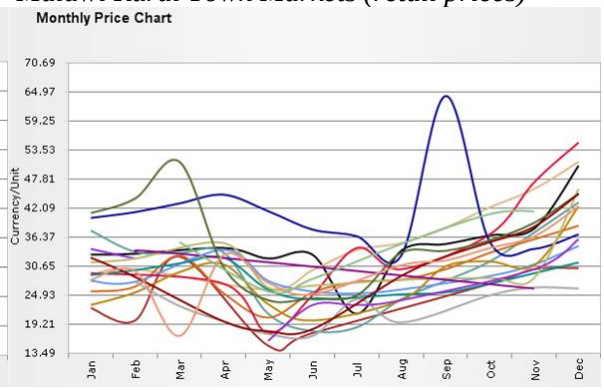
Kenyan Rural Town Markets (retail prices)



Malawi City Markets (retail prices)



Malawi Rural Town Markets (retail prices)

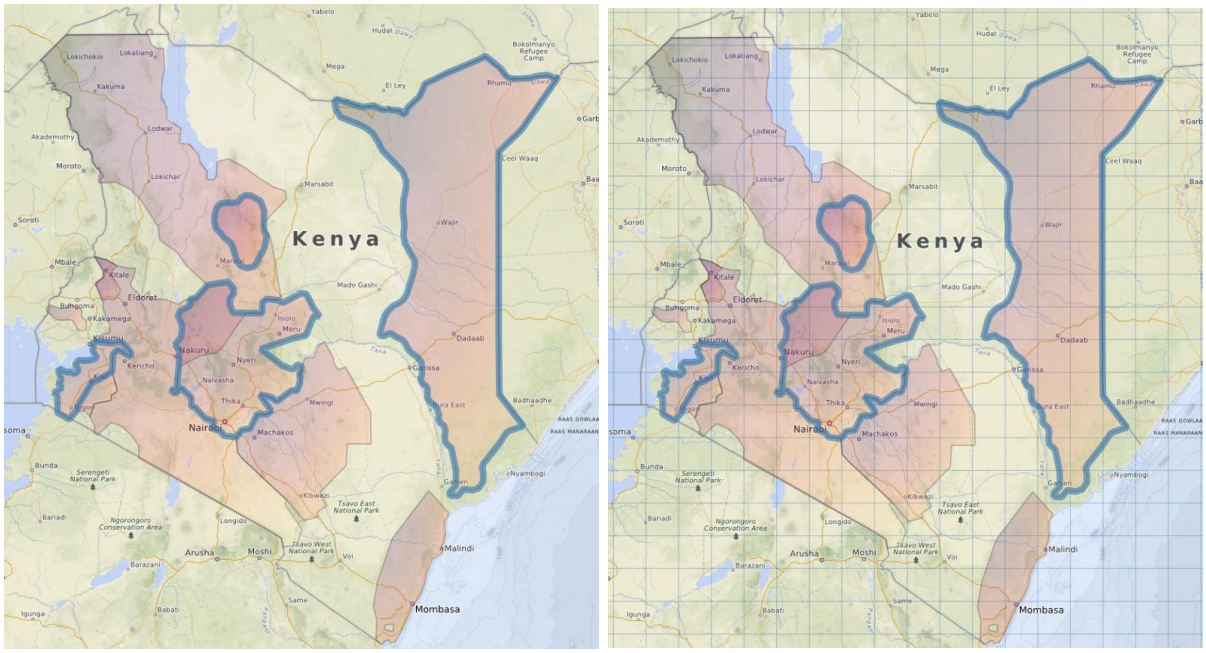


Source: VAM Food and Commodity Prices Data Store. (http://foodprices.vam.wfp.org/).

To assess the impact that local ethnic cleavages and diversity has on nonviolent action, I create two variables at the grid-level: those resided by ethno-politically excluded groups to capture ethnic cleavages and grid-cells with excluded groups that coexist with other ethnic groups to measure diversity. I first use group-level data from the EPR dataset to gain information on the level of group representation in government, coding groups as included or excluded from governmental power (EPR data, Version 3.0; Wimmer, Cederman and Min, 2009). The EPR dataset only includes politically relevant ethnic groups represented by at least one political actor in the national political arena, which ensures there are political actors in place to potentially engage in unrest.

These variables are translated to the grid-level using georeferenced ethnic settlement patterns from the Geo-EPR dataset (Wucherpfennig et al., 2011). Grids containing no politically relevant ethnic groups are used as the reference category. These areas are either inhabited by no ethnic groups or by smaller less politically relevant groups ethnicity. Either way these areas do not exhibit the same social barriers and salience of ethnic divisions as areas with politically relevant groups (Posner, 2004). Locations of politically relevant excluded groups, considered *oppositional*, while areas with included groups, treated as *pro-government* - coded as 1, otherwise 0. Using Kenya in 2000 as an illustrative example, Figure 2 visualises the data. In 2000, three Kenyan ethnic groups were excluded from the executive: the Kikuyu, Luo and Somali (highlighted). The settlement areas of these groups are proxies for opposition areas. The other included groups (shaded and not highlighted) represent pro-government areas.[49] Politically excluded grids are then interacted with food prices to test the hypothesis that food prices increase the likelihood of nonviolent action in excluded areas.

Figure 2. Included and Excluded Ethnic Group Areas (Geo-EPR data) over the PRIO-Grid



[49] Although non-diverse areas are coded as 'homeland' regions of certain ethnic groups in the EPR data, these areas still exhibit levels of heterogeneity not picked up in the EPR data. For example, Nairobi is within the Kikuyu homeland but is also an ethnically diverse city.

To measure diverse areas, I generate a dummy variable for locations where excluded group settlement areas overlap with the settlement area of at least one other ethnic group. To test the hypothesis that high food price spikes increase the likelihood of nonviolent action in excluded and diverse areas, I generate an additional interaction term - diverse excluded areas X food price spikes.[50]

Control Variables

At the grid-level I control for poverty, using the grid-level equivalent of national GDP (Nordhaus, 2006), as this reduces adaptability to price spikes and reduces the cost of participation (Barrett, 2013). I include the grid population (logged) from the Gridded Population of the World (Version 3) (CIESEN, 2005), since larger and more concentrated populations facilitate the coordination of nonviolent mobilisation (Butcher and Svensson, 2016; Barrett, 2013). Also included is the size of the largest excluded group within a grid (% of population), as larger groups have a mobilisation advantage (Dahl et al., 2016). As nonviolent action is largely an urban phenomenon I also control for travel time (minutes) to the nearest urban centre and distance to the capital (kilometres) (Tollefsen et al., 2012). To account for spatial and temporal dependencies, I include a temporal lag for nonviolent action occurring in the previous year (t-1) and a spatial lag for nonviolence in neighbouring grids.

A range of national-level controls are also included in the model. Firstly, the number of excluded groups in a country, as governments are less likely to compromise when facing multiple groups (Cunningham, 2015). Secondly, a logged version of national population to proxy for the size of the country (World Bank, 2013), the Polity2 measure (Marshall and

[50] Although this assumes that multiple groups are participating in nonviolent action in the majority of cases, it is unlikely one ethnic group is doing all the mobilisation in excluded and/or diverse areas, since ethnic mobilisation is comparably rare. As Thurber (2017) finds, 83% of nonviolent campaigns involve multiple groups.

Jaggers, 2010) to control for regime types and the number of peace years to account for instability. Finally, I include a dummy variable for national election years which often spark unrest (Lindberg, 2009).[51]

Method

I run country-fixed-effects logistic regression models to restrict the analysis to the within-country variance. This allows the models to control for unobserved differences between countries and for certain country characteristics that influence food prices and nonviolent action, including environmental vulnerabilities, transport networks, food infrastructure, and trade policies, such as tariffs, food assistant programs and subsidies (Smith, 2014).[52] To aid post-estimation, all independent variables are standardised, so each model reports the effect of a one-standard-deviation increase in each variable.[53]

3.8. Results

In this section, I analyse my hypotheses: local ethno-political exclusion and diversity reduces the likelihood of nonviolent action (H1a, H1b) and that higher food price spikes increase the feasibility of nonviolent action in these excluded and diverse areas (H2). All models displayed in Table 2 explore these propositions using the primary DV, which estimates SCAD's non-geocoded events as occurring in a country's five largest cities (*Top5_est).*

Model 1 (Table 2) explores the baseline effect of local ethnic exclusion and diversity on the likelihood of nonviolent action. Model 1 reports no statistically significant effect of ethnic exclusion on the emergence of nonviolent action. While it is extremely difficult to

[51] A summary of all variables (non-standardised) and data sources are listed in Table 3 (appendix).
[52] I exclude grids with population less than the minimum required for mass civil resistance (<1000).
[53] A standardised variable is the variable minus the mean, divided by the standard deviation.

separate out ethnic and interethnic nonviolent events, this could relate to simultaneous effects, whereby ethnic exclusion generates ethnic protest in some areas (Gurr, 1993; Jazayeri, 2016), such as the Berber region of Algeria, but undermines more general intergroup nonviolent activism in other areas (Thurber, 2017). In contrast, Model 1 and 4 show that nonviolent action is less likely to occur in ethnically excluded areas that are diverse (have at least one more EPR group). This provides strong evidence for hypothesis 1b, confirming that diverse environments present an obstacle to nonviolent mobilisation and reduces the feasibility of mass and diverse nonviolent action ($p<0.01$ and $p<0.05$).

I proceed to explore the mediating impact of food price spikes on ethnic barriers to nonviolent resistance. Model 2 explores the general impact of food prices on the incidence of nonviolent action. The coefficient is positive and highly significant, providing strong evidence that greater rises in food prices increase the likelihood of nonviolent action in diverse locations within states ($p<0.001$). When increasing the percentage increase of food prices by one standard deviation (moving food prices from a 5.2% to a 10.5% increase), the risk of nonviolent action rises by 12.7%.

Model 3 then explores the likelihood of nonviolent action in locations resided by excluded ethnic groups. The model shows a positive effect for this interaction, suggesting that higher food price spikes increase the likelihood of nonviolent action in areas home to these groups, even when controlling for other structural factors. In addition, ethnically excluded areas, a non-finding in baseline models, becomes significant and negative, suggesting that these areas otherwise likely to constrain a movement's efforts to engage in nonviolent action during times of small or no price spikes ($p<0.05$). While we cannot be sure who is participating in nonviolent action in ethno-excluded areas, regardless of whether movements are attempting to mobilise sub-groups within the same ethnicity, or across ethnic divides, food price spikes have a general impact on nonviolent action in excluded areas. In these areas, Model 3 reports a

20.2% increased likelihood of nonviolent action with a one-standard-deviation increase in food prices (from 14.7% to 19.1%).

Table 2. Food Prices, Ethnic Cleavages and Mass Nonviolent Action, 1990-2008.

	Model 1 w/FE	Model 2 w/FE	Model 3 w/FE	Model 4 w/FE
Standardised Increase in Food Prices		**0.127*** **	**-0.034**	**-0.013**
		(0.037)	**(0.065)**	**(0.058)**
Excluded Group Area (opposition area)	**0.0750**	**-0.023**	**-0.201***	**-0.087**
	(0.064)	**(0.064)**	**(0.085)**	**(0.075)**
Included Group Area (government area)	-0.032	-0.080	-0.091	-0.093
	(0.059)	(0.057)	(0.057)	(0.060)
Food Price Increases X Excluded Areas			**0.202****	
			(0.065)	
Food Prices X Diverse Excluded Areas				**0.150****
				(0.048)
Ethnically Diverse Excluded Areas	**-0.142****			**-0.151****
	(0.053)			**(0.054)**
Grid Wealth (GCP) (log)	0.379**	0.417***	0.464***	0.481***
	(0.117)	(0.118)	(0.118)	(0.119)
Grid Population (log)	1.214***	1.201***	1.202***	1.223***
	(0.075)	(0.074)	(0.074)	(0.074)
Size of Excluded Group (%)	-0.031	-0.010	0.044	0.037
	(0.065)	(0.067)	(0.069)	(0.067)
Travel to Urban Centre (mins)	-4.376***	-4.460***	-4.461***	-4.403***
	(0.321)	(0.322)	(0.322)	(0.322)
Distance to Capital (km)	0.075	0.081	0.081	0.070
	(0.055)	(0.054)	(0.054)	(0.054)
No. Excluded Groups	0.065	0.080	0.060	0.003
	(0.094)	(0.094)	(0.095)	(0.096)
National Population (log)	-1.128*	-1.016*	-1.377**	-1.375**
	(0.441)	(0.440)	(0.456)	(0.455)
Regime Type (Polity2)	0.020	0.004	0.020	-0.011
	(0.087)	(0.087)	(0.088)	(0.087)
National Elections	0.122***	0.118***	0.107**	0.112**
	(0.035)	(0.035)	(0.036)	(0.035)
Number of Peace Years	-0.0190	-0.029	-0.036	-0.034
	(0.059)	(0.059)	(0.059)	(0.059)
Country Fixed Effects	Yes	Yes	Yes	Yes
Temporal and Spatial Lags	Yes	Yes	Yes	Yes
R2	0.524	0.524	0.525	0.526
Observations	86203	86203	86203	86203

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic groups

Lastly, Model 4 explores the initiation of protest within a more challenging diverse local environment. The interaction effect of food prices and diverse locations is positive (p<0.01),

suggesting that while diversity undermines nonviolent action, food prices mediate this effect, as higher price spikes increase the likelihood of nonviolent action in these areas. When food prices increase by one standard deviation (from 8.8% to 12.7%), the likelihood of nonviolent action in diverse locations increases by 15%. Overall, Table 1 provides supports my second hypothesis and suggests that food price spikes increase the feasibility of mass and diverse nonviolent mobilisation, even in the most difficult multi-ethnic environments.

The control variables suggest there are other important drivers of nonviolent action. Grids that are more wealthy, have larger populations and that are closest to urban centres are more likely to witness nonviolent resistance. This gives support to claims that urban-based resources and related networks facilitate nonviolent action (Butcher and Svensson, 2016; Ackermann and DuVall, 2000; Nepstad, 2015). Several control variables – distance to the capital, number of peace years, regime type and the number of excluded groups residing within a state – have no significant effects on nonviolence. Furthermore, while other studies argue that larger ethnic groups have a greater potential for mobilisation (Dahl et al., 2016), I find little evidence of this at the subnational level. While large groups facilitate ethnic-based protest, this is unlikely to facilitate mobilisation across ethnic lines to engage in intergroup action. Finally, nonviolent action is less likely to occur in larger countries (proxied by population size) which increases coordination costs.

Moving beyond the impact of one-standard-deviation increases in food prices, I explore simulated predictions using CLARIFY (Tomz, Wittenberg and King, 2003).[54] Unfortunately, the post-estimations of fixed-effects models are limited and are not supported by CLARIFY.[55] I therefore generate predictions based on logistic regression models clustered around country

[54] CLARIFY produces a mean percentage prediction of an outcome based on 1000 random simulations.
[55] The Margins package in STATA shares the same problem and provides similar simulations.

standard errors.[56] The simulations show the likelihood of nonviolent action is very low (at 0.0052%) as nonviolent action is very rare and that the effect exponentially increases with higher rises in food prices and when holding other variables at their mean. When food prices rise by 15%, the probability of nonviolent action increases to 0.0071%, an increase of 38.1%. When moving to a 30% rise in food prices, the likelihood of nonviolent resistance is increased to 0.0114%, making a jump of 60.2%. The same occurs in ethnically excluded areas, where a 1-15% rise in food prices increases the risk of nonviolent action by 51.1%. Finally, in more complex and ethnically diverse environments, the probability of nonviolent action increases by 31.4% when prices move from a 1% increase to a 15% increase and a further 37.8%.when prices go up by 30%.

Robustness Checks

To check the robustness of my results I run additional analyses. The first issue I explore is whether food prices are indeed a unique cross-cutting issue and are not driven by the coding scheme. I suggested theoretically that elections should have a positive effect on protest (Salehyan & Linebarger, 2015), but not necessarily cross-cut ethnic divides, since electoral support in African countries is often drawn along specific ethnic lines. While I find elections do have a direct effect, I find no evidence that elections have a cross-cutting effect, since excluded and diverse areas are not more likely to experience nonviolent action during election years.[57] I explore this further by looking at riot outcomes. Rioting is directly impacted by food prices (see Barrett, 2013; Smith, 2015), but should not be dependent on a cross-cutting issue as the scope of mobilisation is lower and sporadic. While price spikes have a direct effect, they do not mediate the likelihood of rioting in diverse areas. This suggests that the cross-cutting

[56] This produces results similar to rare-events logistic regression.
[57] Models 5-6, Table 4 (appendix).

mechanism linking ethnic grievances to nonviolent action is unique to nonviolent action. I then move on to other types of economic shocks that may cause nonviolent action or mediate the impact of food prices: deviations in average rainfall, economic growth and international food prices. The results do not impact the main findings.[58]

Moving beyond the theoretical mechanism itself, the results could be driven by model choice. I rerun my results using other methods that address unit effects: random-effects and logistic regression with country corrected standards errors (Beck & Katz, 1995). For the latter, I employ rare-events logistical regression to better estimate rare outcomes, as nonviolence only occurs in 1.7% of all grid-years (King & Zeng, 2001). For both models the results are identical. However, when using Rare-Events Logistic regression, the interaction of food prices with diversity remains positive, but falls just outside statistical significance.[59]

The next concern is the possible impact of time trends. Following Beck, Katz & Tucker (1998) I introduce time trend dummies and cubic splines (time since the last nonviolent event) using country fixed-effects.[60] The results remain the same. Another method is to add further fixed effects, although there are suggestions this can produce unstable results with binary outcomes (Beck & Katz, 2001). Nevertheless, I introduce more restrictive models with year-fixed effects and then grid-year fixed effects[61] where the results largely hold ($p<0.10$).

I then turn to three alternative DVs, as the results may be driven by the primary DV - Top5_est. The first two extend my geocoded estimations to include the ten largest cities with 100,000 people (Top10_est) and then includes all other cities with a population over 300,000 (Full_est). The results actually strengthen, which suggests that the more conservative Top5_est DV may underestimate the location of many nationwide events. The results are less stable with

[58] Models 7-12, Table 4 (appendix).
[59] Models 13-20 (Table 5). A more detailed discussion of these results can be found in the appendix.
[60] I use time dummies for 1990-94, 1995-99, 2000-04 and 2005-08 (reference category). See Table 6 (appendix).
[61] Table 7 (appendix).

the last DV, which removes the non-geocoded nation/regionwide events (No_est). However, as previously argued, removing the geo-estimates leads to the coding of 'false zeros' in one-quarter of country years witnessing nonviolent action and removes key examples of widespread nonviolent action most likely related to price spikes.[62]

Next, I explore urban-only nonviolent action, where I can be more confident that the food price data more closely reflects what people are actually paying. I rerun the analyses with an urban-only sample (within five hours of an urban centre) and the full sample using a urban-only DV. I then explore the results further by removing agricultural areas, which are less likely to be consumers and are less vulnerable to food prices than those in less agricultural areas (i.e. urban areas) (Barrett, 2013). While agricultural areas are associated with less nonviolent resistance ($p<0.05$),[63] the results do not change.

In the penultimate series of robustness checks I account for possible reverse causality and other omitted variable bias, where nonviolent action could be causing the higher prices.[64] I re-run my analysis with lagged independent variables. Next I run additional models that account for other explanations of variations in the emergence of nonviolent resistance, including the CIRI Index to account for highly repressive states that may deter nonviolent action (Lichbach, 1998) and control for relatively richer and poor groups within a grid, as richer ethnic groups may have a higher mobilisation potential. The findings remain the same.

3.9. Conclusion

Across various specifications, food price spikes as a cross-cutting issue, have been shown to facilitate mass mobilisation, both vertically against the government and horizontally in forging

[62] Tables 8-10 (appendix) which also discusses the results and merits of the geo-estimates in more detail.
[63] Table 11 (appendix)
[64] Table 12 (appendix)

intergroup participation and coalitions. These results provide strong evidence that the existence of cross-cutting grievances increases the emergence of nonviolent action in ethnically excluded and diverse locations, which are otherwise constrained by social divisions.

These findings extend our understanding of how and when nonviolent action is likely to emerge, particularly when activists are facing difficult barriers to horizontal mobilisation across group lines. In doing so, this article contributes to two broader bodies of literature that have grown in isolation to one another; existing studies of civil resistance that have focused on the outcomes of nonviolent action and structural approaches that largely neglected the horizontal dimension of nonviolent mobilisation when exploring its emergence. This study also builds on country and movement-level quantitative studies, by exploring nonviolent action at the subnational level, thereby accounting for the variation of nonviolent action within countries, using new geocoded events data.

Beyond academic contributions, this article also provides important policy implications. African regimes that deploy ethno-exclusive policies as a means to maintain political power are not immune from nonviolent action. Such regimes need to develop more fair and inclusive institutions to reduce the likelihood of nonviolent action and other forms of unrest. Moreover, food price spikes are clearly important for political stability. While African governments have various options to implement stabilisation mechanisms that alleviate the impact of rising food prices, safety net measures are either rare or ineffective. Only nine African countries implemented food-access programs during record high prices in 2007 and 2008 (Berazneva and Lee, 2013). In many cases, governments are limited in how they can act, as was the case in Egypt where subsidies became simply unaffordable, accounting for 8% of the country's GDP in 2011 (Hendrix and Brinkman, 2013). However, governments need to

diversify their policies to implement creative long-term solutions that provide adequate social protection.[65]

Future research could look at other 'unifying' factors that cut across ethnic and class boundaries and enable opposition groups to engage in nonviolent action, for example, currency devaluation, religious or language cleavages that cross-cuts ethnic divides and other commodities such as fuel prices. The paper is better placed to capture the grievances of consumers, but other research could consider decreases in food prices, particularly cash crops, which may trigger rural-based civil resistance which has its own unique mobilisation challenges. More research is also needed to understand how subnational variations in food prices impact where unrest are likely to occur, but is dependent on the availability of new data. Finally, future research could explore other obstacles to nonviolent action, such as violence which may alienate would-be participants.

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[65] These could include price regulations, food reserves, social welfare programs, lower taxes, food subsidies, lower tariffs on imported food, and increasing stocks by imposing export restrictions (Hendrix and Brinkman, 2013).

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Appendix

Table 3. Summary of Variables (non-standardised) and Data Sources

Variables	Obs.	Mean	Std. Dev	Min	Max	Data Source
Grid-Level Variables						
DV - Nonviolent Action (including estimates for Top-5 Cities)	89,801	.0166	.1279	0	1	Social Conflict Analysis Database (SCAD)
Excluded Group Area (opposition area)	89,801	.2562	.4365	0	1	Ethnic Power Relations (EPR) and Geo-Referenced Ethnic Power Relations
Included Group Area (government area)	89,801	.6634	.4726	0	1	
Ethnically Diverse Grid	89,801	.3685	.4824	0	1	Same as above
Grid Wealth (GCP) (log)	89,801	7.3218	1.0458	4.621	14.213	G-Econ Database
Grid Population (log)	89,801	10.2406	1.7085	6.908	16.319	The Gridded Population of the World (Version 3) now available at
Size of Excluded Group (%)	89,801	.0538	.1486	0	.85	Geo-EPR dataset above
Travel to Urban Centre (mins)	89,801	532.7946	560.3409	0	5614	PRIO-Grid Version 2
Distance to Capital (km)	89,801	487.8273	330.6641	4	1948	
Unrest in Neighbouring Grid	89,801	.1115	.4059	0	8	Based on the SCAD protest events and calculated by myself
Unrest the Previous Year	89,801	.0156	.1240	0	1	
Country-Level Variables						
Percentage Increase in Food Prices	89,801	.0539	.05067	0	.41005	International Labour Office (ILO)
Food Prices X Excluded Areas (at the Grid-level)	89,801	.0147	.0441	0	.41005	Same as above and combine with EPR dataset
Food Prices X Diverse Excluded Areas (Grid)	89,801	.0088	.0385	0	.41005	
No. Excluded Groups	89,801	1.5389	1.6644	0	5	EPR dataset above
National Population(log)	89,801	16.5049	1.1435	13.668	18.834	World Bank
Regime Type (Polity2)	89,801	1.2977	5.4604	-10	10	Polity Project
National Elections	89,801	.2452	.4302	0	1	Elections and Democracy in Africa
Number of Peace Years	89,801	17.9310	13.1358	1	48	Hendrix & Salehyan (2012)

The fourth set of robustness checks – model choice (see Table 5):

In table 5 below, I explore the impact that model choice has on my results. I rerun all the analyses using country random-effects and less restrictive logistic regression with country corrected standards errors. Models 13-20 provide largely identical findings. In regards to the baseline models (13 and 17), ethnic exclusion has no effect on nonviolent action across both model types and remains far from statistical significance. Areas that are resided by a politically excluded ethnic group and that are diverse have a negative relationship on the likelihood of nonviolent action when using a country random-effects model (model 13). However, this result falls just outside of statistical significance when using a less restrictive rare-events logit model (model 17). However, the more basic logit model does not take into account unobserved country differences, which appear to be important.

When moving onto the general impact of food prices on the incidence of nonviolent protest, the results remain the same and actually strengthen across alternative models (models 14 and 18). When increasing food prices by one standard deviation (moving food prices from a 5.2% to a 10.5% increase), the risk of nonviolent action rises by 13.3-15.9% (compared to 12.7% when introducing country fixed-effects).

