

The Logic of Intra-Ethnic Conflict: Group Fragmentation in the Shadow of State Power

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(Forthcoming, *Journal of Conflict Resolution*)

Revised: April 28, 2011

Abstract

Despite significant advances in the disaggregation of the study of civil conflict and inter-ethnic violence, intra-ethnic violence remains understudied. In this paper, we present the first systematic, cross-national analysis of the conditions that promote violent, fragmentary conflict within politically active ethnic minorities. We propose a model of intra-ethnic conflict in which collective violence is produced by the interaction between sub-group entrepreneurs and the suppressive actions of the state. This two-level model predicts a curvilinear relationship between the relative size of an ethnic minority and its probability of experiencing large-scale intra-ethnic conflict. Additional hypotheses based on the proposed causal mechanism are also posited. These hypotheses are tested with panel data on 274 politically active ethnic minorities in 115 countries, using a combination of parametric and semi-parametric regression techniques. The results strongly confirm the predicted curvilinear relationship, while also demonstrating that the specific shape of this relationship shifts in predictable ways under varying social and political contexts.

Introduction

In recent years political science has produced a rich literature examining the causes and characteristics of violence *between* ethnic groups (Horowitz 1985; Varshney 2001; Wilkinson 2004). However, a second type of conflict—the emergence of violent fragmentation *within* an ethnic group—has received comparatively little attention. Despite the notable occurrence of co-ethnic factional violence in several high profile conflicts, including between Hamas and Fatah in the Palestinian Territories and between KDP and PUK factions in Iraqi Kurdistan, very little is known about the general conditions under which such violent intra-ethnic struggles become more likely. That is, why do some groups maintain internal peace and coherence despite enormous external pressures, while other groups erupt into violent internal fragmentation between warring factions?

A better understanding of these conditions would advance our understanding of conflict dynamics in at least three ways. First, intra-ethnic conflict is an important phenomenon in its own right, generating thousands of deaths and displacements throughout the world. Second, conflict within groups is intimately connected to conflict between groups. Intra-group dynamics such as extremist outbidding and flanking have frequently been noted as some of the largest obstacles to domestic peace in divided societies (Horowitz 1985). A complete understanding of ethnic conflict processes will thus be impossible without a better grasp of the forces generating intra-ethnic cohesion and fragmentation. Finally, the study of intra-ethnic conflict provides a useful perspective on the nature of group identities, highlighting the mutable character of group boundaries and the need for theory which moves beyond assumptions of fixed cleavages.

To the best of our knowledge, this is the first study to systematically examine the causes of intra-group violence across a global sample of ethnic groups. While a fully general account of

the conditions favoring group cohesion and fragmentation is beyond the scope of this paper, as a first step we develop a simple model of the cross-pressures acting on the production of internal violence within *politically relevant ethnic minorities*. We focus on this subcategory of ethnic groups—who are politically mobilized but societally subordinated in terms of demographic weight—as we believe this category faces a common set of incentives and pressures that allow for productive generalizations across groups and across countries. Drawing on previous models of politicized ethnic groups as instrumental providers of 'group goods', we argue that such groups find themselves subject to cross-pressures both from below and from above. From below, the group must contend with sub-group entrepreneurs who face strong incentives to mobilize factional violence, either to secure their own leadership positions or to seize a greater portion of the group's resources. From above, the group must contend with state forces which face strong incentives to buy-off or suppress this factional violence, especially if threatens security in the society at large.

We then show that this account generates the counter-intuitive prediction that a group's relative size will have a curvilinear relationship to its likelihood of experiencing internal violence. Sub-group entrepreneurs in relatively small minority groups face an absence of *internal opportunity* for the mobilization of intra-group violence due to the suppressive actions of the group's leadership, whereas sub-group entrepreneurs in relatively large minority groups face an absence of *external opportunity* for the mobilization of intra-group violence due to the suppressive actions of the state. It is therefore in the middle ranges, where both of these pacifying forces are at their weakest, that we should expect the greatest proportion of internal violence to be observed.

The remainder of the paper proceeds as follows. In Section 2, we review the current literature on civil conflict, ethnic violence, and group fragmentation. In Section 3, we develop our account of intra-ethnic violence amongst politicized minorities, and in Section 4 we derive a number of observable implications linking group size, demographic characteristics, and institutional constraints to the likelihood of intra-ethnic conflict. We then test these hypotheses with panel data on 274 disadvantaged ethnic minorities in 115 countries, using a combination of parametric and semi-parametric regression techniques. Finally, we conclude by discussing the broader implications of this account for the study of collective violence in hierarchical settings.

II. Progress in the Study of Civil Conflict

In the past decade, great strides have been made in the quality of cross-national analyses of civil conflict. As opposed to earlier studies which generally aggregated the units of analysis into pooled country-years (Collier and Hoeffler 2004; Ellingsen 2000; Fearon and Laitin 2003), the trend in recent work has been towards greater disaggregation of both the independent and dependent variables. Such studies have substantially deepened the quantitative analysis of civil conflict by replacing country-years with units of analysis defined by individual groups, center-periphery dyads, and sub-national geographic units (e.g. Buhaug, Cederman, and Rød 2008; Cederman, Buhaug, and Rød 2009; Cederman and Girardin 2007; Cederman, Girardin, and Gleditsch 2010; Cederman, Cunningham, Gleditsch, and Salehyan 2009; Fearon, Kasara, and Laitin 2007; Hegre and Raleigh 2007; Urdal 2008; Weidmann 2009; Wimmer, Cederman, and Min 2009; Wimmer and Min 2009). However, while this literature has greatly expanded our understanding of the micro-level processes that underlie the emergence of civil conflict, the

project of disaggregation is not yet complete, as analysis of *intra*-ethnic violence remains entirely absent from the cross-national quantitative literature on civil conflict.

This stands in stark contrast to the qualitative literature on civil conflict, which has long recognized that intra-ethnic dynamics are a critical component of the processes that generate broader forms of collective violence. As Jinadu (2004) notes:

ethnic groups are oftentimes polarized among themselves, over, for example, strategies to pursue in competitive situations with other ethnic groups, over leadership succession, all leading to fractures and, in many cases, the emergence of sub-ethnic or even newly constructed ethnic groups within them. We, therefore, need to study intra-ethnic conflict, as a micro-level of analysis within the larger kaleidoscope of inter-ethnic relations and conflicts. (8)

This literature has developed several key insights into the nature of ethnic groups and the conflicts they experience. First, ethnic groups are generally not internally homogeneous, and cannot be expected to have uniformly distributed political preferences (see Kalyvas 2003). As Akinteye (1999) shows in his study of the Igbo-Ora in Nigeria, groups are frequently beset by cross-cutting political and economic cleavages that can form the basis for the mobilization of collective violence at the sub-group level. Such internal cleavages may be based on more narrow ethnic markers, but they may also be rooted in clan or tribe-based loyalties that do not map neatly onto ethnic boundaries, as Riphenburg (2005) discusses in the context of tribal politics in Afghanistan. Moreover, the salience of sub-group cleavages can be manipulated by opportunistic political entrepreneurs even in the absence of any overt pre-existing tensions (see Fearon and Laitin 2000). As a result of these factors, there can be a great deal of internal variation in how strongly putative members of an ethnic group feel connected to their group identity.¹

The second key insight to draw from this literature is that ethnic groups are not static. Rather, the boundaries of ethnic group membership are the subject of constant contestation in

which political entrepreneurs struggle to define membership in terms that will be favorable to their interests. The salience and composition of ethnic identity categories can therefore be expected to change substantially over time (Barth 1969; Anderson 1991; Brass 1997). As Kalyvas (2008) argues, the occurrence of “multi-directional identity transformations, as opposed to just consolidation, is more widespread than commonly assumed” (1045). He finds evidence of 'ethnic defection'—whereby members of an insurgent ethnic minority join forces with the dominant state—in the Algerian War of Independence, the Mau Mau insurgency in Kenya, the Greek Civil War, and recent conflicts in Lebanon, East Timor, India, Chechnya, and Iraq (1053-1055). He has also shown that fears of such defection, and the need to shore up crumbling loyalties, can help explain the brutality of the massacres that rebels become willing to inflict on their ethnic brethren (Kalyvas 2001).