When exploring the mediating effect food prices have on ethnically excluded areas, the results also remain the same across model choice. In these excluded areas, a one-standard-deviation increase in food prices represents an rise in prices from 14.7% to 19.1%. Using country random-effects, food prices increase the likelihood of nonviolent action in excluded areas by 14.7% (model 15). The rare-events logit model reports a 11.3% increased chance of protest in these areas (model 19). Ethnic exclusion otherwise has a negative effect on the incidence of nonviolent action.

Lastly, when exploring the more challenge areas that are both inhabited by an politically excluded group and are ethnically diverse, only the country random-effects report identical findings. In model 16, the likelihood of nonviolent action is increased by 10.6% when prices move from 8.8-12.7% (one standard deviation). However, when running a rare-events logit model (model 20), this effect remains positive but becomes weaker and falls outside statistical significant. Overall, Table 5 largely supports my hypotheses, with a few results only falling outside statistical significance with less restrictive models.

Seventh set of robustness checks – other DVs and a discussion of removing geocoded estimated events (see Tables 8-10):

I rerun all the analyses using three other types of DV. The first two extend my geocoded estimations to include the ten largest cities and cities outside the top 10 with a population of at least 300,000 (*Full est)* and to the 10 largest cities (*Top10 est*). The last DV removes all geocoded estimates (*No est).* Across all models, the explanatory variables become stronger and more statistically significant with the larger estimated DVs (Tables 8-10). When I remove non-geocoded estimates from the analysis, high prices retain a strong effect on the incidence of civil resistance. However, while the subnational explanatory variables (diversity and excluded areas) maintain a positive impact on nonviolent resistance, the effect falls outside conventional levels of statistical significance when excluding geo-coded estimates.

Removing the estimates effectively removes very key incidents of nonviolent action across various different dimensions. Firstly, removing non-geocoded events actually removes protest locations that we can be more sure about. Nonviolent action almost always occurs in the capital and major urban centres (Chenoweth and Stephan, 2011). Moreover, SCAD provides key information on some events where we can be even more certain about the

location of these events. For example, dock worker strikes in Algeria, and strikes in the Kenya's tea producing areas and Zimbabwe's tobacco areas provide a clearer indication of where they strikes are occurring. In these instances GIS is used to process maps of production areas, the location of key port cities and of course major cities in order to locate where these events are highly likely to be occurring.

Secondly, because there is little information on who participates in strikes, many strikes are listed as nationwide or unknown, and without geo-codes within the SCAD data. Effectively the majority of strikes within the SCAD data are removed when excluded non-geocoded events. Strikes are very difficult to organise and most often are not possible without intergroup support, meaning these are exactly the type of events that my theory is trying to capture. Assuming that most mass strikes occur in the top-5 cities (with a population of at least 100,000 people), is likely to be an understatement in the majority of cases. The fact that the results improve when introducing more estimated locations is highly encouraging.

Thirdly, by removing geocoded estimated events also removes protests that we know occurred during the year. For example, Madagascar would be wrongly coded as having no events in 2002, when in fact there where nationwide demonstrations and a general strike which overthrew President Ratsiraka, but which is not geocoded in the data. Thirdly, by removing non-geocoded regional events removes ongoing regional struggles, such as the Berbers struggle for language rights in Algeria. Lastly, removing non-geocoded events removes the majority of protest events that occur in Benin which has a history of nationwide nonviolent action. In Benin, many SCAD events are described as general strikes and nationwide demonstrations, but are geo-coded as unknown locations, and therefore are removed from the no-estimate (No_est) dependent variable.

Table 4. Robustness Checks I-III: Other Interactions with Ethno-Political Exclusion, Riot as an Outcome and Controlling for Other Economic Shocks

	Model 5 Elections X Excl/Diversity	Model 6 Elections X Excl/Diversity	Model 7 Riot DV	Model 8 Riot DV	Model 9 Riot DV	Model 10 Other Econ Shocks	Model 11 Other Econ Shocks	Model 12 Other Econ Shocks
Standardised Increase in Food Prices	0.130***	0.117**	0.091*	0.029	0.033	0.109**	-0.041	-0.016
	(0.038)	(0.037)	(0.043)	(0.068)	(0.059)	(0.041)	(0.067)	(0.059)
Excluded Group Area (opposition area)	-0.021	0.020	0.124†	0.051	0.096	-0.049	-0.222**	-0.107
	(0.064)	(0.067)	(0.069)	(0.091)	(0.082)	(0.064)	(0.086)	(0.076)
Included Group Area (government area)	-0.081	-0.050	0.011	0.006	0.005	-0.079	-0.089	-0.090
	(0.057)	(0.059)	(0.061)	(0.061)	(0.065)	(0.057)	(0.057)	(0.060)
Ethnically Diverse Areas		-0.134*			-0.068		0.196**	
		(0.054)			(0.059)		(0.066)	
Food Price Increases X Excluded Areas				0.087				0.143**
				(0.070)				(0.048)
Food Prices X Diverse Excluded Areas					0.076			-0.150**
					(0.052)			(0.054)
Grid Wealth (GCP) (log)	0.416***	0.431***	0.628***	0.639***	0.646***	0.482***	0.526***	0.542***
	(0.118)	(0.118)	(0.095)	(0.094)	(0.095)	(0.119)	(0.120)	(0.120)
Grid Population (log)	1.202***	1.221***	1.459***	1.459***	1.464***	1.213***	1.214***	1.235***
	(0.074)	(0.075)	(0.082)	(0.082)	(0.082)	(0.074)	(0.074)	(0.075)
Size of Excluded Group (%)	-0.010	0.007	-0.014	0.004	0.002	0.019	0.072	0.064
	(0.067)	(0.067)	(0.073)	(0.075)	(0.074)	(0.067)	(0.069)	(0.068)
Travel to Urban Centre (mins)	-4.461***	-4.390***	-0.380*	-0.378*	-0.374*	-4.465***	-4.468***	-4.408***
	(0.322)	(0.322)	(0.184)	(0.184)	(0.184)	(0.323)	(0.322)	(0.322)
Distance to Capital (km)	0.081	0.074	-0.160*	-0.161*	-0.166*	0.080	0.080	0.069
	(0.054)	(0.055)	(0.073)	(0.073)	(0.073)	(0.054)	(0.054)	(0.054)
Number of Excluded Groups	0.193***	0.194***	0.127	0.125	0.097	0.025	0.007	-0.049
	(0.016)	(0.016)	(0.113)	(0.114)	(0.115)	(0.096)	(0.096)	(0.098)
National Population (log)	0.446***	0.446***	-1.195*	-1.333**	-1.357**	-0.568	-0.926	-0.907
	(0.010)	(0.010)	(0.499)	(0.511)	(0.509)	(0.484)	(0.500)	(0.498)
Regime Type (Polity2)	0.003	0.002	0.498***	0.510***	0.495***	-0.015	-0.002	-0.033
	(0.087)	(0.087)	(0.096)	(0.096)	(0.096)	(0.089)	(0.089)	(0.089)
National Elections	0.079	0.043	0.107**	0.101**	0.103**	0.0974**	0.0873*	0.0919*
	(0.094)	(0.095)	(0.038)	(0.038)	(0.038)	(0.036)	(0.036)	(0.036)
Number of Peace Years	-0.029	-0.013	0.272***	0.269***	0.272***	-0.019	-0.026	-0.025
	(0.060)	(0.060)	(0.069)	(0.069)	(0.068)	(0.060)	(0.060)	(0.060)
Excluded X Elections	-0.020							
	(0.034)							
Diverse X Elections		0.047						

			(0.034)					
GDP Growth (%)						-0.159***	-0.144***	-0.142**
						(0.043)	(0.043)	(0.043)
International Food Price Increases						-0.078	-0.082	-0.084*
(% Real Increases)						(0.042)	(0.042)	(0.042)
Deviations in Average Rainfall						0.131***	0.139***	0.137***
(GPCP mm)						(0.039)	(0.040)	(0.040)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.524	0.525	0.234	0.233	0.234	0.527	0.527	0.528
Observations	86,203	86,203	89571	89571	89571	86203	86203	86203

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic groups. Note: Models 5 and 6 results identical when also including original interactions in the model.

Table 5. Robustness Checks IV: Alternative Models - Random Effects and Rare-Events Logistic Regression

	Model 13 w/RE	Model 14 w/RE	Model 15 w/RE	Model 16 w/RE	Model 17 Relogit	Model 18 Relogit	Model 19 Relogit	Model 20 Relogit
Standardised Increase in Food Prices		0.133***	0.019	0.035		0.159***	0.066	0.107†
		(0.037)	(0.062)	(0.056)		(0.045)	(0.069)	(0.061)
Excluded Group Area (opposition area)	0.052	-0.045	-0.175*	-0.080	0.034	-0.031	-0.130	-0.072
	(0.063)	(0.062)	(0.082)	(0.073)	(0.097)	(0.071)	(0.109)	(0.097)
Included Group Area (government area)	0.002	-0.046	-0.050	-0.044	0.082	0.063	0.064	0.055
	(0.057)	(0.055)	(0.055)	(0.058)	(0.086)	(0.084)	(0.084)	(0.089)
Food Price Increases X Excluded Areas			0.146*				0.113†	
			(0.061)				(0.065)	
Food Prices X Diverse Excluded Areas				0.106*				0.057
				(0.045)				(0.057)
Ethnically Diverse Areas	-0.129*			-0.130*	0.018			-0.011
	(0.052)			(0.053)	(0.060)			(0.065)
Grid Wealth (GCP) (log)	0.152†	0.202*	0.214*	0.224*	-0.034	0.074	0.068	0.072
	(0.088)	(0.089)	(0.090)	(0.092)	(0.086)	(0.083)	(0.086)	(0.086)
Grid Population (log)	1.205***	1.195***	1.195***	1.212***	1.161***	1.186***	1.195***	1.192***
	(0.073)	(0.073)	(0.073)	(0.074)	(0.169)	(0.170)	(0.173)	(0.173)
Size of Excluded Group (%)	0.005	0.028	0.065	0.058	-0.021	0.020	0.042	0.030
	(0.059)	(0.060)	(0.062)	(0.061)	(0.085)	(0.077)	(0.078)	(0.075)
Travel to Urban Centre (mins)	-4.279***	-4.338***	-4.350***	-4.303***	-3.698***	-3.633***	-3.588***	-3.601***
	(0.316)	(0.317)	(0.318)	(0.318)	(0.705)	(0.701)	(0.715)	(0.713)
Distance to Capital (km)	0.085	0.091†	0.092†	0.084	0.143+	0.143†	0.142†	0.143†
	(0.054)	(0.054)	(0.054)	(0.054)	(0.084)	(0.079)	(0.077)	(0.078)
No. Excluded Groups	0.033	0.044	0.047	0.009	0.124	0.129	0.154	0.142
	(0.081)	(0.081)	(0.081)	(0.083)	(0.104)	(0.101)	(0.100)	(0.100)
National Population (log)	-0.475***	-0.459***	-0.475***	-0.477***	-0.492***	-0.497***	-0.508***	-0.501***
	(0.121)	(0.117)	(0.120)	(0.122)	(0.092)	(0.091)	(0.089)	(0.089)
Regime Type (Polity2)	-0.072	-0.077	-0.080	-0.095	-0.048	-0.032	-0.028	-0.030
	(0.066)	(0.066)	(0.066)	(0.070)	(0.084)	(0.087)	(0.086)	(0.085)
National Elections	0.128***	0.123***	0.116**	0.119***	0.131*	0.120†	0.115†	0.118†
	(0.035)	(0.035)	(0.035)	(0.035)	(0.064)	(0.063)	(0.063)	(0.064)
Number of Peace Years	0.006	-0.002	-0.009	-0.012	0.056	0.046	0.050	0.047
	(0.055)	(0.056)	(0.056)	(0.056)	(0.083)	(0.084)	(0.085)	(0.085)
Constant	-8.173***	-8.189***	-8.208***	-8.217***	-7.622***	-7.611***	-7.593***	-7.597***
	0.226	0.225	0.228	0.230	0.388	0.383	0.385	0.385
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	.	.	.	.	0.553	0.553	0.553	0.553
Observations	89801	89801	89801	89801	89801	89801	89801	89801

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic groups. Relogit models clustered on country-level standard errors.

Table 6. Robustness Checks V: Time Trends: Time Period Dummies and Splines

	Model 21 Time Trends	Model 22 Time Trends	Model 23 Time Trends	Model 24 Splines	Model 25 Splines	Model 26 Splines
Standardised Increase in Food Prices	0.095*	-0.005	0.008	0.129***	-0.050	-0.024
	(0.040)	(0.065)	(0.058)	(0.037)	(0.066)	(0.058)
Excluded Group Area (opposition area)	-0.060	-0.173*	-0.085	-0.017	-0.216*	-0.097
	(0.064)	(0.086)	(0.075)	(0.064)	(0.086)	(0.075)
Included Group Area (government area)	-0.091	-0.096†	-0.090	-0.075	-0.087	-0.095
	(0.057)	(0.057)	(0.060)	(0.057)	(0.057)	(0.060)
Food Price Increases X Excluded Areas		0.133*			0.225***	
		(0.067)			(0.065)	
Food Prices X Diverse Excluded Areas			0.101*			0.167***
			(0.049)			(0.048)
Ethnically Diverse Areas			-0.140**			-0.141**
			(0.054)			(0.054)
Grid Wealth (GCP) (log)	0.473***	0.500***	0.517***	0.441***	0.492***	0.507***
	(0.120)	(0.121)	(0.121)	(0.118)	(0.119)	(0.119)
Grid Population (log)	1.204***	1.204***	1.224***	1.243***	1.245***	1.264***
	(0.074)	(0.074)	(0.074)	(0.075)	(0.075)	(0.076)
Size of Excluded Group (%)	0.025	0.058	0.058	-0.030	0.029	0.019
	(0.067)	(0.069)	(0.068)	(0.066)	(0.068)	(0.066)
Travel to Urban Centre (mins)	-4.455***	-4.457***	-4.396***	-4.537***	-4.539***	-4.487***
	(0.323)	(0.322)	(0.322)	(0.325)	(0.325)	(0.325)
Distance to Capital (km)	0.078	0.078	0.069	0.065	0.065	0.054
	(0.054)	(0.054)	(0.055)	(0.055)	(0.055)	(0.055)
National Population (log)	-4.832***	-4.549***	-4.489***	-0.977*	-1.358**	-1.346**
	(0.984)	(0.992)	(0.994)	(0.444)	(0.460)	(0.458)
National Elections	0.133***	0.124***	0.126***	0.120***	0.109**	0.114**
	(0.035)	(0.036)	(0.036)	(0.035)	(0.036)	(0.035)
Years 1990-94 (Dummy)	-1.327***	-1.152***	-1.131***			
	(0.302)	(0.314)	(0.314)			
Years 1995-99 (Dummy)	-0.728***	-0.611**	-0.592**			
	(0.209)	(0.217)	(0.217)			
Years 2000-04 (Dummy)	-0.311*	-0.259†	-0.254†			
	(0.134)	(0.137)	(0.137)			
Years Since Last Protest Event				-0.802***	-0.811***	-0.807***
				(0.082)	(0.082)	(0.082)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.526	0.526	0.527	0.533	0.534	0.534
Observations	86,203	86,203	86,203	86,203	86,203	86,203

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category for time trends are the years 2005-08. Splines (are significant), regime type, and peace years are not reported (not significant).

Table 7. Robustness Checks VI: Country-Year and Grid-Year Fixed Effects.

	Model 27 Country-Year Fe	Model 28 Country-Year Fe	Model 29 Country-Year Fe	Model 30 Grid-Year Fe	Model 31 Grid-Year Fe	Model 32 Grid-Year Fe
Standardised Increase in Food Prices	0.113†	0.027	0.049	0.126*	0.024	0.064
	(0.063)	(0.097)	(0.077)	(0.059)	(0.086)	(0.077)
Excluded Group Area (opposition area)	-0.070	-0.169†	-0.080	-0.221	-0.398*	-0.312†
	(0.082)	(0.095)	(0.086)	(0.146)	(0.183)	(0.173)
Included Group Area (government area)	-0.098	-0.103	-0.090	-0.083	-0.122	-0.121
	(0.084)	(0.082)	(0.087)	(0.149)	(0.152)	(0.161)
Food Price Increases X Excluded Areas		0.119†			0.172†	
		(0.073)			(0.105)	
Food Prices X Diverse Excluded Areas			0.075†			0.105
			(0.046)			(0.087)
Ethnically Diverse Areas			-0.132			-0.261
			(0.091)			(0.376)
Grid Wealth (GCP) (log)	0.468*	0.491*	0.504*	-1.245***	-1.087**	-1.120**
	(0.223)	(0.228)	(0.230)	(0.376)	(0.388)	(0.387)
Grid Population (log)	1.237***	1.238***	1.256***	3.808*	3.602*	3.606*
	(0.194)	(0.194)	(0.196)	(1.506)	(1.513)	(1.516)
Size of Excluded Group (%)	0.032	0.061	0.061	0.524***	0.567***	0.546***
	(0.096)	(0.093)	(0.089)	(0.128)	(0.131)	(0.129)
Travel to Urban Centre (mins)	-4.515***	-4.515***	-4.451***	.	.	.
	(0.932)	(0.930)	(0.931)	.	.	.
Distance to Capital (km)	0.073	0.074	0.065	0.669	0.709	0.696
	(0.065)	(0.065)	(0.065)	(0.621)	(0.624)	(0.622)
Number of Excluded Groups	0.083	0.065	0.023	-0.300†	-0.315†	-0.321*
	(0.159)	(0.155)	(0.149)	(0.163)	(0.163)	(0.164)
National Population (log)	-5.271**	-4.734*	-4.731*	-0.264	-0.452	-0.353
	(1.837)	(1.913)	(1.879)	(1.117)	(1.124)	(1.120)
National Elections	0.044	0.053	0.033	0.157	0.176	0.162
	(0.152)	(0.157)	(0.157)	(0.115)	(0.117)	(0.116)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.575	0.575	0.576	0.275	0.276	0.276
Observations	86,203	86,203	86,203	4,846	4,846	4,846

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic groups.

Table 8. Robustness Checks VII: Different Geocoded Estimates of the Dependent Variable (Nonviolent Action) with Fixed Effects.

	Model 33 All est. DV w/FE	Model 34 All est. DV w/FE	Model 35 All est. DV w/FE	Model 36 Top10 City w/FE	Model 37 Top10 City w/FE	Model 38 Top10 City w/FE	Model 39 No est. DV w/FE	Model 40 No est. DV w/FE	Model 41 No est. DV w/FE
Standardised Increase in Food Prices	0.151***	-0.042	0.022	0.170***	-0.036	-0.001	0.065	-0.060	-0.006
	(0.031)	(0.054)	(0.047)	(0.036)	(0.066)	(0.058)	(0.056)	(0.099)	(0.087)
Excluded Group Area (opposition area)	0.093	-0.116	0.026	0.082	-0.134	-0.017	-0.036	-0.183	-0.009
	(0.051)	(0.069)	(0.060)	(0.060)	(0.082)	(0.072)	(0.103)	(0.140)	(0.133)
Included Group Area (government area)	-0.081	-0.0955*	-0.101*	-0.084	-0.095	-0.113	0.085	0.075	0.115
	(0.047)	(0.047)	(0.049)	(0.056)	(0.056)	(0.059)	(0.100)	(0.100)	(0.106)
Food Price Increases X Excluded Areas		0.243***			0.250***			0.155	
		(0.054)			(0.064)			(0.098)	
Food Prices X Diverse Excluded Areas			0.144***			0.183***			0.067
			(0.039)			(0.047)			(0.074)
Ethnically Diverse Areas			-0.122**			-0.106*			-0.202*
			(0.045)			(0.054)			(0.092)
Grid Wealth (GCP) (log)	0.516***	0.570***	0.566***	0.479***	0.523***	0.532***	0.801***	0.844***	0.851***
	(0.093)	(0.094)	(0.094)	(0.107)	(0.108)	(0.108)	(0.184)	(0.186)	(0.188)
Grid Population (log)	1.849***	1.851***	1.861***	1.296***	1.292***	1.305***	1.663***	1.658***	1.669***
	(0.064)	(0.064)	(0.065)	(0.071)	(0.071)	(0.071)	(0.115)	(0.115)	(0.115)
Size of Excluded Group (%)	-0.034	0.027	0.005	0.013	0.076	0.058	0.047	0.092	0.072
	(0.054)	(0.056)	(0.055)	(0.064)	(0.066)	(0.065)	(0.092)	(0.097)	(0.095)
Travel to Urban Centre (mins)	-6.565***	-6.542***	-6.502***	-4.619***	-4.612***	-4.583***	-4.836***	-4.807***	-4.755***
	(0.299)	(0.299)	(0.301)	(0.313)	(0.313)	(0.314)	(0.554)	(0.553)	(0.550)
Distance to Capital (km)	-0.056	-0.056	-0.066	-0.040	-0.041	-0.049	-0.184*	-0.183*	-0.203*
	(0.044)	(0.044)	(0.044)	(0.053)	(0.052)	(0.053)	(0.084)	(0.083)	(0.084)
No. Excluded Groups	0.043	0.020	-0.026	-0.009	-0.035	-0.084	0.127	0.105	0.056
	(0.078)	(0.079)	(0.080)	(0.093)	(0.093)	(0.095)	(0.131)	(0.132)	(0.135)
National Population (log)	-0.778*	-1.194**	-1.112**	-0.836†	-1.292**	-1.262**	-1.306*	-1.536*	-1.443*
	(0.356)	(0.369)	(0.367)	(0.431)	(0.449)	(0.446)	(0.617)	(0.636)	(0.639)
Regime Type (Polity2)	0.088	0.106	0.070	-0.027	-0.007	-0.041	0.018	0.032	0.008
	(0.070)	(0.070)	(0.070)	(0.085)	(0.086)	(0.086)	(0.123)	(0.124)	(0.123)
National Elections	0.070*	0.058*	0.066*	0.140***	0.128***	0.135***	0.127*	0.117*	0.122*
	(0.028)	(0.028)	(0.028)	(0.034)	(0.035)	(0.035)	(0.053)	(0.054)	(0.054)
Number of Peace Years	-0.007	-0.010	-0.006	-0.013	-0.023	-0.022	0.073	0.060	0.067
	(0.047)	(0.047)	(0.047)	(0.059)	(0.058)	(0.058)	(0.098)	(0.097)	(0.098)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.375	0.377	0.377	0.528	0.529	0.529	0.410	0.411	0.411
Observations	86203	86203	86203	86203	86203	86203	85973	85973	85973

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic groups.

Table 9. Robustness Checks VII (cont): Different Geocoded Estimates of the Dependent Variable (Nonviolent Action) with Random Effects.

	Model 42 All est. DV w/RE	Model 43 All est. DV w/RE	Model 44 All est. DV w/RE	Model 45 Top10 City w/RE	Model 46 Top10 City w/RE	Model 47 Top10 City w/RE	Model 48 No est. DV w/RE	Model 49 No est. DV w/RE	Model 50 No est. DV w/RE
Standardised Increase in Food Prices	0.139***	0.0281	0.0346	0.136***	0.0376	0.0444	0.077	-0.002	0.042
	(0.037)	(0.063)	(0.056)	(0.037)	(0.063)	(0.056)	(0.056)	(0.092)	(0.082)
Excluded Group Area (opposition area)	0.004	-0.116	-0.0406	0.0136	-0.0925	-0.0284	-0.115	-0.211	-0.061
	(0.060)	(0.080)	(0.071)	(0.060)	(0.080)	(0.071)	(0.101)	(0.134)	(0.129)
Included Group Area (government area)	-0.046	-0.049	-0.051	-0.049	-0.052	-0.055	0.121	0.121	0.166
	(0.054)	(0.054)	(0.057)	(0.054)	(0.054)	(0.057)	(0.092)	(0.092)	(0.099)
Food Price Increases X Excluded Areas		0.139*			0.123*			0.100	
		(0.062)			(0.061)			(0.091)	
Food Prices X Diverse Excluded Areas			0.112*			0.099*			0.028
			(0.045)			(0.045)			(0.069)
Ethnically Diverse Areas			-0.0984			-0.0792			-0.171
			(0.053)			(0.052)			(0.089)
Grid Wealth (GCP) (log)	0.220*	0.229**	0.238**	0.231**	0.239**	0.247**	0.338*	0.347*	0.357*
	(0.086)	(0.087)	(0.088)	(0.085)	(0.086)	(0.087)	(0.138)	(0.139)	(0.140)
Grid Population (log)	1.136***	1.136***	1.148***	1.154***	1.154***	1.163***	1.651***	1.648***	1.660***
	(0.071)	(0.071)	(0.071)	(0.070)	(0.070)	(0.071)	(0.112)	(0.112)	(0.112)
Size of Excluded Group (%)	0.028	0.061	0.054	0.029	0.059	0.051	0.119	0.148†	0.131
	(0.058)	(0.060)	(0.059)	(0.058)	(0.060)	(0.059)	(0.084)	(0.088)	(0.086)
Travel to Urban Centre (mins)	-4.256***	-4.267***	-4.234***	-4.194***	-4.204***	-4.180***	-4.642***	-4.633***	-4.593***
	(0.310)	(0.310)	(0.310)	(0.307)	(0.308)	(0.308)	(0.538)	(0.538)	(0.536)
Distance to Capital (km)	0.012	0.012	0.006	0.019	0.019	0.014	-0.171*	-0.170*	-0.187*
	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)	(0.085)	(0.085)	(0.086)
No. Excluded Groups	0.033	0.036	0.002	0.016	0.017	-0.011	0.057	0.055	0.015
	(0.080)	(0.081)	(0.082)	(0.080)	(0.081)	(0.082)	(0.114)	(0.114)	(0.117)
National Population (log)	-0.397***	-0.413***	-0.413***	-0.403***	-0.416***	-0.415***	-0.708***	-0.716***	-0.724***
	(0.119)	(0.121)	(0.124)	(0.118)	(0.120)	(0.122)	(0.162)	(0.163)	(0.166)
Regime Type (Polity2)	-0.085	-0.089	-0.106	-0.086	-0.088	-0.102	-0.089	-0.087	-0.094
	(0.065)	(0.066)	(0.067)	(0.065)	(0.066)	(0.067)	(0.095)	(0.096)	(0.096)
National Elections	0.138***	0.131***	0.134***	0.128***	0.122***	0.124***	0.135*	0.129*	0.133*
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.053)	(0.053)	(0.053)
Number of Peace Years	0.001	-0.005	-0.007	-0.003	-0.009	-0.011	0.097	0.088	0.091
	(0.055)	(0.055)	(0.055)	(0.055)	(0.055)	(0.055)	(0.090)	(0.090)	(0.091)
Constant	-8.132***	-8.150***	-8.161***	-8.101***	-8.116***	-8.125***	-9.957***	-9.956***	-9.966***
	(0.224)	(0.226)	(0.228)	(0.222)	(0.224)	(0.226)	(0.368)	(0.369)	(0.369)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	89801	89801	89801	89801	89801	89801	89801	89801	89801

Table 10. Robustness Checks VII (cont): Different Geocoded Estimates of the DV (Nonviolent Action) using Rare-Events Logit Clustered on Country Errors.