These examples demonstrate that intra-ethnic conflicts are frequently nested in broader political struggles vis-a-vis the state. Faced with the pressure to compete for scarce social, political, and economic resources, intra-group divisions can become hardened and polarized. In the resulting context of mistrust and suspicion there can be strong incentives for political entrepreneurs to engage in 'flanking' behaviors, in which they attempt to maximize their base of support by adopting ever more extreme postures regarding the group's boundaries and their willingness to resort to violence to defend the group's "true" members (see Horowitz 1985; Lake and Rothchild 1996; Hislope 1997; Caspersen 2008). These dynamics can generate a spiral of intra-group collective violence—ranging from urban riots to outright intercommunal warfare—along newly hardened sub-group lines. Of course, this outcome is far from inevitable. Many ethnic groups face severe economic and political pressures while remaining internally peaceful.

The key question, then, is whether we can develop an understanding of the conditions under which episodes of violent internal fragmentation become more likely to occur.

III. A Two-Level Theory of Group Fragmentation

In contrast to accounts which claim that ethnic groups persist naturally due to the immalleability of the markers used to define their boundaries (Connor 1994; Geertz 1973; Smith 1986; Shils 1995), we characterize ethnic groups as instrumental providers of "joint goods" (Hechter 1987) or "group goods" (Hardin 1995) whose boundaries are subject to frequent internal contestation. Seen from this perspective, ethnic groups function primarily as sociopolitical coalitions that pool members' resources, both to provide goods directly to their group and to extract further benefits from the state on their group's behalf (Bates 1983; Chandra 2004). These benefits can range from the direct transfer of resources, such as infrastructure, policing, or social services, to policies that grant the group autonomy in particular cultural or political domains. Such benefits are defined as 'group goods' because they generally can only be enjoyed by the members of the group (i.e. they are *jointly excludable*) and because their enjoyment by one member does not reduce their enjoyment by other members (i.e. they are *jointly supplied*). Ethnic groups, then, are like "clubs" (Laitin and Berman 2008) that demand sacrifices from their members in exchange for desired goods that are not forthcoming from the state and cannot be obtained on an individual basis (Hechter 1987, 177).²

However, the fact that group goods are jointly provided does not mean that they will come to be evenly distributed amongst the group's members. While an idealized 'group good' would be characterized by perfectly non-rival consumption, and hence would necessarily be equally available to all group members, more recent formal work has recognized that most of the

goods pursued by collective actors represent a mixture of rival and non-rival consumption (Esteban and Ray 2001). As a result, various forms of intra-group heterogeneity—geographic, demographic, economic, etc.—will tend to generate noticeable differences in how group goods are distributed internally (Azam 2001). Such differences create opportunities for subgroup entrepreneurs to challenge extant arrangements by claiming that group boundaries should be constituted along alternative lines. By doing so, sub-group entrepreneurs can act to secure their own leadership positions, weaken the influence of their opponents, and alter the internal allocation of group resources. For instance, when the inequality of social service provision fueled rising dissatisfaction with the Palestinian Authority in Gaza, this created space for the emergent Hamas movement to advance an alternative definition of group boundaries rooted in extreme religious piety, as a contrast to the secularism of Fatah in the West Bank (Brynen 1995; Laitin and Berman 2008).

While most existing models of ethnic politics have simply assumed away the problem of intra-group dynamics,³ some recent formal work has begun to explicitly tackle the difficulties associated with overcoming intra-group divisions in the production of group goods (Garfinkel 2004; Munster 2007). The central message of this work is that distributional problems are frequently the driving force behind both conflict between groups and conflict within groups (see Azam 2001). We adopt this view here, and argue that the observation of collective internal violence is generally the result of distributional conflict between emergent intra-group factions, mobilized by sub-group entrepreneurs on the basis of politically activated aspects of intra-group heterogeneity. Although frequently dressed up in the language of identity by sub-group entrepreneurs seeking to drape their machinations in an aura of collective legitimacy, the forces underlying such conflict are fundamentally rooted in the pursuit of resources and power.

In the case of Fatah and Hamas, a pre-existing geographic divide provided fodder for political entrepreneurs seeking to promote a novel sub-group cleavage on the basis of religious fundamentalism. However, it is important to recognize that sub-group entrepreneurs can manipulate the salience of sub-group cleavages even in the absence of any overt pre-existing tensions (see Fearon and Laitin 2000). Lin, Wu, and Lee (2006) find evidence of this phenomenon in Taiwan where the majority Han-Chinese ethnicity has been divided into Minnanese, Hakka, and Mainlanders by politicians seeking to "mobilize electoral support in subethnic terms" (37). In a similar vein, Banjo (1998) argues that intra-ethnic violence amongst the Ogoni of Nigeria was precipitated as competing factions mobilized along novel lines in an attempt to restrict access to newly discovered oil wealth. It is the potential for such rewards which creates an incentive for sub-group political entrepreneurs to heighten the salience of internal cleavages, even where none were previously apparent.