	Model 51 All est. DV (Re-Logit)	Model 52 All est. DV (Re-Logit)	Model 53 All est. DV (Re-Logit)	Model 54 Top10 City (Re-Logit)	Model 55 Top10 City (Re-Logit)	Model 56 Top10 City (Re-Logit)	Model 57 No est. DV (Re-Logit)	Model 58 No est. DV (Re-Logit)	Model 59 No est. DV (Re-Logit)
Standardised Increase in Food Prices	0.187***	0.069	0.113	0.183***	0.077	0.122*	0.181**	0.076	0.129
	(0.050)	(0.069)	(0.062)	(0.049)	(0.068)	(0.060)	(0.057)	(0.097)	(0.078)
Excluded Group Area (opposition area)	-0.006	-0.124	-0.087	0.003	-0.102	-0.074	-0.180	-0.312*	-0.287
	(0.076)	(0.103)	(0.097)	(0.079)	(0.108)	(0.101)	(0.123)	(0.154)	(0.154)
Included Group Area (government area)	0.052	0.053	0.017	0.053	0.055	0.016	0.168	0.176	0.124
	(0.085)	(0.085)	(0.093)	(0.085)	(0.085)	(0.092)	(0.112)	(0.114)	(0.120)
Food Price Increases X Excluded Areas		0.140*			0.125*			0.137	
		(0.065)			(0.060)			(0.076)	
Food Prices X Diverse Excluded Areas			0.072			0.059			0.056
			(0.055)			(0.050)			(0.056)
Ethnically Diverse Areas			0.055			0.066			0.095
			(0.069)			(0.066)			(0.123)
Grid Wealth (GCP) (log)	0.138	0.132	0.127	0.146	0.139	0.133	0.120	0.113	0.107
	(0.092)	(0.094)	(0.090)	(0.092)	(0.094)	(0.088)	(0.141)	(0.145)	(0.132)
Grid Population (log)	1.088***	1.101***	1.096***	1.111***	1.123***	1.119***	1.517***	1.523***	1.522***
	(0.149)	(0.153)	(0.150)	(0.154)	(0.158)	(0.155)	(0.247)	(0.247)	(0.246)
Size of Excluded Group (%)	0.043	0.067	0.046	0.048	0.070	0.048	0.135	0.167	0.146
	(0.077)	(0.077)	(0.074)	(0.077)	(0.078)	(0.074)	(0.113)	(0.117)	(0.113)
Travel to Urban Centre (mins)	-3.621***	-3.566***	-3.608***	-3.562***	-3.512***	-3.558***	-3.853***	-3.776***	-3.834***
	(0.660)	(0.675)	(0.673)	(0.668)	(0.683)	(0.679)	(1.140)	(1.140)	(1.140)
Distance to Capital (km)	0.084	0.083	0.084	0.097	0.096	0.098	-0.032	-0.034	-0.035
	(0.062)	(0.061)	(0.062)	(0.058)	(0.058)	(0.059)	(0.184)	(0.181)	(0.176)
No. Excluded Groups	0.134	0.166	0.165	0.105	0.132	0.134	0.070	0.096	0.105
	(0.105)	(0.104)	(0.103)	(0.102)	(0.100)	(0.100)	(0.126)	(0.121)	(0.114)
National Population (log)	-0.403***	-0.416***	-0.404***	-0.424***	-0.436***	-0.425***	-0.736***	-0.749***	-0.732***
	(0.092)	(0.089)	(0.090)	(0.090)	(0.087)	(0.088)	(0.119)	(0.121)	(0.121)
Regime Type (Polity2)	0.027	0.031	0.018	0.025	0.029	0.015	0.003	0.009	-0.006
	(0.099)	(0.097)	(0.091)	(0.098)	(0.097)	(0.090)	(0.117)	(0.115)	(0.113)
National Elections	0.132*	0.125	0.131	0.120	0.114	0.119	0.125*	0.119*	0.126*
	(0.066)	(0.066)	(0.067)	(0.065)	(0.065)	(0.066)	(0.058)	(0.057)	(0.060)
Number of Peace Years	0.032	0.036	0.039	0.028	0.032	0.036	0.042	0.045	0.053
	(0.081)	(0.082)	(0.082)	(0.080)	(0.081)	(0.080)	(0.120)	(0.122)	(0.124)
Constant	-7.505***	-7.486***	-7.506***	-7.484***	-7.466***	-7.490***	-8.986***	-8.952***	-8.985***
	(0.373)	(0.374)	(0.382)	(0.358)	(0.360)	(0.368)	(0.516)	(0.512)	(0.517)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.583	0.584	0.584	0.566	0.566	0.566	0.413	0.414	0.414

Observations	89801	89801	89801	89801	89801	89801	89801	89801	89801

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic groups.

Table 11. Robustness Checks VIII: Urban Nonviolent Action (as a DV), and Consumer/Producer Areas

	Model 60	Model 61	Model 62	Model 63	Model 64	Model 65
	Urban DV	Urban DV	Urban DV	Producer Areas	Producer Areas	Producer Areas
Standardised Increase in Food Prices	**0.148*** **	**-0.052**	**0.016**	**0.127*** **	**-0.034**	**-0.013**
	(0.031)	**(0.055)**	**(0.048)**	**(0.037)**	**(0.065)**	**(0.058)**
Excluded Group Area (opposition area)	0.094	-0.123	0.023	-0.025	-0.203*	-0.089
	(0.052)	(0.070)	(0.061)	(0.064)	(0.086)	(0.075)
Included Group Area (government area)	-0.080	-0.0953*	-0.102*	-0.079	-0.090	-0.092
	(0.048)	(0.048)	(0.050)	(0.057)	(0.057)	(0.060)
Food Price Increases X Excluded Areas		**0.253*** **			**0.201** **	
		(0.055)			**(0.065)**	
Food Prices X Diverse Excluded Areas			**0.149*** **			**0.150** **
			(0.040)			**(0.048)**
Ethnically Diverse Areas			**-0.121** **			**-0.151** **
			(0.046)			**(0.054)**
Grid Wealth (GCP) (log)	0.494***	0.551***	0.546***	0.411***	0.458***	0.475***
	(0.095)	(0.097)	(0.097)	(0.119)	(0.120)	(0.120)
Grid Population (log)	1.876***	1.878***	1.888***	1.204***	1.205***	1.225***
	(0.066)	(0.066)	(0.066)	(0.074)	(0.074)	(0.075)
Size of Excluded Group (%)	-0.047	0.016	-0.007	-0.009	0.044	0.037
	(0.056)	(0.057)	(0.056)	(0.067)	(0.069)	(0.067)
Travel to Urban Centre (mins)	-7.019***	-6.997***	-6.958***	-4.457***	-4.458***	-4.401***
	(0.313)	(0.313)	(0.315)	(0.322)	(0.322)	(0.322)
Distance to Capital (km)	-0.058	-0.058	-0.068	0.081	0.081	0.070
	(0.044)	(0.044)	(0.045)	(0.055)	(0.054)	(0.055)
No. Excluded Groups	0.047	0.024	-0.022	0.082	0.061	0.005
	(0.080)	(0.080)	(0.081)	(0.094)	(0.095)	(0.096)
National Population (log)	-0.754*	-1.183**	-1.094**	-1.011*	-1.372**	-1.371**
	(0.363)	(0.376)	(0.373)	(0.440)	(0.457)	(0.455)
Regime Type (Polity2)	0.075	0.093	0.056	0.003	0.020	-0.011
	(0.071)	(0.072)	(0.072)	(0.087)	(0.088)	(0.087)
National Elections	0.0689*	0.056	0.0646*	0.118***	0.107**	0.112**
	(0.029)	(0.029)	(0.029)	(0.035)	(0.036)	(0.035)
Number of Peace Years	-0.013	-0.016	-0.012	-0.029	-0.036	-0.034
	(0.048)	(0.047)	(0.047)	(0.059)	(0.059)	(0.059)
Majority Agricultural Areas (Producer Areas)				-0.014	-0.012	-0.013
				(0.033)	(0.033)	(0.033)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.386	0.387	0.387	0.524	0.525	0.526
Observations	86203	86203	86203	86203	86203	86203

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic grid.

Table 12. Robustness Checks IX-X: Lagged Independent Variables, Repression and Relative Ethnic Group Wealth with Fixed Effects.

	Model 66 Lagged IV	Model 67 Lagged IV	Model 68 Lagged IV	Model 69 Repression	Model 70 Repression	Model 71 Repression	Model 72 Grp Wealth	Model 73 Grp Wealth	Model 74 Grp Wealth
Standardised Increase in Food Prices	0.0891*	-0.052	-0.019	0.109**	-0.064	-0.029	0.0833*	-0.052	-0.015
	(0.040)	(0.073)	(0.064)	(0.041)	(0.073)	(0.065)	(0.040)	(0.072)	(0.063)
Excluded Group Area (opposition area)	0.067	-0.078	0.041	0.065	-0.118	0.016	0.103	-0.040	0.061
	(0.068)	(0.091)	(0.080)	(0.069)	(0.093)	(0.081)	(0.073)	(0.096)	(0.083)
Included Group Area (government area)	-0.039	-0.049	-0.036	-0.033	-0.044	-0.037	0.027	0.013	0.006
	(0.061)	(0.061)	(0.064)	(0.061)	(0.061)	(0.064)	(0.069)	(0.069)	(0.072)
Food Price Increases X Excluded Areas		0.168*			0.213**			0.163*	
		(0.071)			(0.073)			(0.071)	
Food Prices X Diverse Excluded Areas			0.108*			0.145**			0.100*
			(0.052)			(0.054)			(0.051)
Ethnically Diverse Areas			-0.166**			-0.178**			-0.180**
			(0.059)			(0.059)			(0.062)
Grid Wealth (GCP) (log)	0.320*	0.352**	0.368**	0.311*	0.349**	0.365**	0.315*	0.343*	0.329*
	(0.130)	(0.131)	(0.132)	(0.131)	(0.131)	(0.132)	(0.135)	(0.136)	(0.136)
Grid Population (log)	1.265***	1.267***	1.290***	1.263***	1.266***	1.289***	1.265***	1.267***	1.285***
	(0.080)	(0.080)	(0.081)	(0.080)	(0.080)	(0.081)	(0.081)	(0.080)	(0.081)
Size of Excluded Group (%)	-0.179*	-0.133	-0.133	-0.162*	-0.099	-0.100	-0.158*	-0.114	-0.112
	(0.073)	(0.075)	(0.074)	(0.073)	(0.076)	(0.075)	(0.073)	(0.075)	(0.074)
Travel to Urban Centre (mins)	-4.132***	-4.142***	-4.065***	-4.127***	-4.138***	-4.062***	-4.183***	-4.193***	-4.123***
	(0.338)	(0.338)	(0.337)	(0.338)	(0.338)	(0.338)	(0.338)	(0.338)	(0.337)
Distance to Capital (km)	0.097†	0.096†	0.085†	0.098	0.096	0.084	0.139*	0.137*	0.122*
	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.060)	(0.060)	(0.060)
Number of Excluded Groups	0.246*	0.223*	0.163†	0.267**	0.243*	0.176	0.240*	0.219*	0.160
	(0.100)	(0.101)	(0.103)	(0.101)	(0.101)	(0.104)	(0.100)	(0.101)	(0.103)
National Population (log)	-1.147*	-1.462**	-1.404**	-1.079*	-1.465**	-1.398**	-1.166*	-1.463**	-1.359*
	(0.516)	(0.533)	(0.529)	(0.518)	(0.536)	(0.531)	(0.519)	(0.535)	(0.531)
National Elections	-0.022	-0.027	-0.022	-0.023	-0.030	-0.023	-0.023	-0.028	-0.022
	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)
Repression (CIRI Index)				0.141*	0.183**	0.189**			
				(0.063)	(0.065)	(0.065)			
Relatively Richer Group (Cederman et al, 2011)							-0.006	0.000	0.050
							(0.056)	(0.056)	(0.059)
Relatively Poorer Groups (Cederman et al, 2011)							-0.222**	-0.216**	-0.184*
							(0.073)	(0.073)	(0.074)
Temporal and Spatial Lags	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.530	0.530	0.530	0.530	0.530	0.530	0.530	0.530	0.530
Observations	73706	73706	73706	73706	73706	73706	73706	73706	73706

† p<0.10 * p<0.05, ** p<0.01, *** p<0.001 Reference category: grids with no ethnic groups. Results not reported in this table: Regime Type and Number of Peace Years (both not significant)

Chapter 4. Ethnicity, Pro-Government Militias and the Duration of Civil War

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Abstract:

Why do some civil wars terminate within a few days, while others continue for decades? We extend debates on the relationship between ethnic violence and conflict duration to incorporate pro-government militia. We argue that coethnic militia (i.e. those recruited from the same ethnic group as the ruling elite) address internal security threats when states require a cheap and loyal armed force, and often increase the duration of the conflict by strengthening the state's capacity to resist concessions and adopting hard-line positions that undermine negotiations. We test these arguments on a global sample of cases from 1981-2007, using Cox proportional hazard models. We supplement the statistical analysis with a "model testing" case analysis of ethnic militias in the Sudanese civil wars. The results provide strong support for our claims that coethnic militia increase the duration of civil war, but in contrast to our expectations, shows that ethnic defectors have little effect.

4.1. Introduction

Why do some civil wars terminate within a few days, while others continue for decades? How does the ethnic make-up of warring parties impact conflict duration? The salience of ethnicity within a dispute is one of the prominent explanations for this variation. Conflicts fought over ethnic motivations often last longer than ideological or opportunistic disputes. While the mechanisms driving this finding remain contested, most accounts associate intractable ethnic violence with ethnic-based grievances deriving from group inequalities, the greater capacity of ethnic groups to overcome problems of collective action, and the greater intensity in which ethnic violence can politicise entire communities. At the same time, an opposing body of work questions the distinction between ethnic and non-ethnic conflicts, suggesting that the conflict-enhancing effect of ethnic motivations is exaggerated, and that private economic interests offer a better lens through which to understand what seem on the surface to be ethnic disputes. As such, it remains unclear if and through which mechanisms ethnic differences influence the duration of civil war.

We develop existing theoretical accounts by incorporating irregular state forces. Existing studies tend to define ethnic conflict monadically (i.e. conflict as a whole) or dyadically (i.e. relationship between the state and a rebel organisation). The former approach offers a useful indication as to how conflicts with an ethnic dimension differ from those without, yet are poorly suited to distinguish between the different mechanisms that might produce this effect. Dyadic approaches offer greater potential to uncover support for a specific relationship, yet to date, the focus has been solely on the ethnic characteristics and grievances of ethno-politically excluded insurgents vis-à-vis to a government dominated by rival ethnic groups (e.g. Cederman, Gleditsch and Buhaug, 2013; Wucherpfennig et al., 2012).[66] This

[66] Wucherpfennig et al. (2012) define ethnicity according to the ethnic claims and recruitment of the rebel group.

approach, whilst valuable, essentially assumes the state to be a unitary actor (see Sundberg, Eck and Kreutz, 2012).

This is problematic in light of the burgeoning collection of work now demonstrating the independent effect of irregular state forces. For pro-government militias—that is organised armed forces aligned with the incumbent government but not identified as being part of the "official" state armed forces (Carey, Mitchell, and Lowe, 2013, 250)— influence a range of conflict conditions, including: regime survival; coups d'́etat; human rights violations; one-sided violence; civil-war intensity; and insurgent fragmentation (e.g., Carey, Colaresi and Mitchell, 2016; Jentzsch, Kalyvas and Schubiger, 2015; Carey, Colaresi and Mitchell, 2015; Powell, 2012; Roessler, 2011; Pilster and Böhmelt, 2011; Böhmelt and Pilster, 2015). Yet to date, existing studies of grievances and ethnic conflict have overlooked the possible role of militias, meaning it remains unclear the extent to which PGMs influence the duration of civil conflict, and, more specifically, if this effect is conditioned on the existence of a PGM's ethnic ties. As such, we make two primary contributions, (i) extending debates on the relationship between ethnic violence and conflict duration to incorporate PGMs, and (ii) developing studies of PGMs to assess their effect on conflict duration.

We define ethnic pro-government militia (EPGMs) as an armed force that is clearly pro-government, not identified as a part of the regular security force, recruited specifically along ethnic lines to undertake tasks in support an ethnic group (or a coalition of groups). EPGMs can be either coethnic (i.e. composed of the same ethnic group as the ruling elite) or defectors (i.e. composed of groups that are excluded from power). We argue that coethnic EPGMs address internal security threats when states require a cheap and loyal armed force, and often increase the duration of the conflict by strengthening the state's capacity to resist concessions, and by adopting hard-line positions that undermine the bargaining process. In

contrast, we argue that defector groups fragment the insurgency, complicating the bargaining process and increasing the duration of conflict.

We test these arguments on a global sample of cases from 1981-2007, using Cox proportional hazard models. We supplement the statistical analysis with a "model testing" case analysis of coethnic militias in the Sudanese civil war (1983-2005). The results provide strong support for our claims that coethnic militia increase the duration of civil war, but offer little evidence of the influence of defector PGMs.

4.2. The Drivers of Conflict Duration

The duration of civil conflict is determined by conditions that increase (or decrease) the belligerents' propensity to terminate their dispute. Each conflict involves sequential rounds of bargaining and fighting (see, Wucherpfennig et al, 2012). Within each round, there exists three possible outcomes, (1) the belligerents reach a mutually acceptable agreement that terminates the fighting, (2) one side capitulates and accepts defeat, or (3) the fighting continues. The total defeat of an opponent is rare during civil war. Even when one side militarily dominants their opponent, an agreement of some kind is normally required to end a war. Thus, both political (i.e. 1) and military (i.e. 2) termination require a settlement between the parties, and the party's propensity to come to such a deal shapes the duration of the dispute.

Research has revealed a number of key conditions that shape belligerents' propensity to terminate violence. One major school of thought posits that private economic interests provide incentives to warring factions to continue fighting, which in turn, prolongs conflict. The presence of lootable resources, and valuable commodities, such as oil, drugs, precious stones, timber, etc. and the (potential) economic gain garnered from them limits the incentives to lay down arms or engage in negotiations (Collier, Hoeffler and Soderbom, 2004; Fearon

2004). Similarly, conditions that favour insurgency are associated with longer periods of conflict including state weakness, inaccessible terrain, forest cover, and foreign patrons. Each provides greater opportunity for rebels to sustain the fighting, lowering the incentives to settle and prolonging war (Buhaug, Gates and Lujala, 2009; Cunningham, 2010).

The salience of ethnicity within a dispute is another prominent explanation for variation in conflict duration. Conflicts fought over ethnic motivations often last longer than ideological or opportunistic disputes. Yet the mechanisms through which ethnic elements influence conflict duration remain contested (Lyall 2010; Kalyvas 2008; Seymour 2014; Warren and Troy, 2015). Most accounts associate intractable ethnic violence with the greater capacity of ethnic groups to overcome problems of collective action, and the greater intensity in which ethnic violence can polarise and politicise entire communities. Ethnic-based grievances often hold greater salience, and offer a mobilisation advantage for rebels recruiting from ethnic groups that are excluded from political power (Weinstein, 2007; Wucherpfennig, et al, 2012; Cederman, Gleditsch and Buhaug, 2013). The ascriptive nature of ethnicity also means that disputes can quickly escalate, further undermining a bargaining process (e.g. Eck 2009; Kaufmann 1996). However, existing accounts have focused solely on the ethnic characteristics of the rebels, or the ruling regime, and overlooked the influence that ethnically motivated pro-government militia might produce within the context of unequal ethnic hierarchies.

Existing studies have addressed how actor fragmentation complicates the resolution process (Cunningham, 2006; Pearlman and Cunningham, 2012). Rebel fragmentation creates additional veto players and shifting alliances, which often undermine bargaining attempts.[67] Fragmentation also encourages outbidding and infighting between factions, which in turn, can reduce the likelihood of termination (Bloom, 2004). However, it is less clear how the number

[67] There is some contrary evidence that fragmentation can facilitate settlements (Findley and Rudloff, 2012; Driscoll, 2012).

of belligerents on the government side influence this process (Jentzsch, Kalyvas and Schubiger, 2015). For counter-insurgent struggles at least, the evidence suggests that the use of pro-government militias can increase the duration of a dispute (Aliyev 2017, 2018a, 2018b; Carey, Mitchell and Scharpf, 2018). It is not yet clear if this extends to other forms of civil violence, or if the relationship is dependent on the type of militia force (beyond the link to the government).

4.3. Pro-Government Militias

PGMs are organised armed groups aligned with the incumbent government, but not identified as being part of the "official" state armed forces (Carey, Mitchell, and Lowe, 2013: 250). PGMs include a heterogeneous collection of non-state actors that often differ in their recruitment base, composition, activities, and targets. For example, death squads, warlords, and civilian defence forces differ in terms of their link with the state (e.g. semi-official or informal), theatre of operations (e.g. local or national), and whether they operate within or outside of armed conflict (see, Carey and Mitchell, 2017; Böhmelt and Clayton 2017).

Previous research demonstrates that PGMs are likely to emerge in weak states facing acute security threats, including, but not limited to, insurgency and civil war (Böhmelt and Clayton 2017; Carey and Mitchell, 2017; Jentzsch, Kalyvas and Schubiger, 2015). Under such conditions PGMs can emerge from civil society as local security providers in response to insurgent violence (Barter 2013; Aliyev 2016). However, governments also often mobilise or co-opt PGMs as an efficient force multiplier in pursuit of various short-term advantages. For example, PGMs are cost-effective in comparison to conventional forces as they are cheaper and easier to recruit (Staniland 2015a; Eck 2015; Jentzsch et al, 2015; Carey, Colaresi and Mitchell, 2016). Some types of PGMs also enable the government to evade accountability and

plausibly deny involvement in human rights abuses (Kirschke, 2000; Carey, Colaresi and Mitchell, 2015; Stanton, 2015). Other forms of PGMs, such as civilian defence forces, can provide local knowledge that enables the government to better identify insurgents (Clayton and Thomson 2016; Kalyvas, 2006; Peic, 2014; Eck, 2015; Lyall, 2010; Staniland, 2012). This is particularly effective when the state incorporates defected members of the insurgency into a militia (Kalyvas, 2006; Staniland, 2012). Finally, parallel-military PGMs can counterbalance conventional forces and mitigate internal threats, such as coups (Pilster and Böhmelt, 2011; Carey, Colaresi and Mitchell, 2016).

However, recent research has shown that these short-term advantages for the state can have long-term negative consequences, arguing that the presence of PGMs (generally) can exacerbate and prolong conflict. The mobilisation or co-option of militias requires the state to concede their monopoly over the legitimate use of force in their territory (see also Mann, 1988; Weber, 2013; Carey and Mitchell, 2016). This often leads to increased violence against civilians, both by PGMs and insurgents responding to them (Mitchell, Carey and Butler 2014; Carey, Colaresi and Mitchell, 2015; Clayton and Thomson, 2016; Kirschke 2000; Stanton, 2015). However, once the genie is out the bottle, there is no guarantee that a PGM will remain loyal. States must often choose between maintaining a force monopoly that can be crucial for stability, economic development and the establishment of the rule of law, and a reduction in control over violent actors in return for the benefits associated with PGMs (Böhmelt and Clayton 2017).

Recent research has focused on various mechanisms through which the presence of PGMs can prolong violent conflict. Some scholars have examined how multiple armed actors and the number of "veto players" often serves to reduce the likelihood of a negotiated settlement (i.e. Cunningham 2006, 2011). Excluding actors from negotiations in multiparty disputes may lead to a condition of "partial peace" (Nilsson 2008). As PGMs are extra-dyadic

actors in civil conflict, their presence can complicate bargaining attempts by increasing the number of "veto players" and the number of demands that need addressing towards forging peace (Aliyev 2017, 2018b). According to a separate line of reasoning, PGM interactions with rebels may serve to prolong violence and conflict. Phillips (2015) argues that "interfield" rivalries (where groups' goals differ greatly) help to produce cycles of conflict between competing groups that are difficult to break. PGMs are usually anti-insurgent in nature and they often continue to target rebels even during state-rebel peace talks, increasing the chances of spoiler activity (Aliyev 2018b; Ferguson 2017).

Finally, peace often threatens the existence of PGMs by undermining their relationship with their state benefactors and endangering their access to lucrative sources of income. During conflict, PGMs materially benefit from state links and, in many cases, from illicit commercial activity. Ending a conflict, whether through victory, defeat, or negotiation, poses an existential threat to PGMs and their members' access to resources, therefore increasing the likelihood that these actors will be opposed to ending the conflict. Consequently, Aliyev (2017) finds that conflicts in which PGMs are present tend to last around 3 times as long as conflicts in which PGMs are not present. Aliyev (2018a) also finds that the presence of a PGM can prolong civil conflicts by making a negotiated settlement less likely and by reducing the possibility of one side winning, re-producing low-intensity conflict.

4.4. Ethnic Pro-Government Militias

The extent to which the ethnic make-up of militias determines their costs and benefits is largely missing from existent research. Thus, while we know that ethnic dimensions can significantly colour the nature of organised violence, and equally, that PGMs have a number of impacts on the character of civil conflict and its duration, it is not yet clear the extent to which ethnically

motivated militias differ in their influence on conflict. During times of state weakness and insecurity, ethnicity often provides a convenient way of organizing armed recruitment, which is often more salient and 'sticky' than other recruitment categories (e.g. ideology) (Eck, 2009; Cederman, Gleditsch and Buhaug, 2013; Jentzsch, 2014). Due to its salience, recruitment along ethnic identity lowers coordination costs and makes potential recruits more identifiable (Lichback, 1995; Eck, 2009).

Ethnicity can be associated with PGMs in a number of ways. However, we consider a militia group to be an ethnic pro-government militia (EPGM) when a militia is clearly pro-government, not identified as a part of the regular security force, and are *recruited* specifically along ethnic lines, in order to *uphold ethnic goals*. EPGMs can be composed of individuals from a single ethnic group, or occasionally, a coalition of ethnic groups. In this context, shared ethnic identity (whether real or imagined) forms the basis for militia *recruitment,* and thus inclusion or exclusion within the militia. This is a common recruitment practice, for example the Uzbek Junbesh-e-Milli in Afghanistan, which recruit exclusively from the Uzbek community. Militia might also include non-native groups recruited from transnational ethnic kin. For example, the Army for the Liberation of Rwanda operates in the DRC alongside their Congolese Hutu kin. In addition, EPGMs are formed (or co-opted) to *uphold ethnic goals*, such as the maintenance of a favourable political or economic distribution, or the protection of a specific part of the civilian population.

Notably, we also distinguish EPGMs from "ethnic militias" more generally. A wider literature exists on "ethnic militias" referring to sub-state warring factions that are organised along ethnic lines or mobilised according to tribal affiliations that engage in violent activities, *but which are not necessarily pro-state* (e.g. Raleigh 2016; Alden, Thakur and Arnold 2011). In fact, such actors are commonly either anti-state or have no affiliations with the state at all

(e.g. Raleigh 2016). Therefore, "ethnic militias" refers to a broader category, distinct from EPGMs, in that the latter are distinctly pro-government.

Rather than seeing ethnic linkages as purely demographic, we place ethnic goals and civil war within the context of ethno-exclusive politics and contestation between ethnic groups that are included and excluded from political power (Wucherpfennig et al, 2012; Cederman, Gleditsch, and Buhaug, 2013). The government is not only active in the conflict but can also be ethnically biased. Ethnic incumbents often openly deploy ethno-exclusive policies as a strategy to consolidate the power and security of their own ethnic group and distribute state resources (i.e. patronage) to coethnics in exchange for political support (Posner, 2005; Roessler, 2011; Wimmer, 2013).[68]

Ethno-political power imbalances provide incentives for governments to maintain ethnically exclusionary power, and often co-opt EPGMs as part of a strategy to achieve this goal. Incumbent incentives to co-opt or recruit EPGMs differ depending on whether they recruit from those groups that are excluded from the governing regime (defectors) or recruit an EPGM from their own ethnic constituency (coethnics). In turn, these types of EPGMs will also have different incentives to fight on behalf of the government. Because EPGMs may have varying relationships to the state, we further distinguish between "defector PGMs" and "coethnic PGMs", and later explore their respective impacts on conflict duration.

In a common counterinsurgent strategy, incumbents often mobilise or co-opt defected members of an insurgency to serve as informers and fighters against their previous insurgent brethren. In some occasions this occurs across ethnic divisions. Defector PGMs are composed of members of an ethnic group who are not included within the governing regime. Ethnic defectors are often "explicitly opposed to the national aspirations of the ethnic group with

[68] Also see Wucherpfennig et al (2012) and Cederman, Gleditsch, and Buhaug (2013) for a detailed discussion about the 'logic of ethno-political exclusion'.

which they identify and [can even] end up fighting against their coethnics" (Kalyvas, 2008: 1045). This includes the Kadyrovsky in Chechnya, ethnic Chechens used by Russian counterinsurgents, and former Tamil rebel groups that joined forces with the Sinhalese dominated government, such as the Eelam People's Democratic Party, to target Tamil separatists. Defector PGM have tactical incentives to switch sides in order to gain token patronage and power from the state or seek state support in order achieve predominance within their own ethnic consistency and gain security from rival factions.

On the other hand, many EPGMs are composed of members that share the same ethnicity as the government (i.e. are coethnic). Ruling ethnic factions often seek the mobilisation or cooperation of more loyal 'coethnic' groups that have a common interest in upholding the status quo. For example, various administrations in the Philippines have relied upon co-Christian PGMs to target Muslim separatists in Mindanao, and similarly with the Anti-Terrorist Unit in Liberia where Charles Taylor specifically recruited from Gio and Mano members of his former NPFL rebel group to supress a collection of excluded ethnic opposition forces. We expect defector and coethnic PGMs to impact civil conflict dynamics in different ways.

4.5. Ethnic Pro-Government Militia and the Duration of Civil War

Defector Pro-Government Militias

Existing literature on counterinsurgency points to the strategic value of recruiting PGMs composed of ethnic defectors (i.e. members of [an] excluded ethnic group[s]), which enables incumbents to better undermine an insurgency by disrupting insurgents and their constituent communities, and improving the effectiveness and selectivity of state targeting (Lyall 2010;

Staniland 2012; Clayton and Thomson 2016; Galula 2006). Recruiting defector PGMs offers the state a set of tactical advantages.

Defector PGMs offer unique local knowledge of who the insurgents are, possess relevant local language skills, have access to intra-ethnic informational networks, and cultural advantages that help to overcome the "identification problem" (Peic 2014; Lyall 2010; Staniland 2012; Kalyvas 2008). This enables the state to weaken rebel forces and lowers the risk of collective ethnic targeting, which occurs when the government is unable to identify insurgents (Fjelde and Hultman, 2014). Collective ethnic targeting not only leads to more civilian deaths directly at the hands of the government, but also increases the rebel's recruitment pool by creating collective grievances within the targeted population (Mason and Krane, 1989). Defector EPGMs therefore simultaneously increase the state's capacity to target insurgents and reduce violence that can lead to rebel recruitment.

Defector PGMs also help to "legitimise" the actions of the regime by challenging insurgent claims to be the sole representative of the excluded ethnic group (Lyall, 2010). This can be a top-down process, in which the state encourages leaders of an excluded group to realign with the regime against rebellious groups (e.g. Chechnya). On other occasions lower coordination costs can facilitate bottom-up mobilisation in which communities themselves mobilise defector PGMs in response to insecurity (e.g. Sunni Awakening in Iraq), which governments can then co-opt (Ahram, 2011; Driscoll, 2012; Jentzch, 2014). In either case, states gain an advantage by diminishing the appeal of "ethnic" insurgent mobilisation based on shared identity group grievances and undermine intra-ethnic cohesion.

The existing literature points to two competing outcomes that might result from harnessing defector EPGMs. According to the conventional counterinsurgency wisdom, defectors might offer new opportunities for conflict termination. Identifying insurgents is often

the key impediment to counterinsurgency. The information-revealing role of defectors can improve the likelihood of military victory and increasing pressure on insurgents to seek out political solutions. This is particularly the case where there are "mass defections" and significant numbers of insurgent members switch sides (see Lyall 2010; Clayton and Thomson 2016).

A fractionalised context also creates incentives for weaker rebel organisations to enter into agreement with the state (c.f. Nilsson 2010), which allows the government to deploy a 'win away pieces' strategy, making separate peace deals with individual rebel factions (Zartman, 1995). This might increase the incentives for rebels to bargain in order to maintain representative legitimacy. The process also lowers commitment as it creates institutions for side-switching where rebel factions can join the government without necessarily disarming, slowly bringing the wider rebellion to a halt (Driscoll, 2012, Findley and Rudloff, 2012). For example, in the DRC the government gained momentum by gradually bargaining with different CNDP factions and eventually integrating them into the army.

However, mass defectors are very rare, and while fragmentation might create opportunity for some groups to enter into agreement with the state, ethnic defection can extend conflicts by producing long-lasting low-intensity forms of violence within the defected ethnic group. Insurgents often undertake retaliatory acts against their own ethnic kin to dissuade defection, to punish "betrayal" afterwards, and to enhance their image as the main representatives of their ethnic group (Kalyvas, 2006: 107-9; Clayton and Thomson 2016; Mason and Krane 1989). This can produce a "logic of retaliation" and intra-ethnic violence which is difficult to overcome in the long-run. For members from defected groups, ending the conflict means they will have to coexist with former (coethnic) enemies. Out of fear of retaliation in post-conflict settings, these groups often oppose peace (Aliyev 218a, 5). For example, the Kurdish Turkish village guards have often been branded as "traitors" for their

opposition to the PKK. Subsequently, many members of the village guards worked against efforts to terminate the conflict in fear of continued reprisals and a post-conflict inferior social standing (Gurkan 2015).

In multi-ethnic conflict settings, similar logics can produce continued inter-ethnic tensions that sustain low-intensity conflict. For instance, in the Sudan the SPLM/A insurgent group was composed of various ethnic tribal factions. Khartoum managed to provoke and/or harness internal rifts in non-Muslim "African" insurgent groups and formed various defector PGMs, such as some of those in the umbrella South Sudan Defence Forces (SSDF). This heightened multiple inter-ethnic feuds and fragmentations of armed groups that proved difficult to abate. It also complicated the bargaining process between the government and the main rebel groups, as various factions continued to fight one another during negotiations, making a peaceful settlement to the conflict less likely (see Young 2003; Seymour 2014; Johnson 2003).

In addition to this, ethnic defection and the parallel rise of defector PGMs can complicate the bargaining process by increasing the number veto powers, lowering the likelihood of termination (Cunningham, 2006; 2013). Defectors increase the likelihood of insurgent fragmentation by eroding the links between the insurgents and their constituent communities (Seymour, Bakke and Cunningham, 2016; Lyall, 2010). This often results in a larger number of armed actors (multiple rebel factions). In turn, multiple weaker rebel groups are less likely to force concessions from the incumbent (Clayton 2013). Similarly, defector PGMs often have limited allegiance to the incumbent government they have sided with (they are defected members of ethnic group excluded from power), but simultaneously have broken ties with their co-ethnic insurgent groups. Defector PGMs are extra-dyadic or third actors in civil wars. This adds to the number of veto players as well as the number of demands that have to be met, making a negotiated settlement less likely.

Finally, ethnic defection can produce more complex conflict environments. Incumbents using defector EPGMs is likely to create a fractionalised context in which the loyalty of armed groups is hard to predict (Cunningham, Bakke, Seymour, 2012; Otto 2017; Souleimanov et al., 2016). Defector EPGMs are prone to side switching, as they lack the 'loyalty' associated with coethnic PGMs (Seymour, 2014). As a result, we expect defector PGMs to complicate bargaining and increase the likelihood of sustained violence. This leads to our first hypothesis:

Hypothesis 1: *The presence of defector PGMs increase the duration of civil conflict.*

Coethnic Pro-Government Militia

Incumbents, however, often co-opt or mobilise coethnic militias. Coethnic militia increase the duration of civil war by strengthening the military resilience of the ruling regime, impeding political bargaining and intensifying issues of commitment.

Coethnic PGMs can increase the capacity of the state to endure the costs of war, reducing incentives for an agreement. Coethnic militia attract additional recruits that help to insulate the government from the costs of conflict (Ahram, 2011; Carey and Mitchell, 2017; Humphreys and Weinstein 2008). Coethnic militia are particularly adept for this process, as they draw on a common sense of ethnic belonging and heritage (Eck, 2009; Jentzsch, 2014). Recruiting along ethnic lines also creates a clear obligation for group members to act in protection of their group's collective common interests (Coleman, 1990), whilst making potential recruits more easily identifiable (Eck, 2009). This recruitment advantage can be pivotal in helping the state to sustain armed conflict over long periods.

Coethnics' strong sense of loyalty to their kin in power, and strong incentives to fight on increases the resilience of a regime and ability to continue fighting. Irregular forces are

prone to defection and side-switching during civil conflict, and according to a principle-agent logic, PGMs (i.e. agents) that operate outside of the state's (i.e. principle's) control are often likely to engage in hidden actions to improve their position. This is less of a problem for coethnic actors, as they share in the spoils of ethno-political power, and are more likely to remain loyal to the regime even during the most challenging phases of armed struggle (Kirschke, 2000; McLaughlin, 2010). The existent system of patronage and government's promises of future benefits cement this loyalty (Eck, 2009). Conversely, if defeated, coethnic groups (and their kin) are at serious risk of deadly reprisals further increasing their loyalty and commitment (Eck, 2009; Kirschner, 2010).

Yet despite the recruitment and loyalty gains associated with coethnic PGMs, these initial advantages are likely to have long-term consequences on the durability of civil war. In comparison to state forces, they tend to be poorly trained, equipped and lacking in specialisation (Böhmelt and Clayton 2017). Instead, they offer a notable defensive advantage, reducing the likelihood of defeat and the need to make significant concessions. For example, in Angola the Civil Defence Organisation, comprised from the governing Mbundu group, helped provide state protection by creating an additional protective zone around the capital. Similarly, the creation of coethnic militias was pivotal to sustaining Bashar al-Assad's regime in Syria, and, in turn, sustaining conflict. Assad was able to resist growing rebel threats largely due loyal Alawite force of 60,000 men, quickly recruited under the banner of the National Defense Force (Carter Center, 2013), but which has merely allowed the Assad regime to sustain fighting on multiple fronts.

While defector PGMs tend to intensify intra-group tensions and violence, coethnic PGM influence the duration of conflict by further entrenching inter-ethnic divisions and polarizing ethnic communities. The use of ethno-exclusive forces associates violence and ethnicity, increasing "politicization of identity-based cleavages" (Alden, Thukur and Arnold

2011: 37-39; Montalvo and Reynal-Querol, 2010). This prevents effective bargaining prior to violence (Roessler, 2011), and hinders peacemaking during war. While this might help the state to recruit from its own population, as the process that exacerbates interethnic competition also produces intra-group cohesion (Kaufmann, 1996), it simultaneously enhances the rebel's ability to recruit and gain support among their ethnically excluded constituency. This reduces the likelihood of peaceful resolution and the prospect of a conflict petering out. For example, in Indonesia heavy-handed tactics, including the use of Javanese militias, helped to boost support for Acehnese separatists.

Thirdly, coethnic PGMs influence the duration of conflict by impeding the bargaining process. Recruiting along ethnically exclusionary lines, coethnic PGMs are more prone to extreme ethnic views, and view ethno-political dominance as legitimate and justified. Coethnic PGMs are likely to be resistant to any process that compromises their political power (Cederman, Gleditsch and Buhaug, 2013). Coethnic PGMs are therefore likely to resist or "spoil" policies that jeopardise their prominent position (Pearlman, 2009; Staniland 2015). In this context, the loyalty of a coethnic PGM pivots from the ethno-political regime to the broader group they claim to represent (Carey and Mitchell, 2017). For example, in Ukraine, EPGMs have constantly undermined the government, which they now accuse of betraying the Ukrainian people in seeking negotiations with the rebels (Aliyev, 2016).

Finally, coethnic PGMs complicate the bargaining process by intensifying issues of commitment. Insurgents will only demobilise and transfer full power back to the state when they believe that the state will abide by the terms of a "deal". Coethnic PGMs operate outside of the central command structures, making it harder for states to disarm and demobilise them. Atrocities attributed to coethnic militia exacerbate commitment problems, since they signal to the rebels that the state is unwilling or unable to control these groups, and that the militia are unlikely to be committed to peaceful coexistence in the future (Kirschner, 2010). For example,

the Janjaweed consistently undermined settlements in Darfur by engaging in violence that the Sudanese government seemed unable (or unwilling) to prevent (see below). From this discussion, we derive our first hypothesis:

> *Hypothesis 2: The presence of coethnic pro-government militia increase the duration of civil conflict.*

4.6. Research Design

To test our hypotheses, we apply a mixed-method research design. We first assess our arguments using a statistical analysis. We then follow Lieberman's (2005) model-testing approach and assess the case of ethnic PGMs in Sudan. Here we focus on the statistical design, and justify the case selection below.

Measuring Ethnic PGMs

Coethnic and defector pro-government militia are the key independent variables in our analysis. We operationalise EPGMs using the Pro-Government Militia (PGM) dataset (Carey, Mitchell, and Lowe, 2013). The PGM dataset includes 331 PGMs active between 1981 and 2007, and offers the original news sources used to code each militia group. We use this online database, and where necessary evidence from other academic sources, policy papers, and reports from non-government organisations to apply our coding criteria for EPGMs. In most cases, the clear criteria made coding the groups relatively straightforward, but on occasions, additional information was required. In total, we coded 186 of the 331 pro-government militia

as EPGM.[69] Using these sources, we code ethnic pro-government militia groups that meet **both** of the following criteria:

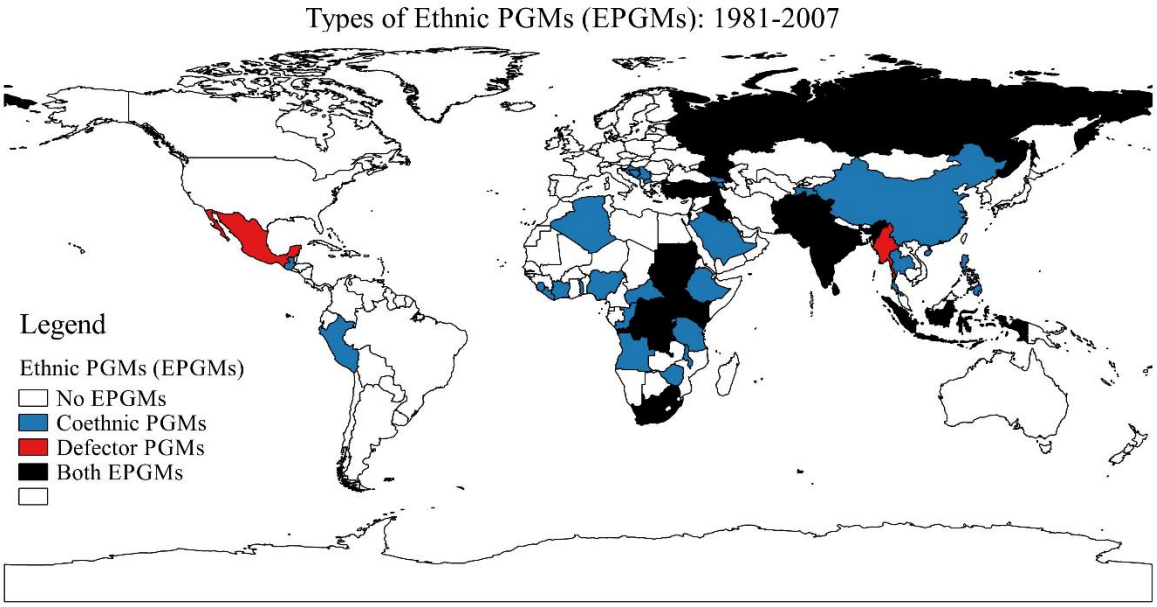
1. *Recruitment: PGM Membership is restricted to a specific politically relevant ethnic group (or groups).*[70] Thus, there needs to be clear evidence of an ethnic criterion associated with group membership.[71] For example, the Uzbek Junbesh-e-Milli in Afghanistan clearly recruit exclusively from the Uzbek community. Importantly, recruitment does not need to be limited to one ethnic group, as sometimes EPGMs are composed of different ethnic constituencies.[72]
2. *Role: the actions clearly support a particular ethnic group (or a coalition of groups), or target other groups based on ethnic characteristics.* To ensure that ethnic mobilisation is not a strategy of convenience, we also require evidence that the group seeks to support or threaten a particular group based on ethnicity. This also ensures that exclude mercenary groups operating for economic rather than ethno-political motivation, such as Chadian groups operating in the Central African Republic.

Having coded each EPGM, we then link these militias to their respective ethno-political power status using the Ethnic Power Relations dataset (EPR). Our approach develops the method previously used to capture the ethnic characteristics of insurgents (e.g. Wucherpfennig et al. 2012; Wimmer, Cederman and Min, 2009). We first identify the politically relevant ethnic

[69] For a full list of cases, see appendix (table 2).
[70] The requirement of political relevance excludes groups whose membership is on localised group ties rather than a clear ethnic identity. This excludes regionally defined groups that do not meet the threshold of an ethnic identity such as the post-independence death squads in East-Timor and Rashtriya Swayamsevak Sangh in India.
[71] We provide evidence and sources for each PGM that we code.
[72] Our approach here is akin to that used in the ACD2EPR dataset, thus some PGMs have linkages with multiple ethnic groups, and some ethnic constituencies link to multiple PGMs.
For example, we code the Kebele militia in Ethiopia as EPGM as it is composed of a coalition ethnic groups that each share power, whereas the Basij militia in Iran is not coded as an EPGM, as while it is formed mainly of members of the dominant ethnic group, it recruits on ideological rather than ethnic lines. In Sudan, many Arab militias (i.e. the Janjaweed) are mainly recruited from a different Arab tribe to those in power. However, we code such groups as co-ethnic because they are share a broader Arab identity.

group(s) that the EPGM represents, then match this to the EPR data to determine if that group(s) linked to that militia are included or excluded from political power.[73] EPGMs recruited from a ruling group (or coalition) are coded as coethnic PGM. For example, the Special Security Service in Liberia was set up by Charles Taylor to uphold government power, and recruited specifically from his former Gio and Mano rebel forces.

Figure 1. Countries with Ethnic PGMs – by type



EPGMs representing an excluded group are coded as defector PGMs. Defector PGMs most often shared the ethnic identity with insurgents or operate in areas where insurgents are active. For instance, the Kadyrovtsy militia was made up of former Chechen rebels to support Russian troops. We adjust our coding to changes in ethno-political power. This is illustrated by the Uzbek Junbesh-e-Milli are classified as coethnic between 1993 and 1996, as Uzbek representatives had posts in the executive. We create dummy variable for each type of EPGM, and for non-ethnic PGMs. Of the 186 EPGMs, on average we classify 136 as coethnic PGMs,

[73] Following the EPR data, political power relates to control over the presidency, cabinet, or senior posts within the executive.

and 67 as defector PGMs (see figure 1). EPGMs are a global phenomenon, and unsurprisingly both co-ethnic and defector PGMs are common in regions where ethnicity is particularly salient, most notably Africa, the Middle East and Asia (see appendix). Finally, defectors PGMs are rarely active in countries without coethnic PGMs (Mexico and Myanmar). Nevertheless, both types of EPGMs do not correlate strongly (0.20).

Data Structure and Modeling Approach

To assess the influence of EPGMs on conflict duration we construct a dataset based on conflict years as included in the UCDP armed conflict dataset (1981-2007) (Gleditsch et al, 2002). In order to capture the potential effects that the different forms of PGMs may have on conflict duration, we use a series of Cox proportional hazard models to estimate how coethnic and defector PGMs shape the hazard rate of conflict termination.

For this analysis, our dependent variable is conflict termination (hazard). This is measured using the start and end date of a conflict in the UCDP data – calculating the number of days from when a conflict meets the criteria to enter into the UCDP data, until the day it meets the criteria for termination (i.e. the number of battle-related fatalities drops below 25 for at least a year) (Kreutz, 2010). Our data consists of 501518 conflict days (unit of analysis) within 1,214 conflict years, of which there are 233 conflict terminations in total.[74]

Controls

To account for omitted variable bias, we include a number of control variables that relate to conflict duration and the emergence of pro-government militias. In particular, we account for key state characteristics, including regime type from the Polity IV measure (Marshall and

[74] Introducing the control variables reduces the number of observations to 903 country years and 173 failures. 73 conflict years are right censored, since no conflict termination had occurred by 2007, and conflict years have not had sufficient opportunity to "fail".

Jaggers 2006), since instability and the proliferation of militias has been long associated with states transitioning into democracy (Raleigh, 2016). We also include GDP per capita (Gleditsch 2002), which has long been associated with instability and state weakness (Buhaug, Gates and Lujala, 2009; Collier, Hoeffler and Soderbom, 2004) and PGMs are most likely to feature in weak states (Böhmelt and Clayton 2017; Carey and Mitchell, 2017; Jentzsch, Kalyvas and Schubiger, 2015). Next we control for third party influence, in the form of mediation attempts (DeRouen, Bercovitch and Pospieszna, 2011), and peacekeeping (Hegre, Hultman and Nygard, 2015). Such interventions tend to reduce the duration of conflict, but also provide incentives for the government to outsource violence to PGMs while appearing to comply with conflict reduction strategies (Otto, 2017). This outsourcing may increase the duration of conflict. We divide peacekeepers according to the type of mandate, looking independently at traditional observer missions and robust missions operating under Chapter 7 of the UN Charter.

Thirdly, ethnic conflicts are generally likely to last longer, therefore it is important to explore if the conflict enhancing effect of EPGMs are independent from that of ethnic conflict. Moreover, ethnic conflicts may produce more EPGMS and necessitate the government's use of ethnic militias. We therefore introduce conflict-level controls accounting for ethnic rebels groups recruited along ethnic lines and specifically make ethnic claims (Wucherpfennig et al, 2012). Moreover, we control for the number of active rebel groups within a conflict. A high number of rebel groups and fragmentation is associated with longer civil wars (Cunningham, 2006; Pearlman and Cunningham, 2012) and is often the consequence of state strategies to co-opt defectors from the rebel-side (Warren and Troy, 2015). Fourthly, we control for the Cold War period to account for the systematic shift that occurred with the end of the Cold War which

has coincided with the rise of PGMs. Finally, we control for conflict intensity (battlefield deaths) and whether the conflict is over territory (Gleditsch et al, 2002).[75]

4.7. Results

Hypothesis 1 predicted that coethnic pro-government militia are associated with longer civil conflicts. States drawing on coethnic groups are expected to be more resilient to rebel threats, and are thus likely to endure longer periods of conflict. Hypothesis 2 argued that the fractionalisation triggered by defector groups complicates the bargaining environment and lowers the likelihood of resolution.

We assess these claims using Cox proportional hazard modules in which conflict termination is the baseline hazard. We include time-variant and invariant variables within our panel data. To account for potential problems of simultaneous causality we lag time-varying covariates by one year (t-1), and cluster the standard errors by conflict to address possible dependency in conflict episodes. For ease of interpretation we report coefficient estimates rather than the hazard ratios. Negative coefficients in a Cox proportional hazard model indicate a lower likelihood of termination, and thus longer expected duration, while positive signs indicate a higher probability of termination and thus shorter conflicts. Table 1 presents the results. Model 1 presents only the independent variables and a control for non-ethnic PGMs. Model 2 includes a series of controls to account for the conflict characteristics. Finally, Model 3 introduces a number of key state characteristics and conflict management techniques.

The results offer strong initial support for hypothesis 2. In all three models the coethnic militia variable shows the expected negative sign, indicating a reduction in the likelihood of

[75] A summary of these variables is included in the appendix (table 3).

termination, and thus a longer duration, when coethnic PGMs are present. In all models the effect is strongly significant. Substantively, coethnic PGMs have a notable effect, reducing the baseline hazard (likelihood of termination) by between 42% and 51% across the different specifications.

Table 1. Cox Proportional Hazard Models: EPGMs, and Conflict Duration

	(1)	(2)	(3)
Coethnic PGMs	-0.491**	-0.771**	-0.770**
	(0.150)	(0.180)	(0.188)
Defector PGMs	0.000	-0.104	0.101
	(0.188)	(0.211)	(0.237)
Non Coethnic PGMs	-0.254+	-0.192	-0.181
	(0.147)	(0.192)	(0.207)
Ethnic Rebels (Claims/Recruit)		0.042	-0.056
		(0.228)	(0.243)
Number of Rebels (Veto Players)		-0.102	-0.169
		(0.208)	(0.221)
Incompatibility (type)		-0.117	0.078
		(0.178)	(0.197)
Post-Cold War		1.722**	1.554**
		(0.354)	(0.375)
Intensity (log Battle Deaths t-1)		-0.206**	-0.269**
		(0.067)	(0.081)
Regime Type (Polity)			0.002
			(0.004)
GDP per capita (t-1)			-0.000
			(0.000)
Mediation (t-1)			0.507*
			(0.213)
Traditional PKO (t-1)			0.692
			(0.601)
Transformative PKO (t-1)			0.891*
			(0.450)
Number of Obvs.	1212	879	789
Conflict Terminations	235	165	149
Days at Risk of Termination	501518	383261	347585
Wald Chi 2	18.53	86.35	107.300
Prob Chi2	0.000	0.000	0.000
Log Liklihood	-1092.983	-648.975	-558.904

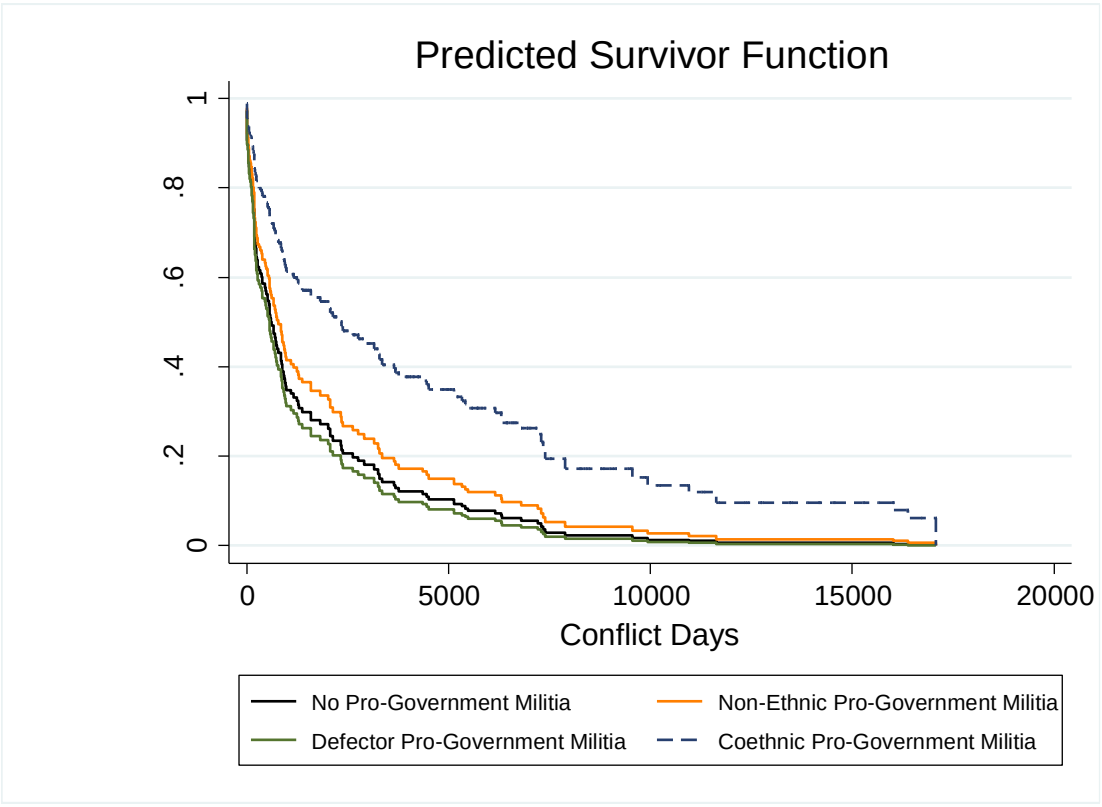
Coefficients Reported. Standard errors clustered by conflict $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

The results are not so favourable for hypothesis 1. The defector variable has an inconsistent effect across the different models, and is a long way from significance in all specifications., Model 1 initially report a negative effect of non-ethnic PGMs on conflict duration and is almost significant, but this result then consistently drops out when introduces control variables.

The control variables behave largely as expected. Conflict interventions in the form of mediation and transformative peacebuilding increase the likelihood of conflict termination, while conflicts are also shorter in the post-Cold War period. Conflicts are also most likely to be longer when reaching a higher intensity, which is often associated with ethnic actors (Eck, 2009). We find no relationship between state characteristics, namely regime type and GDP, and conflict duration. Finally, and most surprisingly, we find little evidence that an higher number of rebel groups increases the duration of civil war or that ethnic rebels increase the durability of conflict, despite fragmentation and associations between a rebel group and a specific ethnic community being theorised to increase conflict duration.

To visualise these effects, figure 2 presents the Kaplan-Meier predicted survivor function (y-axis) for different forms of ethnic PGMs across conflict years (x-axis). The three lines grouped closely together represent cases in which no PGMs, non-ethnic PGMs and defector PGMs were present in a conflict. As is clear from the close proximity of the three lines, there is no substantive or significant difference between each of the groups. In contrast, coethnic PGMs, which are represented as a navy-dashed line on the graph, stand out from the other categories. As was evident from the earlier analysis, coethnic PGMs are associated with quite significantly longer conflicts. The likelihood of survival is 12% higher when coethnic PGMs are present in the first year (or 365 days) of a dispute compared to conflicts with non-ethnic PGMs, increasing to 20% more likely to continue after 3650 days (or 10 years). In the same period coethnic PGMs are nearly 20% more likely to continue after the first year than civil wars with no active PGMs - a rate of different that is maintained at the 10-year mark.

Figure 2. Kaplan-Meier survivor functions – Model 3



Robustness Checks

To assess the validity of these findings we changed a number of specifications and reran the estimates. Firstly, we include a number of additional controls to ensure our results are not driven by omitted variable bias. One challenge to our analysis might be that the coethnic variable is simply capturing weak state capacity, which is likely to be related both to the use of coethnic PGM and longer conflicts. We included GDP per capita in our original models to account for this. Yet as a further check we include two additional variables to measure state and military capacity (Table 4 – appendix). To capture state capacity we include a variable generated using a factor analysis of two International Country Risk Guide variables: bureaucracy quality, and law and order. Military capacity is also derived from a factor analysis and combines three measures: number of military personnel, military expenditures, and military expenditures per soldier. Both variables are taken from Hendrix and Young (2014).

The results remain consistent, offering further evidence that coethnics have an effect independent of the weak contexts from which they are also likely to emerge in.

We then explore the possible mediating effect of foreign aid which may hold dependent host states accountable to democracies and authoritarian states that supply the aid (Carey, Colaresi and Mitchell, 2015). States have the incentive to delegate violence to pro-government militias in order to avoid accountability and sanctioning by donor states, but this delegation increases the risk of longer duration as suggested by this study. We use two measures from Carey, Colaresi and Mitchell's (2015) data on the total sum of aid received from democracies and autocracies as a proportion of the recipient's GDP. Foreign aid dependency has no effect on conflict duration and our results do not change.

An additional alternative explanation might be that our coethnic PGM variable is picking up the effects of the ethnic-political context that are related to the emergence of ethnic PGMs and durable civil war. To control for this we include a number of additional variables, including the size of the population that is ethnically excluded and discriminated, the size of the largest excluded group (Wucherpfennig et al, 2012), and if the conflict was "ethnic" (very broadly defined) (Bartusevičius, 2016). In all models our results remain consistent (Table 4 – appendix). Surprisingly, across all of our analysis the only two indicators of ethnicity that appear to have a conflict enhancing effect are coethnic militia, and Bartusevičius's very broad measure of ethnic conflict. It therefore seems that whilst political exclusion appear to increase the likelihood of civil conflict, we find little evidence of the conflict enhancing effect. We return to this point in the conclusion.

Thirdly, whilst EPGMs operate across a number of continents, identity is often argued to be of particular significance to African conflicts. To ensure that our results are not limited to a specific region we include a series of regional controls, and conduct jackknife estimations

to ensure any other particular subset of cases is not driving our findings (Cunningham, Gleditsch, and Salehyan, 2009). Moreover, we change the specification to cluster standard errors by conflict episodes, and then by country (instead of by conflict). In all cases the results remain consistent (Table 5 – appendix).

Fourthly, the existence of opportunity factors including resources and favourable geographic conditions have previously been shown to influence the likelihood of armed rebels forming. It is possible that conditions that favour insurgency might also help to sustain conflict (Buhaug, Gates, and Lujala 2009), whilst also motivating the creation of a PGM force. To account for this we include additional controls for the presence of lootable gemstones, oil, forests and mountainous terrain in the conflict zone. To further account for the opportunity factors we also include a measure of the distance from the conflict zone to the capital and nearest border. In all model specification the results remain significant (Table 6 –appendix). Moreover, only lootable resources have a conflict sustaining effect, implying that it is the funding for rebellion, rather than ability to elude the state, that has the an effect on conflict duration.

Next, more capable rebel organisations have previously been shown to influence the duration of the conflict as they are better able to sustain armed conflict (Cunningham, Gleditsch, and Salehyan, 2009). Strong rebels may also necessitate the state's use of coethnic PGMs to counter the greater threat. We therefore add controls for the relative rebel strength in relation to the government, taken from Cunningham (2006). The results further confirm our key findings (Table 6 – appendix).

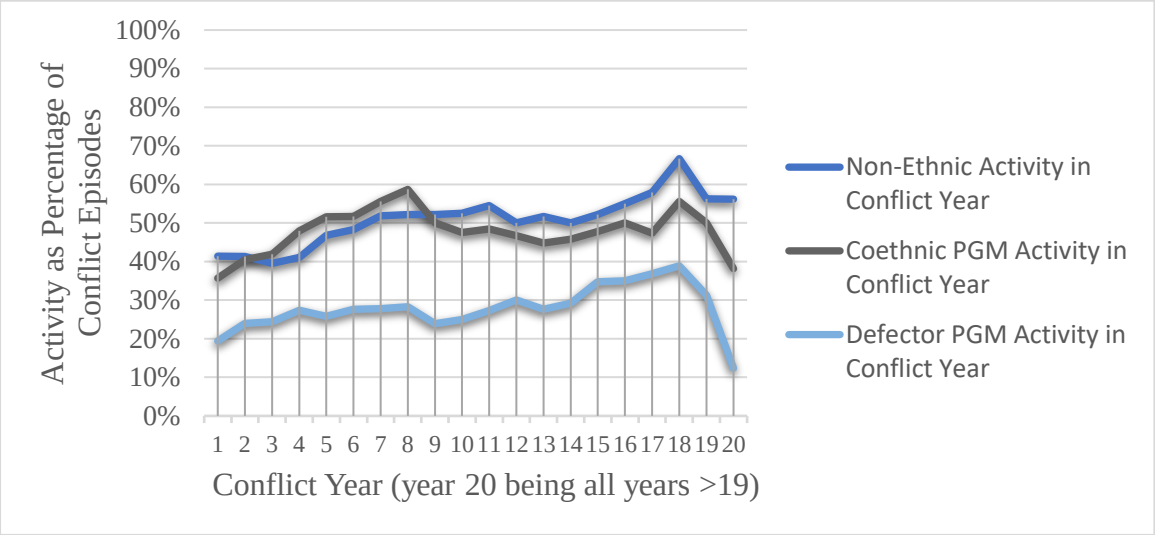
To ensure that our modelling assumptions were not responsible for the results, we undertake a number of additional checks. Firstly, in our primary analysis we adopt a Cox model as it allows the inclusion of covariates of survival times but has less restrictive assumptions

that the other commonly used Weibull model. To ensure that this choice does not influence our findings, we rerun the analysis with a Weibull model, and the results remain the same. Next, we explore the possibility that our measure of conflict duration is driving the results, since Gates and Strand (2004) show that different measures may produce different results. We run the analysis again with an alternative calculation of duration - the number of civil war years since the conflict initiated. The results are consistent regardless of how we calculate duration (Table 7 –appendix).

To ensure that the results are not the product of the duration analysis we adopted, we use a logit model to assess the influence of EPGMs on conflict termination. Both EPGM variables perform consistently (Table 7 – appendix). The coethnic variable produces a 50% reduction in the likelihood of termination when all other variables are held at their mean or modal value (i.e. 0.195 to 0.10 probability of termination). In-sample analysis reveals that removing the coethnic variable significantly reduces the predictive power (figure 4 – appendix).

Next, it could be that co-ethnic PGMS are endogenous with conflict duration. For example, states might turn to EPGMs when reinforcements are needed in long drawn-out conflicts. Moreover, Kalyvas (2008) argues that defection to the government-side is more common the later stages of armed rebellion. We therefore explore the use of all PGMs over the timespan of a civil war to test whether all PGMs are consistently active throughout a conflict. Firstly, we look at descriptive statistics and the activity of coethnic PGMs across conflict years (Figure 3). Their activity is consistent, moving from 36% of activity in all initial conflict years to a peak of 60% conflicts after 8 years. Overall they are typically active in between 40-50% of conflicts years and are less active after 20 years. The trend is similar for defector PGMs which do not appear to be more active and conflict duration increases.

Figure 3. PGM activity over conflict timespan – by type



Building on descriptive statistics we then explore the influence of EPGMs on conflict terminations at five-year intervals, using logit models. Across all periods a conflict timespan coethnic PGMs are consistently related to a reduced likelihood of conflict termination (Table 8 – appendix). Moreover, we find that co-ethnic PGMs are relatively common in the early stages of a dispute, featuring in about 40% of conflict episodes in their second year. The relative share of co-ethnic group's increases with longer conflicts, mainly as other conflicts without co-ethnic PGMs tend to drop out of conflict, rather than new states turning to a PGM. This further supports our findings.

Lastly, we further explore different types of conflict terminations. Interestingly, the effect of coethnic militias on conflict termination appears to be across the board, rather than limited to a specific outcome. For when we limit the focus to only those cases that did terminate, the negative effect of coethnic PGMs is not significantly stronger for one outcome over another. However, this analysis did reveal that defector PGMs have a significant and negative influence on the likelihood of a peace agreement terminating the conflict. Therefore whilst the influence of defectors might not be enough to influence the duration of the dispute, their presence does make agreements less likely (Tables 9-10 – appendix). This is some support

for hypothesis 2, yet the effect is only marginally significant ($p<0.10$) lowering the confidence we can have in this finding. We discuss the reasons for this in the conclusion.

4.8. Results II: Coethnic Pro-Government Militias in Sudan

For a deeper assessment of how coethnic groups influence conflict duration, we undertake a "model testing" case analysis (Lieberman 2005). We focus on Sudan in which coethnic PGMs featured heavily in the overlapping counterinsurgency campaigns in the second Sudanese civil war (1983-2005) and the Darfur conflict (2003-present).

Coethnic Pro-Government Militias in Sudan

Sudan is ethnically diverse with more than 85 tribal groups and over 14 languages.[76] It is common to categorise four principle groups: the politically dominant Muslim Arabs; the nomadic Muslim Arabs; Non-Arab ("African") Muslims, and the non-Arab ("African") non-Muslims (Rosselier 2016, p. 109). In practice all conflicts in Sudan have revolved around the "master cleavage" which involved contests between the Northern Muslim Arabs that hold power and various non-Arab ("African") excluded populations.[77]

[76] According to the Ethnic Power Relations database, Sudan had over thirteen distinct ethnic groupings that are politically relevant, comprising of various tribal groups. This has changed now with the secession of South Sudan.

[77] This is of course an overgeneralisation and simplistic categorization, but most scholars tend to agree that at least as the conflicts progressed, ethnic and identity divisions have hardened along these lines (e.g. Idris 2005).

Arab-Muslim PGMs were common, such as the Muraheleen and Popular Defense Forces (PDF) in the second Sudanese Civil War, and the Janjaweed in Darfur. The ruling National Islamic Front (NIF) recruited these groups from "Arab" peoples by appealing to a common Arab-Muslim identity and religious motivations like Jihad (Idris 2005). Coethnic groups have been the Government of Sudan's (GoS) principal counter-insurgent force. Operating along exclusionary ethnic lines, they were tasked with (or at least allowed to) attack "African" civilians and those believed to be sympathetic to the insurgents.

Mobilisation of Coethnic Pro-Government Militias

Coethnic militias served a number of important roles for the Sudanese state, but notably were an effective defensive force. For example, when insurgents made gains into the northern territories, the Muraheleen were instrumental in maintaining state control of the border areas between Northern and Southern Sudan, ensuring the state retained access to contested resources (Johnson 2003, 44-49, 83). In a context of relative state weakness, the ability of the state to quickly mobilise a significant militia force composed of coethnic groups was a distinct advantage (Tar 2005; De Waal 1993). The state's policies of Arabization and Islamization facilitated the mass mobilisation of coethnic militias, politicising ethnic identity and developing a small army of willing recruits (Martin 2002, 120; Idris 2005, 53-56).

Coethnic PGMs appear to have offered the state a more loyal and committed force, with an interest in sustaining the unequal system of power. The official Armed Forces were composed of conscripts from a variety of ethnic groups, meaning they were reluctant to commit violence against their ethnic kin (Idris 2005, 88; Martin 2002, 117; Tar 2005, 150). In comparison, the coethnic Muslim Arab Militia were willing to exercise violence against perceived ethnic enemies. Thus, the motivation to recruit coethnics also arose from the ethno-

political power imbalance and subsequent need for an irregular ethno-centralised group to repress rebellious excluded groups (Idris 2005).

Coethnic PGMs and Conflict Termination

The Sudanese case offers support for hypothesis 2, and provides a more in-depth understanding of the mechanisms behind how coethnic PGMs can increase the duration of civil conflict. The use of "Arab" EPGMs reduced the state's conflict costs and allowed them to sustain conflict over long periods across multiple fronts. For example, during the second civil war, the Muraheleen and PDF strengthened the state's defensive capacity. Roessler (2016, 117) writes that a "key implication of Khartoum's devastatingly effective use of Arab militias is that, as Garang and the SPLA pushed north, they failed to bridge the country's Arab-African ethnopolitical cleavage." The mobilisation of loyal local coethnic forces allowed the GoS to insulate itself from insurgent incursions emanating from the largely "African" south and prevent recruitment into insurgent forces among "Arab" populations in the north. Similarly, in response to mounting opposition in Darfur, the GoS was able to quickly mobilise a significant military offensive using the Janjaweed. In both cases, the militias were largely successful in halting the advances of insurgent groups. Thus by insulating the regime from significant costs associated with conflict and the use of the official Armed Forces, coethnic militias bolstered the GoS's resilience and as a result reduced the imperatives to negotiate and/or strengthened the GoS hand at the bargaining table.

Secondly, mobilisation of PGMs along exclusionary ethnic lines intensified the shared ethnic identity and "Arabness" among recruits but polarised "Arab" communities away from their "African" neighbours (Idris 2005). This, in turn, enhanced the ability of insurgent factions to mobilise among ethnic groups citing shared group grievances. Over time, this has entrenched ethnic divisions between the north and the south.

Thirdly, coethnic militias became a hindrance to political peace processes, by serving as spoilers and intensifying issues of commitment. Many PGMs continued fighting their opponents, jeopardizing plans for peace. For example, in 2002, a Civilian Protection Monitoring Team in southern Sudan reported that Arab militia attacks on civilians and rival groups contributed to the collapse of a recently signed ceasefire agreement between the GoS and the SPLA/M (Barltrop 2011, 55). Similarly, in 2006, the SPLA/M decried a GoS violation of the 2005 CPA by allowing it to continually target their communities with violence (Sudan Tribune 2007). EPGMs performed a similar role in the Darfur conflict. For example, on 8 April 2004, continued violence by the Janjaweed undermined a Humanitarian Ceasefire Agreement, which led to United Nations Security Council Resolution 1564 reprimanding the Sudanese government for non-compliance to the terms of the agreement. Moreover, continued EPGM violence and human rights violations threatened the ability of the GoS to commit to the terms of the 2006 Darfur Peace Agreement (known as the Abuja Agreement) which specifically required the demobilisation of the Janjaweed and other Arab coethnic PGMs (Kumar and Ismail 2014).

In summary, EPGMs have therefore played a pivotal role in the continuation of conflict in Sudan by enhancing the GoS's ability to defend itself and then ultimately by undermining negotiations and peace-making attempts. In the first instance, the efficient and loyal nature of coethnic PGMs allowed the GoS to sustain conflict over long periods of time and across various fronts (Johnson 2003, 127-140). Yet, these ethnically exclusionary methods also served to harden ethnic identities. Instead, coethnic PGMs strengthened the capacity of the state to resist insurgent threats.

In the second instance, the direct actions of the militia were often central in undermining ceasefires and agreements. Continued militia violence effectively extended the conflict, by both undermining peace initiatives, and by making it more challenging for the government to

commit credibly to future deals once the state had previously shown to be unwilling or unable to demobilise the militia force. These findings complement our statistical results, and offer more fine-grained support for our first hypothesis.

4.9. Conclusion

In this article, we argue that pro-government militias recruited along ethnic lines have a unique and previously overlooked influence on conflict dynamics. We show that states facing an internal challenge often turn to relatively cheap and loyal coethnic militia, and that the presence of these groups is often associated with longer civil wars. This we argue is a result of the state's greater capacity to resist insurgent challenges and the incentives that coethnic groups have to undermine peacemaking attempts. We find support for these arguments in a statistical analysis of a global sample of cases from 1981-2007, and in case analyses of coethnic PGMs in Sudan.

We do not, however, find evidence that defectors significantly influence conflict dynamics, with the exception of a relatively weak negative association with the likelihood of peace agreements. There are a number of possible explanations for this finding. Firstly, it might be that defectors influence is limited to a specific ethno-political environment (e.g. Chechnya), or a specific region within a state (e.g. Anbar, Iraq) and thus missed by our cross-sectional design. Alternatively there might be some additional measure required to distinguish between influential (i.e. mass defection, information rich,) defectors, and more general force multipliers. In any case, our analysis challenges previous work that stressed advantages of defector PGMs, and speaks to the need for more specified data. We also do not find any evidence that non-ethnic PGMs have an impact on conflict dynamics, This points to the 'stickiness' of ethnic identity and the importance of ethnic linkages, and suggests that specific ethnic actors do have stronger incentives to likely to fight on for longer.

More generally, our study makes a contribution to our understanding of how state-military relations influence conflict dynamics, in particular concerning PGMs. A burgeoning collection of work has recently begun to explore the effects that PGMs have inside and outside of civil war, but has until now overlooked the role of ethnicity. Similarly, while the civil war literature has taken huge strides in showing how conflict intensity and duration are shaped by the ethnic character of insurgents, and the distribution of power across ethnic groups, this work has until now missed the important effect of EPGMs (Eck 2009; Cederman, Gleditsch, and Buhaug, 2013; Wucherpfennig et al 2012).

Our findings also have important implications for the policy community. In Iraq, for example, our findings suggest that the Shia-dominated militias used to repel the ISIS advance are likely to act as a serious impediment to peace. A challenge for the Iraqi government will be to find ways to reign in Shia militia or incorporate them into official military structures. Future research could support this process, for example by uncovering the conditions in which coethnic PGMs are more likely to disarm. Similarly, our analysis suggests that the EPGMs operating in the Philippines might undermine the bargaining process between Muslim rebels and Christian PGMs in Mindanao. Determining how to incorporate EPGMs into a peace process would be another important and timely extension of this research.

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Appendix

Table 2. List of Ethnic PGMs (EPGMs) in the Analysis

Country	PGM Name	Co-ethnic	Defector	Notes
Afghanistan	Hizb-e-Wahdat	1	1	Government status changes (EPR) Hazara Militia. Source http://www.sowi.uni-mannheim.de/militias-public/data/pgag/212/evidence/
Afghanistan	Jamaat Islami	1	1	Government status changes (EPR). Tajik Militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/208/evidence/
Afghanistan	Uzbek Junbesh-e-Milli	1	1	Government status changes (EPR). Uzbek Militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/206/
Burundi	Guardians of Peace	1	1	Militia includes former rebels (Hutu) and recruited local Tutsi. Hutu gained power after 2001 (EPR). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/10/evidence/
Congo Kinshasa	ALiR (Army for the Liberation of Rwanda)	1	1	Rwandan Hutu Group - but share coethnicity with local Hutu and they recruit from the local population due to their exile. Listed as 'other Kivu groups' (EPR), such groups gained political power after 1998. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/421/evidence/
Congo Kinshasa	FDD (Forces for the Defence of Democracy)	1	1	Burundi Hutu Group - but share coethnicity with local Hutu and they recruit from the local population due to their exile. Listed as 'other Kivu groups' (EPR), such groups gained political power after 1998. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/423/evidence/
Congo Kinshasa	FDLR	1	1	Rwandan Hutu Group - but share coethnicity with local Hutu and they recruit from the local population due to their exile. Listed as 'other Kivu groups' (EPR), such groups gained political power after 1998. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/430/evidence/
Congo Kinshasa	FNL (National Liberation Forces)	1	1	Burundi Hutu Group - but share coethnicity with local Hutu and they recruit from the local population due to their exile. Listed as 'other Kivu groups' (EPR), such groups gained political power after 1998.

				http://www.sowi.uni-mannheim.de/militias-public/data/pgag/424/evidence/
Congo Kinshasa	Mai Mai (Mayi Mayi)	1	1	Mai Mai are a combination of 'native' groups operating in the Kivus. Listed as 'other Kivu groups' (EPR), such groups gained political power after 1998. Specifically recruit along ethnic lines. Source http://www.irinnews.org/report/89494/drc-who%E2%80%99s-who-among-armed-groups-east
Indonesia	Satgas Merah Putih	1	1	Recruited specifically from indigenous Papuan population. Source: Braithwaite, John; Valerie Braithwaite, Michael Cookson, and Leah Dunn (2011) Anomie and Violence: Non-truth and Reconciliation in Indonesian Peacebuilding. Canberra: ANU E Press. Papuans brought into the government after 2005.
Iraq	Kurdistan Democratic Party (KDP)	1	1	Kurdish group in alliance with Iraqi army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/232/evidence/
Israel	Civil Guard	1	1	Largely Jewish Militia at first- but force also includes 5000 Israeli arabs by 2003. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/308/evidence/
Pakistan	Mohajir Quami Movement	1	1	Mohajir militia. Mohajir have moved in and out of government (EPR). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/183/evidence/
South Africa	Black Cats	1	1	White government paid them to attack anti-apartheid activists. Gang with Zulu membership and later joined Inkatha (armed wing of IFK Zulu party) to attack the ANC. Coded as Zulu and pro-government in 1994 - prior to 1994 the Zulu are encompassed within the Black group and this group were used to conduct intra-black violence. Sources: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/112/evidence/ and https://www.hrw.org/reports/1993/southafrica/7.htm
South Africa	Inkatha aka Inkatha Yenkululeko Yesizwe	1	1	Trained by White government to cause intra-Black fighting - armed wing of IFK. Post 1993 Zulu form part of the government. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/109/evidence/
Sri Lanka	Home Guard	1	1	Singalese and Muslim self-defence force. The level of political representation of the Moors (Muslim) changes over time (EPR). Source:

			http://www.sowi.uni-mannheim.de/militias-public/data/pgag/261/
Afghanistan	Achekvai tribal militia	1	Achekvai are a Pashtun tribe in the Kandahar region and known as the protectors of Pashtuns. Source: Giustozzi, Antonio (2009). Empires of mud Wars and warlords in Afghanistan. London: Hurst and Company.
Afghanistan	Ittehad Islami	1	Pashtun Militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/209/evidence/
Afghanistan	Sherzai	1	Militia of Politician Sherzai, leader of one Pashtun tribe and a close ally of Karzai (Pashtun). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/216/evidence/
Afghanistan	Southern tribal militia	1	Majority of recruits are Hazara - pushing for more Pashtun recruits http://www.wsj.com/articles/SB124994313594220571
Algeria	Communal Guards	1	Maybe case. Ideological recruitment? Target Islamists - but still likely an Arab militia - EPR-ACR lists Islamists as Arab. Evidence that does not include Berbers. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/64/evidence/
Algeria	Groups for Legitimate Defense (aka Patriots)	1	Maybe case. Ideological recruitment? Operate in Arabs areas in the north. Target Islamists - but still likely an Arab militia - EPR-ACR lists Islamists as Arab. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/63/evidence/
Algeria	Ninjas	1	Target Islamists - but still likely an Arab militia - EPR-ACR lists Islamists as Arab. http://www.sowi.uni-mannheim.de/militias-public/data/pgag/62/evidence/
Algeria	Organization of free young Algerians	1	Target Islamists - but still likely an Arab militia - EPR-ACR lists Islamists as Arab. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/61/evidence/
Angola	Civil Defence Organization (ODC)	1	MPLA is an ideological party, but still derives support from the Mbundu ethnic group. There is also evidence 'communist' militias set up were in fact Mbundu militias set up to maintain a ethno-political zone around the capital. Source: http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?id=112334
Angola	People's Defence Organization (ODP)	1	MPLA is an ideological party, but still derives support from the Mbundu ethnic group. There is also evidence 'communist' militias set up were in fact Mbundu militias set up to maintain a ethno-political zone around the capital. Source:

			http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?id=112334
Angola	Peoples Vigilante Brigades	1	MPLA is an ideological party, but still derives support from the Mbundu ethnic group. There is also evidence 'communist' militias set up were in fact Mbundu militias set up to maintain a ethno-political zone around the capital. Source: http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?id=112334
Armenia	Yerkrapah Union of Volunteers	1	They are an Armenian ethnic militia made up of war veterans from the Nagorno-Karabakh conflict. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/400/
Bosnia-Herzegovina	Green Berets	1	Evidence of Bosniak recruitment. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/395/evidence/
Bosnia-Herzegovina	Patriotic League	1	Evidence of Bosniak and Croat recruitment. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/394/evidence/
Central African Republic	Liberators	1	New President Bozize established a militia made up of his former rebels. These rebels are Gbaya (Baya) - see ACR2EPR. Souce: http://www.sowi.uni-mannheim.de/militias-public/data/country/94/
China	Xinjiang Production and Construction Corps	1	Vast Majority of the XPCC is Han despite being 40% of the Xinjiang population. The organisation (economic and poltical) employs some Uighur but it is very likely the armed element of this Corp is almost completely Han recruited from Han enclaves - when the XPCC was set up it included former Han soldiers and 'settlers'. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/225/evidence/ and http://www.economist.com/news/china/21578433-region-plagued-ethnic-strife-growth-immigrant-dominated-settlements-adding
Congo Brazzaville	Aubevillois	1	Recruited from Nibolek (Bembe) and support base of the president. Source: http://www.refworld.org/docid/3ae6ac128c.html
Congo Brazzaville	Cobras	1	Militia made up of northern Mbochi who support Denis Sassou Nguesso. Source: African Studies Centre http://www.africa.upenn.edu/Hornet/irin_21799.html and http://www.sowi.uni-mannheim.de/militias-public/data/pgag/56/evidence/
Congo Brazzaville	Ninjas	1	Derive from Lari/Bakongo group. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/57/evidence/ and http://www.ibtimes.co.uk/congo-

			brazzaville-who-are-ninja-militiamen-fighting-government-forces-1553037
Congo Brazzaville	Zulus	1	Recruited from Nibolek regions. Source: http://www.irinnews.org/news/1999/02/17/background-militia-groups
Congo Kinshasa	Civil Guard	1	Recruited from Mobutu's Ngbandi group. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/414/evidence/
Congo Kinshasa	Special Presidential Division	1	Recruited from Mobutu's Ngbandi group. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/413/evidence/
Cote d'Ivoire	Death Squads	1	Recruited from President's ethnic group Bete (Kru). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/46/evidence/
Cote d'Ivoire	Front for the Liberation of the Greater West	1	Recruited specifically from We (Kru). Source: http://www.refworld.org/docid/45f1470e2.html
Cote d'Ivoire	Student Federation of Cote d'Ivoire (FESCI)	1	Since 2000 war - student group split with northern factions, as of 2002 consisted of from southern groups. Key source of recruitment for Young Patriots. Source: https://www.hrw.org/report/2008/05/21/best-school/student-violence-impunity-and-crisis-cote-divoire
Cote d'Ivoire	Young Patriots	1	Ultra ethno-nationalist group. Only recruit from southern 'Ivorian' groups and explicitly exclude northern groups. Source: https://www.hrw.org/report/2008/05/21/best-school/student-violence-impunity-and-crisis-cote-divoire and north-south divide see http://www.refworld.org/docid/52a72b794.html
Croatia	HOS	1	Ethno-national Croat militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/397/evidence/
Ethiopia	Kebele Militia	1	At the beginning there is strong evidence this group was largely Amhara 'settlers' sent to quash ethnic rebellions and maintain Amhara dominance. However, post 1991 the Ethiopian People's Revolutionary Democratic Front (a coalition of four ethnic parties) took power. The EPRD continued this militia and membership was diversified to the Oromo and Tigray (part of coalition). This militia is organised across local Kebeles to maintain EPRD power. The militia is coded as mixed post 1991. Sources http://www.sowi.uni-mannheim.de/militias-public/data/pgag/309/evidence/ and https://www.hrw.org/report/2010/03/24/one

			-hundred-ways-putting-pressure/violations-freedom-expression-and-association
Ethiopia	Peoples' Militia	1	Similar to Kebele militia. At the beginning there is strong evidence this group was largely Amhara 'settlers' sent to quash ethnic rebellions and maintain Amhara dominance. However, post 1991 the Ethiopian People's Revolutionary Democratic Front (a coalition of four ethnic parties) took power. The EPRD continued this militia and membership was diversified to the Oromo and Tigray (part of coalition). This militia is organised across local Kebeles to maintain EPRD power. The militia is coded as mixed post 1991. Sources http://www.sowi.uni-mannheim.de/militias-public/data/pgag/188/evidence/ and https://www.hrw.org/report/2010/03/24/one-hundred-ways-putting-pressure/violations-freedom-expression-and-association
Ethiopia	Tigray Militia	1	Tigray recruited group formed to protect Tigray on border and within Eritrea. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/190/evidence/
Georgia	Forest Brothers	1	Georgian group made up of Georgians that have fled Abkhazia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/165/evidence/
Georgia	The Horsemen aka Mkhedrioni	1	Ethno-nationalist militia formed in response to Ossetian militias. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/160/evidence/
Georgia	The Hunters	1	Georgian group operating in Abkhazia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/166/evidence/
Georgia	White Legion	1	Georgian group operating in Abkhazia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/164/evidence/
Guatemala	Eye for an Eye	1	Evidence recruits are solely White Ladinos. Also specifically target Maya and Maya rebels. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/295/evidence/
Guatemala	The White Hand	1	Evidence recruits are solely White Ladinos. Also specifically target Maya and Maya rebels. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/296/evidence/
India	Rashtriya Swayamsevak Sangh	1	Ethno-nationalist Hindu group closely linked to the ruling Hindu nationalist party. Source:

			http://www.sowi.uni-mannheim.de/militias-public/data/pgag/221/evidence/
India	Village Defence Committee Kashmir	1	Armed Hindi minority against Muslim rebels. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/218/evidence/
Indonesia	Anti Aceh-Separatist Front	1	Local community and formed near Banda Aceh. Evidence of ethnic recruitment of Javaese trans-migrants. Source: Hedman, Eva-Lotta E., ed. (2008) Conflict, violence, and displacement in Indonesia. Ithaca: Cornell University, and http://www.sowi.uni-mannheim.de/militias-public/data/pgag/322/evidence/
Indonesia	Anti Free Aceh Movement Front	1	Local community and formed near Banda Aceh. Evidence of ethnic recruitment of Javaese trans-migrants. Source: Hedman, Eva-Lotta E., ed. (2008) Conflict, violence, and displacement in Indonesia. Ithaca: Cornell University, and http://www.sowi.uni-mannheim.de/militias-public/data/pgag/322/evidence/
Indonesia	Banser	1	Linked to religious organisation with a stronghold in East Java which is predominately Javanese. There is evidence this group is recruited from Javanese. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/345/evidence/
Indonesia	Berantas Anti-Separatist Movement	1	Local community and formed near Banda Aceh. Evidence of ethnic recruitment of Javaese trans-migrants. Source: Hedman, Eva-Lotta E., ed. (2008) Conflict, violence, and displacement in Indonesia. Ithaca: Cornell University, and http://www.sowi.uni-mannheim.de/militias-public/data/pgag/322/evidence/
Indonesia	Diponegoro Youth	1	Party activists for Javanese dominated party and from Javanese dominated army. Very likely the group is predominately Javanese. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/332/evidence/
Indonesia	Pemuda Panca Marga	1	Party activists for Javanese dominated party and from Javanese dominated army. Very likely the group is predominately Javanese. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/325/evidence/
Indonesia	Siliwangi Youth	1	Party activists for Javanese dominated party and from Javanese dominated army. Very likely the group is predominately Javanese. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/331/evidence/

Iraq	Badr Brigade	1	Shia militia linked to Shia party. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/235/evidence/
Iraq	Fedayeen Saddam	1	Most recruits from Hussein's Central Iraq Sunni stronghold. Source: http://www.cfr.org/iraq/iraq-fedayeen-saddam/p7698
Iraq	Peshmerga Kurdish Militia	1	Kurdish militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/233/evidence/
Israel	Settlers	1	Settlers are Jewish. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/304/evidence/
Israel	Village Leagues	1	Failed attempt to create a long-term pro-Israeli Palestinian militia. Source. http://www.sowi.uni-mannheim.de/militias-public/data/pgag/315/evidence/
Kenya	Chinkororo	1	Kisii militia originally set up to protect the Kisii. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/412/evidence/ and http://owaahh.com/7-most-dangerous-militia-in-kenyas-history/
Kenya	Jeshi la Mzee	1	Militia recruited from ethnic groups that support the KANU party. EPR lists these groups together. Sources: https://www.hrw.org/reports/2002/kenya/Kenya0502-04.htm and Kagwanja, Peter; and Roger Southall (2013). Kenya's Uncertain Democracy: The Electoral Crisis of 2008. London: Routledge.
Liberia	Anti-Terrorist Unit	1	Former NPFL rebels that derive from Mano and Gio groups. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/35/evidence/. ACD2EPR also lists the NPFL as a Gio and Mano rebel group. During Doe's rule he set up a similar Krahn militia called the Special Anti-Terrorist Force.
Liberia	Government of Liberia (GOL) militias	1	Children, former rebels from Liberia. Evidence of ethnic recruitment and ethnic score-settling. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/37/evidence/
Liberia	Jungle Fire Militia/Unit	1	Children, former rebels from Liberia. Evidence of ethnic recruitment and ethnic score-settling. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/42/evidence/
Liberia	National Patriotic Front of Liberia	1	Former rebels recruited from Gio and Mano groups. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/14/
Liberia	Small Boys' Unit	1	Children, former rebels from Liberia. Evidence of ethnic recruitment and ethnic

			score-settling. Part of National Patriotic Front. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/42/evidence/
Liberia	Special Security Services	1	SSS was used by former President. Taylor reactivated the SSS but filled it with former rebel members recruited from Gio and Mano groups. Source: http://www.globalsecurity.org/military/world/liberia/sss.htm
Liberia	United Liberation Movement for Democracy - Johnson (ULIMO-J)	1	Recruited along Mandingo lines. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/16/ and http://www.globalsecurity.org/military/world/liberia/sss.htm
Liberia	United Liberation Movement for Democracy - Kromah (ULIMO-K)	1	Recruited along Krahn lines. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/15/ and http://www.globalsecurity.org/military/world/liberia/sss.htm
Liberia	Wild Geese	1	Former NPFL rebels that derive from Mano and Gio groups. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/48/evidence/
Macedonia	Macedonian Lions	1	Clearly Macedonian (ethnic) recruitment. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/352/evidence/
Malawi	Young Pioneers (Malawi Congress Party)	1	MCP party gained its support almost exclusively from central groups. Very likely that recruits are from this support base. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/72/evidence/
Malawi	Youth League (Malawi Congress Party)	1	MCP party gained its support almost exclusively from central groups. Very likely that recruits are from this support base. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/72/evidence/
Nigeria	Abia State Vigilante Group aka Bakassi Boys	1	This group is the same as the Anambra State Vigilantes. The group has an Igbo membership. Source: http://www.refworld.org/docid/45f1478b2.html
Nigeria	Anambra State Vigilante Group aka Onitsha Vigilante Group aka Bakassi Boys	1	This group is the same group as the Abia State Vigilantes. The group has a Igbo membership. Source: http://www.refworld.org/docid/45f1478b2.html
Nigeria	Neighbourhood Watch a.k.a Vigilante Groups	1	Most likely a Yoruba group and may be linked to prominent Oodua People's Congress that operates in the same areas and

			have been used by elities. But difficult to assertain. Source: http://www.smallarmssurvey.org/fileadmin/docs/D-Book-series/book-01-Armed-and-Aimless/SAS-Armed-Aimless-Part-2-12-Nigeria.pdf and http://www3.qeh.ox.ac.uk/pdf/crisewps/workingpaper44.pdf
Nigeria	Onitsha Traders Association Vigilante Group	1	Very likely to be Igbo membership in a predominately Igbo area. Also many of these group members joined the Bakassi Boys (Igbo). Source: https://www.hrw.org/reports/2002/nigeria2/nigeria0502-02.htm
Nigeria	Zamfara State Vigilante (umbrella org. for various Sharia enforcement vigilantes)	1	Very likely membership is based on Hausa-Fulani who are Muslim and constitute majority in the north. Source: http://www.reuters.com/article/us-nigeria-violence-idUSBREA360HT20140407
Pakistan	MQM Haqiqi	1	Mohajir militia - Mohajir were not in government at the time (EPR). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/184/evidence/
Pakistan	Tribal Militia	1	Militia consisting of Pashtun tribes. Sources: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/185/evidence/ and http://www.washingtonpost.com/wp-dyn/content/article/2010/12/06/AR2010120605836.html
Peru	Colina Group	1	Rebels are mainly from large indigenous groups (ACR2EPR) and death squads are members of the Peruvian dominated government and army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/303/evidence/
Philippines	"Alsa Masa/225 anti-Communist vigilante groups"	1	Christian militia. Mainly formed to target Muslim separatists in Mindanao. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/149/evidence/
Philippines	Greenans	1	Solely Christian membership based on hardline cults. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/147/evidence/
Philippines	Ilagas	1	Christian militia formed to target Muslim separatists in Mindanao. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/175/evidence/
Philippines	Manticao Village Defence Force	1	Christian militia formed to fight communist rebels in Mindanao. Possibly also counter Muslim rebels. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/145/evidence/
Philippines	Pulahan	1	Christian militia formed to target Muslim separatists in Mindanao. Source:

			http://www.sowi.uni-mannheim.de/militias-public/data/pgag/173/evidence/
Philippines	Sagrados Corazon	1	Christian militia formed to target Muslim separatists in Mindanao. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/157/evidence/
Philippines	Tadtads	1	Christian militia formed to target Muslim separatists in Mindanao. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/151/evidence/
Russia	Chechen Death Squads	1	Made up of Russian soldiers and local Russian groups. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/119/evidence/
Russia	Cossacks	1	Cossacks militia is based on ethno-nationalism along Russian lines. Source: http://www.nytimes.com/2013/03/17/world/europe/cossacks-are-back-in-russia-may-the-hills-tremble.html?_r=0
Rwanda	Interahamwe Militia	1	Hutu-nationalist. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/307/
Rwanda	Local Defence Force	1	Formed as security against Hutu extremists from the Congo. Many LDF are armed by relatives in Tutsi dominated RDF. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/306/evidence/
Saudi Arabia	Committee for the Promotion of Virtue and the Prevention of Vice	1	Dominated by Sunni Wahhabi membership: Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/247/evidence/
Sierra Leone	Civil Defense Forces/Kamajor/Donso/Gbethis/Kapras	1	Umbrella group of self-defence forces, predominately made up of Kamajors (Mende). Was no functioning government between 1999-2002 (EPR). Source: Hoffman, Danny (2007) The meaning of a militia: Understanding the civil defence forces of Sierra Leone. African Affairs 106 (425): pp639-662.
Sierra Leone	RUF	1	RUF recruit from the Temne. Source: ACR2EPR and http://www.sowi.uni-mannheim.de/militias-public/data/pgag/432/evidence/
Sierra Leone	West Side Boys	1	Was no functioning government between 1994-1996 and 1999-2001
Solomon Islands	Malaita Eagle Force	1	No EPR - population less than 500,000. However, Malaitan is a language group from the Island of Malaita who dominant the government, therefore are politically relevant. The Malaita Eagles has a Malaitan membership used against the Guadalcanal who forced Malaitan to flee the main island. Sources: http://www.globalsecurity.org/military/world/para/solomons.htm and

			http://www.sowi.uni-mannheim.de/militias-public/data/pgag/129/
Solomon Islands	Seagulls	1	No EPR - population less than 500,000. However, Malaitan is a language group from the Island of Malaita who dominant the government, therefore are politically relevant. The Seaguls has a Malaitan membership specifically recruited from the President's own community. Sources: http://www.globalsecurity.org/military/world/para/solomons.htm and http://www.sowi.uni-mannheim.de/militias-public/data/pgag/128/evidence/
Sudan	Ambororo	1	Ambororo are nomadic Arab tribe in NW S.Sudan and government supported. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/279/evidence/
Sudan	Arab Pastoralists	1	Arab only militia made up of Nomadic Arab groups (Baggara) which are not in government but linked by Arab descent. Sources: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/433/evidence/ and http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-17-Beyond-Janjaweed.pdf
Sudan	Fertit Militiamen (Peace Army)	1	Fertit are a sub-Arab group in South Sudan which sided with the government. Linked to government by Arab descent. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/276/evidence/
Sudan	Janjaweed	1	Umbrella group including nomads and criminals, but specifically recruited from Arab tribes. Sources: http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-17-Beyond-Janjaweed.pdf and http://www.sowi.uni-mannheim.de/militias-public/data/pgag/186/
Sudan	Murahaleen	1	Arab only militia made up of two Nomadic Arab groups (the Missiriya and Southern Rizeigat) in South Sudan and Kordofan. Blueprint for the later Janjaweed militia. Classified as other Arab groups which are not in government but linked by Arab descent. Source: http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-17-Beyond-Janjaweed.pdf
Sudan	People's Police	1	Islamist Arab recruitment. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/258/evidence/
Sudan	Popular Defence Forces (PDF)	1	Umbrella organisation of Arab militias across the country. Source:

			http://www.sowi.uni-mannheim.de/militias-public/data/pgag/256/evidence/
Tajikistan	Popular Front	1	Recruited from a Tajik sub-group the Kulabi from southwestern Tajikistan to fight the opposition in support of the communist government. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/187/evidence/ and https://www.hrw.org/reports/1995/Tajik.htm
Tanzania	Sungu Sungu	1	Means policing arm in Kurian. This militia is a local Kuria policing unit incorporated by the Tanzanian government but also used against the opposition. Source: https://www.ecoi.net/local_link/264512/378259_en.html
Thailand	Anti-Muslim death squad	1	Very likely a Buddhist militia made up of security forces operating in the Muslim south. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/253/evidence/
Thailand	Rangers	1	Group references to Buddhist religion (not Islam) and recruitment in Thai areas. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/254/evidence/
Thailand	Village Defence Volunteers	1	Buddhist-based recruitment (Thai and Chinese). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/249/evidence/
Togo	Togo Pro-Government Militia	1	Militia recruits from Kabre community. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/29/evidence/
Turkey	Anti-Kurd Death Squads	1	This is an umbrella term for various criminal organisations. Although criminal, there is evidence these groups (i.e. the Grey Wolves) were part of an ultra-nationalist network against Kurdish rebels. See also the Susurluk Scandal. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/228/ and http://theconversation.com/explainer-what-is-the-turkish-deep-state-and-why-is-it-in-the-frame-for-the-ankara-bombings-49038
Uganda	Kalangala Action Plan	1	It is difficult to obtain information about this group. It is highly likely recruitment is based on dominant groups (Southern groups) and Baganda due to close ties to the NRM party and security forces comprising mainly of former NRA rebels from Southern groups and Baganda. The militia is also led by the President's close ally Kakooza Mutale. Furthermore, they operate largely and

			originate in the Baganda dominated areas. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/199/evidence/ and https://www.hrw.org/reports/2003/uganda0703/uganda0703a-05.htm
Uganda	Kiboko Squad	1	Again information on this group is limited. Likely recruitment is mainly from Western groups (dominant). The ideology of the group is staunchly pro-NRM and their aim is to ensure NRM dominance. The group is also linked to top police officials with Western group backgrounds (including police chief) and there is some indication of links to Western regions such as the weapons they use. Sources: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/194/evidence/, http://www.ugandacorrespondent.com/articles/2010/08/new-links-between-govt-%E2%80%9Ckiboko-squad%E2%80%9D-emerge/and http://www.tch.co.ke/militia-groups/kiboko-squad-and-tumbaku-squad/
Uganda	'Ragged' Militia	1	Recruited from party members from the Northern communities to fight alongside the former ruling UNLA. Northerners were in power at the time. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/99/evidence/
Uganda	Special Force Vigilante	1	Recruited from party members from the Northern communities to fight alongside the former ruling UNLA. Northerners were in power at the time. Due to the ethno-political environment, highly likely recruits are northern. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/98/evidence/
Yugoslavia	Beli Orlovi (White Eagles)	1	Serbian militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/385/evidence/
Yugoslavia	Chetniks	1	Ethno-nationalist Serb militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/386/evidence/
Yugoslavia	Krajina Militia AKA Marticevci	1	Serbian militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/379/evidence/
Yugoslavia	Red Berets AKA Frenki's Boys AKA Grey Wolves	1	Serbian militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/357/evidence/
Yugoslavia	Serb Volunteer Army AKA Arkan's Tigers	1	Serbian militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/360/evidence/
Yugoslavia	Serbian Guard	1	Serbian militia. Source:

				http://www.sowi.uni-mannheim.de/militias-public/data/pgag/378/evidence/
Yugoslavia	Special Operations Unit (JSO)	1		Serbian militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/381/evidence/
Zimbabwe	Chipangano	1		Same as below.
Zimbabwe	People's Militia	1		Specially recruited in Shona (pro-Mugabe at the time) areas and specifically not recruited in opposition Matabeleland areas (other ethnic group). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/93/evidence/
Zimbabwe	Top Six vigilante unit	1		A pro ZANU-PR militia which is specifically recruited from Mugabe's home region (Shona). Sources: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/96/evidence/ and http://www.theafricareport.com/Politicians/all-against-all.html
Zimbabwe	War Vets	1		War veterans from the Shona dominated ZANU-PF party. Very likely recruits are at least predominately Shona linked to the party by patronage. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/104/evidence/
Zimbabwe	Youth Service Brigade/Green Bombers	1		Youth wing of ZANU-PR militia. Very likely Shona dominated like other militias including the umbrella ZANU-PF militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/101/evidence/
Zimbabwe	ZANU-PF militia	1		Shona members who attacked Ndebele speakers in the 1980s and Ndebele MDC voters. Is the umbrella group of other groups such as War Vets and Youth Service Brigade. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/100/evidence/
India	Ikhwan-ul-Muslimoon		1	Former Muslim rebels (defectors). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/220/evidence/
Indonesia	Mahidi (Live or Die for Indonesia)		1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: Coppel, Charles, A eds. (2011) Violent Conflicts in Indonesia: Analysis, Representation, Resolution London: Routledge.
Indonesia	Ahi		1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese

			and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Aitarak	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Besi Merah Putih	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Dadurus Merah Putih	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Halilintar	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Laksaur	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: Coppel, Charles (eds.). (2011) Violent Conflicts in Indonesia: Analysis, Representation, Resolution London: Routledge.
Indonesia	Makikit	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Naga Merah	1	Sub group of the Pro-Integration Forces (PPI) militia. Source:

			http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/342/evidence/
Indonesia	Pro-Integration Fighters PPI	1	Pro-Integration Forces (PPI) militia is an umbrella of various sub groups also listed in the dataset. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Sakunar	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Sera	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Team Alfa	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Indonesia	Team Saka	1	Sub group of the Pro-Integration Forces (PPI) militia. Source: http://fas.org/irp/world/indonesia/militia.htm. Made up predominately of East Timorese and defect Timorese soldiers from the Indonesian army. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/354/evidence/
Iraq	Awakening groups/Sahwa	1	Sunni Anbar militia set up to fight the insurgency. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/234/evidence/
Iraq	Saddam Kurdish Militia-Jash	1	Kurdish militia formed because of the threat from Iran. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/231/evidence/

Kenya	Kisungusungu	1	Kisii militia set up in Kisii to tackle criminals. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/411/evidence/and http://owaahh.com/7-most-dangerous-militia-in-kenyas-history/
Mexico	PRI-ista Paramilitary Groups	1	PRI-ista is a series of groups that predominately recruit young Maya (indigenous). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/384/evidence/
Myanmar (Burma)	Democratic Karen Buddhist Army	1	Former Buddist Karen rebels split from Christian cominated Karen rebels. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/280/evidence/
Nigeria	Icelanders a.k.a Niger Delta Vigilante	1	Ijaw group supported by the government against the rebels (MEND). Source: http://www.ibtimes.co.uk/nigerias-oil-war-who-are-niger-delta-militants-1520580
Russia	Kadyrovtsy	1	Fomer Chechen rebels. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/118/evidence/
Russia	Pro-government Chechen militia	1	A local Chechen militia formed to support Russian soldiers. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/117/evidence/
South Africa	Kabasa	1	White government paid them to attack anti-apartheid activists. Mixed raced criminal group recruited from Black population. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/109/evidence/
South Africa	Witdoeke	1	White government paid them to attack anti-apartheid activists. Mixed raced criminal group recruited from Black population. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/110/evidence/
Sri Lanka	Eelam People's Democratic Party (EPDP)	1	Tamil group that has defected to the government side. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/275/evidence/
Sri Lanka	Karuna Group	1	Defecting faction of the Tamil Tigers. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/277/evidence/
Sri Lanka	People's Liberation Organization of Tamil Eelam	1	Tamil group that has defected to the government side. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/273/evidence/
Sri Lanka	Tamil Eelam Liberation Organisation (TELO)	1	Tamil group that has defected to the government side. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/275/evidence/

Sudan	Anyanya II	1	Recruited from Nuer ethnic group. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/161/evidence/
Sudan	Equatoria Defence Force (EDF/Khartoum)	1	Recruit from Acholi (other groups). Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/167/evidence/
Sudan	Lord's Resistance Army (LRA)	1	Foreign force but also recruit from Sudanese Ancholi. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/289/evidence/
Sudan	Mundari Commandos	1	Local tribe in South Sudan supported by the government against the rebels. Classified as other southern tribe with position above Bari and below the Dinka. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/281/evidence/
Sudan	Murle Forces	1	Murle group is a small ethnic group that is hostile to the rebellion and supported by the government. Classified as other southern group.
Sudan	South Sudan Defence Forces - Tanginya Faction (SSDF Tanginya)	1	Former Neur rebel faction. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/286/
Sudan	South Sudan Defence Forces (SSDF)	1	Umbrella group of ethnic militias and former Nuer rebels aligned with the government due to tactical reasons - i.e. they did not want a united Sudan. Includes SPLA United, South Sudan Independence Movement, and Equatoria Defence Force. Note Machar (Nuer) leaves between 2000 and 2001. Source: http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-01-SSDF.pdf
Sudan	South Sudan Liberation Movement/Army (SSLM/A)	1	Machar (Nuer) re-joins pro-government forces after leaving in 2000. Source. http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-01-SSDF.pdf
Sudan	South Sudan Unity Movement/Army (SSUM/A)	1	Faction of Anyanya II (Nuer) that defects to pro-government side. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/266/evidence/
Sudan	Sudan Liberation Movement/Army - Minni Minnawi Faction (SLM/A-MM)	1	Zaghawa faction that signs the peace agreement and joins the government side. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/162/evidence/
Sudan	Sudan People's Liberation Army - Bahr el Ghazal Group (SPLA Bahr el Ghazal)	1	The SPLM Bahr El Ghazal Group (faction of the Dinka) briefly joined the South Sudan Defence Forces. Source: http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-01-SSDF.pdf

Sudan	Sudan People's Liberation Movement/Army - Nasir Faction (SPLM/A-Nasir)	1	Nuer and Shilluk defecting factions that left SPLA due to Dinka domination. Source. http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-01-SSDF.pdf
Sudan	Sudan People's Liberation Movement/Army - United (SPLM/A-United)	1	Nuer and Shilluk defecting factions that left SPLA due to Dinka domination. Source. http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-01-SSDF.pdf
Sudan	Toposa Tribesmen	1	Another local and smaller pro-government tribe in the south. Classified as other southern group. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/282/evidence/
Turkey	Hizbullah	1	Kurdish militia tolerated by the government in order to foster Kurdish infighting. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/248/evidence/
Turkey	village guards	1	Kurdish militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/226/evidence/
Uganda	Arrow militia	1	Former rebels of UPA that recruit from the Teso. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/201/evidence/
Uganda	Karamojong Vigilante	1	Karamong not seen as politically relevant after 1986 (EPR), however, still play an active role in the north and are listed as non co-ethnic militia. Government specifically has armed the restive Karamojong based militia. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/392/evidence/
Uganda	Local Defence Units	1	Evidence that all northern groups are specifically armed to counter the LRA. Teso and Karamojong recruitment is specifically mentioned, and in Acholi areas around Gulu. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/202/evidence/
Uganda	Protection Vigilantes	1	Armed tribal district based militias that bordered the Karamajong in order to counter certain predatory Karamajong militias - Both Teso and Acholi recruitment. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/193/evidence/
Uganda	Rhino (Amuka) Defence Force	1	Modelled on the Teso Arrow Militia. Recruited from Langi. Source: http://www.sowi.uni-mannheim.de/militias-public/data/pgag/200/evidence/

Table 3. Summary of Main Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Coethnic PGMs	4840	0.225	.4177615	0	1
Defector PGMs (t-1)	4840	0.125	.3302839	0	1
Non Coethnic PGMs	4840	0.233	.4229529	0	1
Ethnic Rebels	4572	0.610	.4876011	0	1
Incompatibility (type)	4839	1.518	.4997094	1	2
Post Cold War	4839	0.844	.3629156	0	1
Intensity (Battle Deaths - t-1)	1088	2558.888	6892.534	25	100500
Defector PGMs x Intensity	1088	646.530	3927.843	0	100500
Regime Type (Polity)	4000	44.647	27.74974	0	100
GDP per capita (t-1)	4126	4147.981	5333.087	110.46	47769.7
Mediation (t-1)	4761	0.086	.2799444	0	1
Traditional PKO (t-1)	4761	0.024	.1522368	0	1
Transformative PKO (t-1)	4761	0.027	.1611489	0	1

Table 4. Robustness Checks I – State Strength and Other Ethnic Variables

	State and military capacity	Foreign Aid	Ethnic Conflict	Excluded Pop. (% - EPR)	Discrim. Pop. (% -EPR)	Size of Largest Excl Grp
Coethnic PGMs	-0.978**	-0.831*	-0.293+	-0.779**	-0.789**	-0.781**
	(0.252)	(0.378)	(0.233)	(0.188)	(0.188)	(0.187)
Defector PGMs	-0.115	-0.502	0.269	0.050	0.032	0.059
	(0.247)	(0.409)	(0.281)	(0.249)	(0.246)	(0.243)
Non Coethnic PGMs	-0.035	-0.196	0.253	-0.156	-0.150	-0.158
	(0.320)	(0.389)	(0.252)	(0.210)	(0.208)	(0.212)
Ethnic Rebels (claims/recruit)	-0.292	0.311	-0.105	-0.016	-0.015	-0.011
	(0.326)	(0.410)	(0.299)	(0.239)	(0.242)	(0.240)
Number of Rebels (Veto	0.197	-0.089	-0.131	-0.150	-0.166	-0.152
Players)	(0.214)	(0.212)	(0.273)	(0.222)	(0.217)	(0.222)
Incompatibility (type)	-0.431+	-0.443	-0.154	0.053	0.059	0.057
	(0.253)	(0.338)	(0.239)	(0.209)	(0.199)	(0.205)
Post Cold War	1.156*	1.493*	1.650**	1.669**	1.684**	1.662**
	(0.509)	(0.595)	(0.400)	(0.397)	(0.397)	(0.393)
Intensity (Battle Deaths - t-1)	-0.292**	-0.267**	-0.142	-0.270**	-0.268**	-0.268**
	(0.105)	(0.093)	(0.090)	(0.084)	(0.080)	(0.086)
Regime Type (Polity)	-0.000	-0.000	0.007	0.003	0.004	0.003
	(0.005)	(0.008)	(0.005)	(0.004)	(0.004)	(0.004)
GDP per capita (t-1)	-0.000	-0.000	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mediation (t-1)	0.856*	0.421	0.338+	0.486*	0.487*	0.482*
	(0.345)	(0.309)	(0.199)	(0.216)	(0.214)	(0.217)
Traditional PKO (t-1)	-0.459	0.921	0.762	0.693	0.648	0.707
	(1.131)	(0.650)	(0.582)	(0.642)	(0.681)	(0.620)
Transformative PKO (t-1)	2.180**	1.443+	1.026*	0.896+	0.927*	0.911*
	(0.576)	(0.744)	(0.426)	(0.474)	(0.457)	(0.460)
State Weakness ICRG (t-1)	-0.678**					
	(0.236)					
Military Strength ICRG (t-1)	0.559*					
	(0.271)					
Democratic Aid (t-1)		0.000				
		(0.000)				
Autocratic Aid (t-1)		-0.000				
		(0.000)				
Ethnic Conflict			-1.754**			
			(0.278)			
Excluded Ethnic Population				0.125		
(% of pop - EPR)				(0.468)		
Discriminated Ethnic					0.331	
Population (EPR)					(0.559)	
Size of Largest Excluded						0.119
Group (% pop – EPR)						(0.619)
No. of Observations	582	612	787	778	787	787
Conflict Terminations	109	82	149	144	144	144
Days at Risk	184125	190809	347585	346251	346251	346251
Log likelihood	-340.641	-213.228	-528.847	-534.485	-534.372	-534.502

Standard errors in parentheses † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 5. Robustness Checks II – Exploring Subset Cases and Alternative Clusters

	Regional Dummies	Clustered by conflict episode	Clustered by Country	Jackknife Estimations
Coethnic PGMs	-0.639**	-0.770**	-0.770**	-0.770**
	(0.193)	(0.207)	(0.218)	(0.232)
Defector PGMs	0.271	0.101	0.101	0.101
	(0.264)	(0.253)	(0.223)	(0.261)
Non Coethnic PGMs	-0.106	-0.181	-0.181	-0.181
	(0.249)	(0.209)	(0.220)	(0.262)
Ethnic Rebels (claims/recruit)	-0.154	-0.056	-0.056	-0.056
	(0.232)	(0.235)	(0.246)	(0.323)
Number of Rebels (Veto Players)	-0.164	-0.169	-0.169	-0.169
	(0.232)	(0.199)	(0.234)	(0.298)
Incompatibility (type)	0.053	0.078	0.078	0.078
	(0.203)	(0.197)	(0.200)	(0.257)
Post-Cold War	1.535**	1.554**	1.554**	1.554**
	(0.387)	(0.364)	(0.448)	(0.414)
Intensity (Battle Deaths - t-1)	-0.357**	-0.269**	-0.269**	-0.269**
	(0.097)	(0.078)	(0.087)	(0.094)
Defector PGMs x Intensity	0.003	0.002	0.002	0.002
	(0.004)	(0.004)	(0.004)	(0.005)
Regime Type (Polity)	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita (t-1)	0.418+	0.507*	0.507*	0.507*
	(0.217)	(0.201)	(0.222)	(0.246)
Mediation (t-1)	0.631	0.692	0.692	0.692
	(0.633)	(0.562)	(0.567)	(0.782)
Traditional PKO (t-1)	0.842+	0.891	0.891*	0.891
	(0.458)	(0.553)	(0.440)	(0.666)
Transformative PKO (t-1)	-0.736+			
	(0.407)			
Africa	-1.218*			
	(0.490)			
Asia	-0.745			
	(0.458)			
Middle East	-0.979			
	(0.682)			
Americas	-0.639**			
	(0.193)			
No. of Observations	787	787	787	787
Conflict Terminations	149	149	149	149
Days at Risk	347585	347585	347585	347585
Log likelihood	-554.218	-558.904	-558.904	-558.904

Standard errors in parentheses † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 6. Robustness Checks III – Opportunity Factors and Rebel Characteristics

	Rough Terrain	Natural Resources	Distance to Border	Distance to Capital	Rebel Strength
Coethnic PGMs	-0.775**	-0.698**	-0.795**	-0.731**	-0.682**
	(0.191)	(0.198)	(0.193)	(0.196)	(0.202)
Defector PGMs	0.106	0.217	0.073	0.122	0.177
	(0.233)	(0.267)	(0.235)	(0.246)	(0.263)
Non Coethnic PGMs	-0.130	-0.107	-0.147	-0.186	-0.216
	(0.212)	(0.231)	(0.196)	(0.211)	(0.214)
Ethnic Rebels (claims/recruit)	-0.137	-0.066	-0.075	-0.052	-0.132
	(0.248)	(0.252)	(0.242)	(0.238)	(0.244)
Number of Rebels (Veto Players)	-0.150	-0.140	-0.166	-0.157	-0.160
	(0.213)	(0.208)	(0.216)	(0.222)	(0.223)
Incompatibility (type)	-0.052	0.139	0.180	-0.029	0.013
	(0.211)	(0.214)	(0.218)	(0.217)	(0.204)
Post-Cold War	1.559**	1.537**	1.575**	1.544**	1.659**
	(0.374)	(0.372)	(0.378)	(0.378)	(0.413)
Intensity (Battle Deaths - t-1)	-0.290**	-0.275**	-0.270**	-0.276**	-0.301**
	(0.082)	(0.083)	(0.081)	(0.083)	(0.093)
Regime Type (Polity)	0.002	0.002	0.001	0.003	0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
GDP per capita (t-1)	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mediation (t-1)	0.527*	0.460*	0.525*	0.477*	0.555*
	(0.215)	(0.213)	(0.211)	(0.221)	(0.239)
Traditional PKO (t-1)	0.833	0.841	0.601	0.748	0.342
	(0.605)	(0.663)	(0.611)	(0.620)	(0.577)
Transformative PKO (t-1)	1.059*	0.848+	0.903*	0.937*	0.809
	(0.452)	(0.452)	(0.459)	(0.452)	(0.522)
Mountains (% of Conflict Zone)	0.003				
	(0.003)				
Forest (% of Conflict Zone)	-0.005				
	(0.003)				
Narcotics in Conflict Zone		0.150			
		(0.279)			
Hydrocarbon in Conflict Zone		-0.254			
		(0.246)			
Gemstones in Conflict Zone		-0.240			
		(0.217)			
Conflict-Border Distance			0.160		
			(0.120)		
Logged Conflict-Capital Distance				-0.080	
				(0.093)	
Rebels Stronger than the Government					0.829*
					(0.404)
Rebels at Parity with the Government					-0.303
					(0.360)
No. of Observations	787	787	787	787	709
Conflict Terminations	149	149	149	149	136
Days at Risk	347585	347585	347585	347585	322731
Log likelihood	-557.427	-557.639	-557.614	-558.191	-493.874

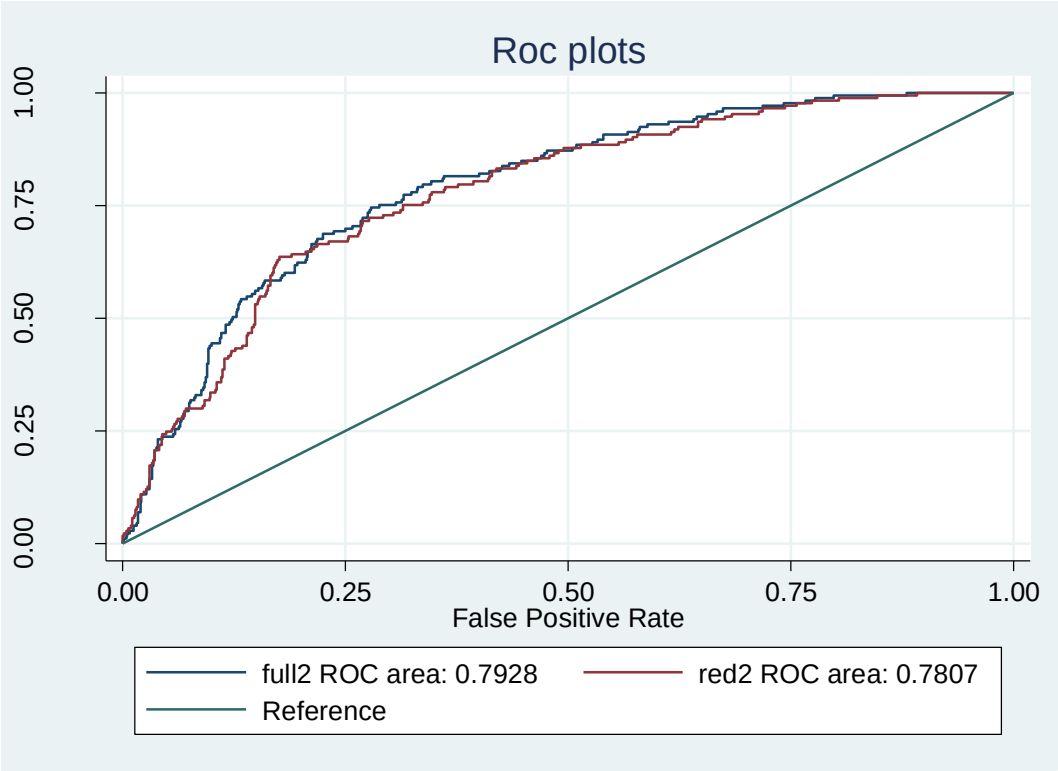
Standard errors in parentheses † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 7. Robustness IV – Alternative Models

	Weibull Model	Duration Using Years m1	Duration Using Years m2	Duration Using Years m3	Logit Model
Coethnic PGMs	-0.823**	-0.418**	-0.683**	-0.709**	-1.209**
	(0.193)	(0.132)	(0.148)	(0.163)	(0.248)
Defector PGMs	0.014	0.043	-0.123	0.030	-0.201
	(0.242)	(0.166)	(0.185)	(0.205)	(0.289)
Non Coethnic PGMs	-0.171	-0.175	-0.084	-0.043	-0.165
	(0.209)	(0.129)	(0.140)	(0.153)	(0.289)
Ethnic Rebels (claims/recruit)	-0.026		0.049	-0.031	-0.242
	(0.249)		(0.162)	(0.179)	(0.381)
Number of Rebels (Veto Players)	-0.169		-0.073	-0.117	-0.203
	(0.240)		(0.185)	(0.192)	(0.204)
Incompatibility (type)	0.069		-0.101	-0.043	-0.362
	(0.204)		(0.137)	(0.161)	(0.323)
Post-Cold War	1.660**		1.641**	1.506**	1.180**
	(0.410)		(0.315)	(0.334)	(0.344)
Intensity (Battle Deaths - t-1)	-0.262**		-0.192**	-0.238**	-0.368**
	(0.083)		(0.055)	(0.065)	(0.092)
Regime Type (Polity)	0.003			0.001	0.002
	(0.004)			(0.003)	(0.005)
GDP per capita (t-1)	0.000			-0.000	-0.000
	(0.000)			(0.000)	(0.000)
Mediation (t-1)	0.464*			0.299+	0.392
	(0.228)			(0.176)	(0.281)
Traditional PKO (t-1)	0.641			0.708+	0.911
	(0.578)			(0.411)	(0.816)
Transformative PKO (t-1)	1.050*			0.810*	1.377+
	(0.492)			(0.328)	(0.748)
Conflict Years					-0.055
					(0.045)
Conflict Years2					-0.005+
					(0.003)
Conflict Years3					0.000**
					(0.000)
Constant	-3.997**				1.958+
	(0.936)				(1.151)
Ln_p Constant	-0.485**				
	(0.076)				
No. of Observations	787	1213	879	789	789
Conflict Terminations	149	235	166	150	-
Days (Years) at Risk	347585	(1526)	(1170)	(1061)	-
Log likelihood	-284.147	-1123.580	-686.028	-595.030	-297.280

Standard errors in parentheses † p < 0.10, * p < 0.05, ** p < 0.01

Figure 4. Logit In-sample Prediction for Conflict Termination



Full model (blue), is compared against a sample in which coethnic PGMs are removed from the model (red).

Table 8. Robustness Checks V – Coethnic PGMs and Conflict Termination across the conflict timespan

	Conflict <5 Yrs (logit)	Conflict <10 Yrs (logit)	Conflict <15 Yrs (logit)	Conflict <20 Yrs (logit)	Conflict <30 Yrs (logit)
Coethnic PGMs	-0.985*	-0.717*	-0.759**	-0.680**	-0.712**
	(0.392)	(0.321)	(0.284)	(0.262)	(0.249)
Defector PGMs	0.150	0.091	-0.030	-0.072	-0.073
	(0.287)	(0.282)	(0.276)	(0.266)	(0.266)
Non Coethnic PGMs	0.037	-0.070	0.039	0.001	-0.026
	(0.286)	(0.254)	(0.250)	(0.237)	(0.237)
Ethnic Rebels (claims/recruit)	-0.503	-0.277	-0.193	-0.115	-0.255
	(0.413)	(0.340)	(0.334)	(0.317)	(0.313)
Incompatibility (type)	-0.122	0.028	-0.067	-0.118	-0.223
	(0.399)	(0.330)	(0.316)	(0.293)	(0.292)
Post-Cold War	0.209	0.426	0.634*	0.692*	0.773**
	(0.331)	(0.284)	(0.292)	(0.285)	(0.281)
Intensity (Battle Deaths - t-1)	-0.271*	-0.287**	-0.309**	-0.303**	-0.295**
	(0.105)	(0.093)	(0.090)	(0.085)	(0.080)
Regime Type (Polity)	-0.001	-0.000	-0.002	-0.001	-0.001
	(0.007)	(0.006)	(0.005)	(0.005)	(0.005)
GDP per capita (t-1)	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mediation (t-1)	0.617	0.573†	0.522†	0.505*	0.548*
	(0.385)	(0.310)	(0.270)	(0.252)	(0.238)
Traditional PKO (t-1)	-0.009	0.350	0.400	0.340	0.473
	(1.001)	(0.818)	(0.703)	(0.653)	(0.641)
Transformative PKO (t-1)	2.237	1.919†	1.978*	1.599*	1.332*
	(1.466)	(1.146)	(0.831)	(0.718)	(0.624)
Conflict Years	4.224**	-0.370	-0.744**	-0.529**	-0.424**
	(1.593)	(0.499)	(0.278)	(0.185)	(0.105)
Conflict Years2	-2.222**	-0.009	0.094†	0.044	0.026*
	(0.798)	(0.133)	(0.052)	(0.028)	(0.011)
Conflict Years3	0.307**	0.003	-0.004	-0.001	-0.001†
	(0.114)	(0.010)	(0.003)	(0.001)	(0.000)
Constant	-0.424	1.690	2.051*	1.800†	1.857*
	(1.639)	(1.114)	(1.027)	(0.950)	(0.944)
No. of Observations	369	551	665	751	838
Log likelihood	-201.890	-259.974	-288.903	-311.674	-334.406

Standard errors in parentheses † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

In addition to the negative impact that defector PGMs have upon politically negotiated settlements ($p<0.10$), a few other interesting finds emerge from Tables 9-10. Firstly, there is some evidence defector PGMs make conflicts more likely to drop below 25 battlefield deaths. This result is only significant when compared with other outcomes, but not in comparison to all outcomes including situations in which conflict continues. This finding could be related to fragmentation, where violence occurs between rebel factions and defectors, detracting violence against the state and therefore dropping below civil war thresholds of 25 battle-related deaths. This could also relate to high levels of defection and fragmentation, which weaken the insurgency, but do not defeat it. Such fragmented environments are likely to relate to later conflict recurrence or an intensifying of ongoing conflict that temporarily fall below 25 battle-related deaths. Rudloff and Findley (2016) call this the downstream effect of actor fragmentation.

Secondly, some evidence here shows coethnic PGMs may reduce the likelihood of conflict falling below 25 battlefield deaths. This falls in line with expectations that coethnic PGMs increase ethnic polarisation, stop the government from losing, and also have strong motivations to carry on fighting in order to uphold the favorable ethno-political status-quo, thereby preventing conflicts from ending through de-escalation. Finally, these results show that ethnic rebels actually have the opposite effect, but a similar effect to defector PGMs on the likelihood of conflict falling below the 25-deaths threshold. Again this can relate to fragmentation, infighting or inter-rebel violence between ethnic factions, which usually facilitates defection and the rise of defector PGMs. Conflicts involving ethnic rebels also appear to be persistent (related to low activity) while being difficult to resolve, with evidence that such conflicts are less likely to result in victory (either by the rebels or the government), but are also not linked to peace agreements.

Table 9. Robustness Checks VI – EPGMs and Conflict Outcomes (including ongoing conflict (non-terminated) and terminated outcomes)

	Peace Agreement	Govern. Victory	Rebel Victory	Low Activity
Coethnic PGMs	-0.172	-0.113	-0.597	-0.492†
	(0.304)	(0.572)	(0.893)	(0.285)
Defector PGMs	-0.884†	0.107	-0.257	0.178
	(0.503)	(0.477)	(1.215)	(0.340)
Non Coethnic PGMs	0.055	-0.307	-0.218	0.180
	(0.350)	(0.463)	(0.983)	(0.314)
Ethnic Rebels (claims/recruit)	0.315	-0.672	-2.057**	0.905*
	(0.451)	(0.463)	(0.637)	(0.379)
Incompatibility (type)	-0.412	0.587	1.379	-0.008
	(0.377)	(0.568)	(1.110)	(0.356)
Post-Cold War	1.752**	-0.138	0.470	0.483
	(0.628)	(0.480)	(0.694)	(0.347)
Intensity (Battle Deaths - t-1)	-0.219†	-0.243	0.304	-0.232*
	(0.117)	(0.167)	(0.227)	(0.092)
Regime Type (Polity)	-0.001	-0.001	-0.011	-0.003
	(0.006)	(0.009)	(0.014)	(0.006)
GDP per capita (t-1)	-0.000*	-0.000	-0.001†	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Mediation (t-1)	1.194**	-0.478	1.258†	-0.483
	(0.285)	(0.511)	(0.717)	(0.375)
Traditional PKO (t-1)	-0.100	0.654	3.326	0.812
	(0.580)	(1.380)	(2.257)	(0.652)
Transformative PKO (t-1)	1.306*	.	.	-0.721
	(0.563)	.	.	(1.119)
Conflict Years	-0.174	-0.632*	-1.774**	0.096
	(0.114)	(0.252)	(0.441)	(0.088)
Conflict Years2	0.008	0.056†	0.108**	-0.013*
	(0.008)	(0.030)	(0.038)	(0.005)
Conflict Years3	-0.000	-0.001	-0.002*	0.000**
	(0.000)	(0.001)	(0.001)	(0.000)
Constant	-1.155	0.204	-2.651	-1.005
	(1.423)	(1.530)	(2.558)	(1.009)
No. of Observations	908	890	890	908
Log likelihood	-260.713	-143.202	-48.811	-356.387

Standard errors in parentheses † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 10. Robustness Checks VII - EPGMs and Conflict Outcomes (only including terminated outcomes)

	Peace Agreement	Govern. Victory	Rebel Victory	Low Activity
Coethnic PGMs	0.373	0.629	-0.236	-0.520
	(0.469)	(0.672)	(1.155)	(0.447)
Defector PGMs	-1.198†	-0.098	0.101	1.348**
	(0.616)	(0.577)	(1.636)	(0.492)
Non Coethnic PGMs	0.009	0.040	0.154	0.051
	(0.521)	(0.440)	(0.988)	(0.492)
Ethnic Rebels (claims/recruit)	0.380	-0.863†	-2.034**	1.422**
	(0.610)	(0.524)	(0.689)	(0.543)
Incompatibility (type)	-0.405	0.933	1.537	-0.267
	(0.539)	(0.675)	(0.978)	(0.481)
Post-Cold War	1.239	-0.786	0.076	-0.136
	(0.941)	(0.634)	(0.880)	(0.639)
Intensity (Battle Deaths - t-1)	-0.024	-0.021	0.539*	-0.145
	(0.172)	(0.209)	(0.224)	(0.147)
Regime Type (Polity)	0.010	0.004	-0.023	-0.014†
	(0.008)	(0.009)	(0.017)	(0.008)
GDP per capita (t-1)	0.000	-0.000	-0.000*	0.000†
	(0.000)	(0.000)	(0.000)	(0.000)
Mediation (t-1)	1.575**	-0.770	0.215	-1.437**
	(0.444)	(0.577)	(0.683)	(0.449)
Traditional PKO (t-1)	-0.549	0.725	2.480	-0.240
	(0.773)	(1.799)	(2.026)	(1.230)
Transformative PKO (t-1)	2.423*	.	.	-0.765
	(0.951)	.	.	(1.410)
Conflict Years	-0.204	-0.512	-1.377**	0.472**
	(0.170)	(0.338)	(0.522)	(0.165)
Conflict Years2	0.016	0.054	0.079*	-0.032**
	(0.012)	(0.036)	(0.032)	(0.012)
Conflict Years3	-0.000	-0.002	-0.001*	0.001**
	(0.000)	(0.001)	(0.000)	(0.000)
Constant	-1.916	-0.876	-3.553	-0.497
	(2.109)	(1.974)	(2.547)	(1.393)
No. of Observations	173	165	165	173
Log likelihood	-89.507	-64.583	-27.996	-93.727

Standard errors in parentheses † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Chapter 5. Conclusion

In the last decade, there has been growing research on HIs, which has significantly improved our knowledge of political conflict. However, while qualitative literature has suggested HIs are related to a wide range of conflict outcomes (see Gurr, 1970; Stewart, 2002; Stewart, 2008), much of the empirical literature has focused on militarised disputes, in particular civil war (Ostby, 2008; Cederman, Weidmann and Gleditsch, 2011, 2013; Buhaug, Cederman, Gleditsch, 2014; Fjelde and Ostby, 2014; Raleigh, 2014). This thesis has further 'bridged the gap' between qualitative and quantitative literature by exploring the relationship between ethno-political HIs and a broader set of conflict behaviours.

In doing so this thesis has provided a number of related and broader contributions. Firstly, ethno-political HIs impact different types of conflict behaviour that are not captured in conventional civil war datasets. Secondly, the relationship between ethno-political HIs and political conflict has been shown to be more complex. This thesis has highlighted new mechanisms between HIs and different types of conflict by specifically recognising the different aims types of mobilisation associated with different conflict processes. Finally, building on recent innovations within the conflict literature, this thesis has used disaggregated data at the subnational and actor-levels to further untangle the empirical relationship between ethno-political HIs and conflict. The next section will explore these broader contributions in more detail by summarising the unique contributions of each paper.

5.1. Ethno-Political Inequalities and Ethnic Riots

To the best of my knowledge, Chapter 2 has offered the first systematic subnational analysis of ethnic riots across various African countries. This chapter has moved beyond studies that have explored militarised disputes between the government and rebel forces, or violence

between armed and well organised non-state actors. This chapter has shown that the onset of ethnic riots relates to elite incentives and bottom-up motivations of civilians, and where ethno-political differences are extremely severe enough to provoke sporadic and often emotive violence.

Following recent innovations in civil war studies, utilising the use of spatially disaggregated data has proved fruitful. This chapter has developed new geocoded data that captures subnational ethno-political HIs and the location of ethnic riots, coding all SCAD events where two ethnic groups classified in the EPR dataset are engaged in interethnic violence. This facilitates the future exploration of ethnic riots across Africa, in which research should continue to explore this type of localised violence at the subnational-level. Moreover, using this data has enhanced our understanding of where this type of political violence most likely to occur. As such chapter 2 has highlighted three threating contexts that are most likely to spark ethnic riots: where groups face systematic discrimination, where groups have recently lost politically power and fear marginalisation, and where such groups live in close proximity with dominant and upgraded groups.

5.2. Ethno-Political Inequalities and Nonviolent Action

Chapter 3 has offered unique contributions in relation to nonviolent action. Recent research HIs has largely focused on protest carried out by ethnic minorities. However, most nonviolent movements mobilise across ethnic lines because successful nonviolent action is dependent on mobilising large and diverse numbers of people. Chapter 3 has explored mass nonviolent action more broadly and has provided us with new insights into the relationship between inequality and nonviolent action. Firstly, mass nonviolent action is not directly caused by high levels of ethno-political HIs, despite previous assertions in the literature. Divisions within and between

ethnic groups have instead been shown to act as an obstacle to mass nonviolent mobilisation. Secondly, this chapter has demonstrated that the relationship between ethno-political inequalities and nonviolent action is dependent on the existence of cross-cutting grievances.

These findings have come from the use of spatially disaggregated data. This chapter has provided the first systematic attempt to analyse nonviolent action at the subnational level and across various countries. Firstly, this analysis has provided strong evidence that cross-cutting issues increases the feasibility of nonviolent action in multi-ethnic societies, focusing on high increases in food prices as a particular type of cross-cutting grievance. This finding can explain recent nonviolent campaigns, where record high food prices have facilitated mobilisation attempts by: the Activists for Change (A4C) in Uganda, the Concerned Citizens in Malawi, and pro-democracy campaigns in Guinea and Egypt. Secondly, this chapter has led to the generation a new indicator of mass nonviolent action at the grid-level (based on recoded SCAD events), which can be used for future subnational analyses of protest in Africa. Research on nonviolent action should seek to explore nonviolent action below the level of the movement.

5.3. Ethno-Political Inequalities, Ethnic PGMs, and Civil War

Chapter 4 has explored the conditions in which pro-government militias (PGMs) can extend civil wars. This chapter has moved beyond assumptions that the government-side is unitary by focusing on PGMs as an important civil war actor. Moreover, while HIs literature has explored the distribution of ethno-political power and ethnic linkages on the rebel-side of civil war, this chapter has provided important insights into the importance of ethnic linkages of PGMs on the government-side (or EPGMs). By using a global time-series cross sectional analysis, Chapter 4 has demonstrated that conflict duration is contingent on whether EPGMs are recruited from politically included or excluded ethnic groups. Coethnic PGMs have strong incentives to

uphold the political power of their own ethnicity, providing the state with a cheap and loyal force to prop up the government against internal security threats. However, this has been shown to backfire as these same incentives to uphold the regime encourage coethnic PGMs to fight on for longer, resist government attempts to concede, and thereby undermine the bargaining process. In contrast, the use of defector PGMs (derived from excluded groups) provides superior local knowledge, and enables the government to divide and weakened the opposition. However, while this chapter finds some evidence that defector PGMs may reduce the likelihood of peace-settlements, there is little evidence such PGMs impact conflict duration.

5.4. Future areas of Research

While this thesis has extended the HIs literature, many more questions remain as to whether HIs influence other types of conflict not explored in this thesis. Moreover, the relationship between other types of inequality and various conflict behaviour also remains unclear. In the next part of this conclusion I will explore ways in which our knowledge of inequality and conflict can be further improved. In the final part I will draw upon some key policy implications of this study.

The first obvious limitation in this thesis and the broader literature is data availability. New events data (i.e. SCAD, ACLED) have made this thesis possible, by allowing the assessment of new conflict outcomes. However, event data remains largely limited to Africa, preventing the global analysis of important conflict behaviours at appropriate levels of analysis. Once again, data collection on civil war has led the way with the emergence of the UCDP Georeferenced Event Dataset (GED) (Sundberg and Melander, 2013). This compiles events of militarised disputes from across the globe, included civil war events, clashes between non-state actors and one-sided violence, opening up the possibilities of disaggregated analysis.

SCAD has recently extended its data to the Caribbean and Mexico, while ACLED has started to collect events data in Asia, but data on other types of conflict remains more limited, both in scope and temporal coverage (i.e. ACLED starts at 1997). The development of NAVCO 3.0, which complies events on civil resistance campaigns will permit the global analysis of nonviolent action, but is not yet available. The release of the Integrated Conflict Early Warning System (ICEWS) events data (Boschee et al., 2015) represents another promising development, providing global machine-coded event data on riots and protest. However, information on actors involved and surrounding the event remains severely limited and often unclear, preventing a clear disaggregation of different types of riots and protest. Data collection on various conflict outcomes still needs to keep pace with developments on civil war data, in order to provide new opportunities for future systematic research.

Secondly, data limitations also extend to the measuring of HIs. As mentioned throughout this thesis, capturing ethno-political HIs has now become much easier with the development of the EPR dataset. However, extensive data is not yet available to capture the socioeconomic and cultural dimensions. Ostby has innovatively used surveys from the Demographic Health Survey to create an index of social and economic wellbeing and then combining the locations of these survey with regions (see Ostby, 2008). Using this data, Ostby was the first to capture social and economic HIs, but was limited to 39 developing countries where the DHS has sufficient data, and to rounds of surveys over time. While the DHS is continuously being expanded, more data collection is required in this area, so that these dimensions can be fully explored across a wider set of countries. Lastly, cultural HIs have been scantly explored, mostly due to the difficulty in capturing cultural inequalities (i.e. language rights), and is an area that would greatly expand our knowledge.

Thirdly, this thesis is mindful that while taking an intermediate level of aggregation and deploying a group based approach improves on country-level analyses,[78] this is still at odds with the ecological fallacy. New findings and mechanisms explored within this thesis help to vindicate a group-based approach, yet future research could better explore individual-level motivations to participate in political conflict.

Various micro-level studies have made inroads in this respect. Justino (2009) associates participation in armed conflict with high levels of poverty and vulnerability to violence.[79] Humphreys and Weinstein (2008) conclude that grievances and opportunity explain why individuals participate in violence, while Oyefusi (2008) finds that economic opportunities drive rebel participation in the Niger Delta. The MICROCON project conducted by scholars at the Centre for Poverty and Inequality Research at the University of Sussex has also provided indications that grievances facilitate participation in conflict (Nillesen and Verwimp, 2010; Muller and Vothknecht, 2011).[80] Yet future research could explore this more systematically and in relation to other types of political conflict. Recent and innovative research has emerge, but remains limited to case-studies (e.g. Scacco, 2012; McDoom, 2013).[81] More systematic research on individual participation would greatly enhance our knowledge of the collective action problem, and better explain why some people participate and others do not.

Fourthly, while accepting that group boundaries are fluid, existing literature largely treats ethnic groups as monolithic. This is an approach that is also followed by this thesis, although chapters 3 and 4 show appreciation of divisions exist within ethnic groups. Of course ethnic group cohesion is not always guaranteed as is clearly highlighted by research on ethnic

[78] The social psychology literature strongly points to the tendency of individuals to identify with and act in defence of their group,

[79] See also studies on participation in terrorist organisations Krueger and Maleckova (2003) and determinant of individual support for rebel organisations (Wood, 2003).

[80] Also see also Guichaoua (2010) for various case study chapters on participation in rebel forces.

[81] Scacco (2012) has explored participation in ethnic riots in Nigeria, while McDoom (2013, 2014) has conducted excellent research on participation in the Rwandan genocide

defection (see Kalyvas, 2008; Lyall, 2010), and fragmentation within rebelling communities (see Cunningham, 2016). While treating ethnic groups as unitary is necessary in order to capture the general relationship between HIs and conflict, future research could explore other cleavage structures, which remains poorly understood. Some research has recent begun to explore the impact of intra-group and cross-cutting cleavages on the likelihood of conflict. Gubler and Selway (2012) find that violent mobilisation is twelve times less likely in societies where cleavages cut across ethnic divides. As chapter 3 suggests, cross-cutting cleavages are instead likely to facilitate nonviolent action. Similar to food prices, cultural similarities across group lines may well also serve this purpose.

Recent research has begun to conceptualise divisions within ethnic groups, known as intra-ethnic cleavages (Vogt et al., 2015) or sub-group fractionalisation (Selway, 2011). Yet little research has explored the impact of these cleavages on different types of conflict.[82] However, the emergence of new data provides new opportunities to explore this area of research. The EPR-Ethnic Dimensions dataset provides information on intra-group cleavages (Bormann, Cederman, and Vogt, 2017), and the ongoing All Minorities at Risk (AMAR) project is another promising developing, coding subgroups of more than 1,200 politically relevant ethnic groups (Birnir et al., 2015). Combined with other geographical data, this potentially could be extended to explore wealth and social disparities within ethnic groups.

Lastly, and related to above, HIs literature could look at other types of identity, that when combined with inequality may cause conflict. While ethnicity is a particularly salient type of identity, other identities may matter more in specific contexts. This could relate to sub-groups such as class, dialects or sub-tribal groups. This may also relate to clan-based or regional identities that have played an important role in driving conflict in the ethnically homogenous

[82] Arriola's (2013) study on Oromo protest in Ethiopia remains a rare exception. He finds that intra-group divisions within the Oromo have undermined their ability to engage in mass nonviolent action.

countries such as Somalia. Clan violence can also be significant within the context of ethnic conflicts. For example, clan violence in Mindanao, known as 'rido', has been prevalent and has driven the wider ethno-religious conflict (Ozerdem et al., 2010). In other cases conflict boundaries are defined by 'natives' and 'migrants' and manifest in xenophobic violence which has recently been systematically explored (Claassen, 2016). Future research could explore the effect of different types of group-based grievances that exist within society.

5.5. Policy Implications

The conclusions derived from this thesis point to a number of important policy implications. The broad conclusion is that while grievances matter and are related to different types of political conflict, there are various ways to resolve ethno-political HIs and reduce ethno-political competition.

Ethnic differences and grievances alone do not cause conflict, and as this thesis reaffirms, is related to specific ethno-political contexts. Put simply, new policies are needed to rectify HIs within society. In terms of ethno-political HIs, the findings from the thesis and the wider literature point to the importance of inclusive political institutions. More accommodating and inclusive states have fared much better in terms of political stability, since inclusive institutions enable ethnic relations to be managed conventionally and give a voice to all segments of the population. Looking for innovative ways to ensure powersharing, coalition building, and the avoidance of monopoly seeking are therefore paramount, and HIs scholars often point to institutional design that involve autonomy, proportionality, multiparty politics, a clear balance of power, and consociational constitutions (Stewart, Brown, and Langer, 2008).

Moreover, ethno-exclusive policies, which are associated with unequal political systems, only serve to increase incentives to engage in ethnic competition. As this thesis has

shown, such policies only encourage various types of contentious behaviour in the pursuit of ethno-political power. Governments therefore need to be responsive to all citizens and move beyond nepotism that only serves to uphold short term political goals. This includes distributing state resources and security provisions more fairly across society. HIs scholars also point to socioeconomic quotas, positive discrimination programs, and various cultural recognition policies which reduce strong ethnic incentives to challenge the state and touch upon other dimensions of HIs (Stewart, Brown, and Langer, 2008).

Policy makers must also be sensitive to the consequences that political change can have on ethno-political systems. In chapters 2 and 4, actual or fears of future changes in ethno-political power can increase interethnic competition, which generates incentives to engage in violence. Instruments such as national elections and democratic transitions are often considered the cornerstone of peacebuilding, yet if not sensitively designed can actually reinforce interethnic competition over power. Again political institutions need to encourage inclusiveness, such as proportional representation electoral systems, quotas, and seat reservations.

HIs can also combine with other types of grievances to cause conflict. As chapter 3 suggests, this appears to be the case with nonviolent rebellions against the state, which often seek interethnic support. Food prices have been shown to be a key factor in promoting unity among disparate ethnic groups that have various existing ethno-political grievances against the government. Governments need to be receptive to grievances within society and effectively tackle economic shocks that may emerge. In terms of food prices, governments have a number of possible stabilisation mechanisms. This includes subsides, social protection, price regulations and food assistance programs, that again should not be distributed along ethnic lines.

Finally, ethno-political HIs do not only have consequences for the onset of conflict, but also the sustenance of conflict, which relates mostly to findings from chapter 4. Ethno-political competition provides incentives for coethnic pro-government militias to fight on in order to maintain political power of their group. Similarly, ethno-political competition encourages the government to seek divide and conquer tactics, such as co-opting defector militias within the opposition, which can backfire in high intensity conflicts and prolong its duration. Again this points to inclusive politics that reduce the incentives to maintain political dominance. Policy therefore needs to be aimed at inclusive peace processes and transitions that are specifically aimed at breaking ethno-political competition and fears of future marginalisation. Providing guarantees and a role in the post-conflict phase are fundamental in encouraging all factions to disarm.

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