Among the tactics that sub-group entrepreneurs can utilize in their attempts to solidify an emergent division, none are more potent than the production of collective violence. By convincing followers to collectively attack co-ethnics on the basis of an internal cleavage, the entrepreneur ensures that the new line will be viewed as socially and politically relevant by members on both sides, while also ensuring feelings of antagonism between the emergent sub-groups. In the resulting context of mistrust and suspicion there are strong incentives for rival entrepreneurs to engage in escalating reprisal attacks, polarizing the group into opposing camps and generating a spiral of collective violence along newly hardened sub-group lines (Hislope 1997; Caspersen 2008). Seen from this perspective, intra-ethnic violence is simply a tool wielded instrumentally by sub-group entrepreneurs to cement the overturning of previous lines of solidarity.

If we wish to fully understand the conditions under which collective violence will be observed within groups, however, we must expand our focus beyond the internal dynamics of sub-group factionalism. Kalyvas (2003, 475) reminds us that, “it is the convergence of local motives and supralocal imperatives” which renders civil conflict such a complex phenomenon. As Wilkinson (2004) shows in the context of ethnic riots in India, collective violence is not produced in a vacuum, but rather through strategic interactions between ethnic extremists and the forces of the state. In general, the state's most basic interest lies in the preservation of domestic order and (at least the appearance of) a monopoly on the large-scale deployment of armed force (Weber 1964; Krasner 1999). We should therefore expect state influence to be employed in the suppression of collective violence, especially if that violence could be of a sufficient scale to call into question the state's capacity to provide security for its citizens.⁴ This suppression can take several forms. The state may impose order through overt physical force, it may covertly sabotage violent factions from within, or it may find ways to make side payments to buy off opponents (Davenport 2007a). Regardless of the specific tactics employed, the key point is that state efforts can exercise powerful influence over the ability of sub-group entrepreneurs to mobilize collective violence in the pursuit of their political aims. As a result, intra-group distributional bargaining, and the conflicts that sometimes arise from it, necessarily takes place in the shadow of state power.

This is particularly true for politically relevant ethnic minorities—groups that are politically mobilized along ethnic lines, but disadvantaged in terms of demographic weight—which necessarily find themselves in a subordinate position vis-a-vis the state. Such groups are neither so quiescent as to pass beneath the state's notice, nor so strong as to be able to ignore the state's influence. This is precisely why they represent such a convenient target for empirical

analysis, as they are subject to a common set of internal pressures and external constraints that allow us to make cross-national generalizations about their behavior. We turn now to the derivation of those hypotheses.

IV. Group Size and the Production of Internal Violence

The account presented above argues that internal collective violence amongst politically active ethnic minorities is produced at the intersection of the mobilizational efforts of political entrepreneurs operating at the sub-group level and the suppressive efforts of state forces operating at the supra-group level. The key difficulty faced in testing this account lies in the fact that the actions of the critical players are frequently unobservable. Attempts by sub-group entrepreneurs to mobilize factional violence will generally only be observable if and when they produce collective violence, and the fragmentation may occur along lines that previously appeared irrelevant to the group's politics. Moreover, the suppressive actions of the state will frequently be covert in nature, either to limit the reaction to violent repression or to avoid the political inconvenience of generating visible side payments to subordinate ethnic minorities. Thus, while we have strong reasons to suspect that both internal pressures and external constraints are acting on the propensity of groups to experience internal violence, in testing this conjecture we cannot rely on direct observation of the micro-level dynamics. Instead, our empirical strategy rests on deriving a number of testable implications concerning macro-level relationships that should be observed if our theory is correct.

The most basic of these relationships concerns r , the relative size of the group. Much previous work has recognized that the demographic weight of a group, relative to the country as a whole, is a key indicator of societal power and an important determinant of conflict behavior

(Bhavnani and Miodownik 2009, Buhaug, Cederman, and Rød 2008, Cederman, Buhaug, and Rød 2009, Esteban and Ray 2008, Forsberg 2008, Reynal-Querol 2002, and Reynal-Querol and Montalvo 2005). In analyzing intra-ethnic conflict, relative group size provides a particularly useful lens through which to examine the likelihood of violence, as variations in relative group size can be expected to generate quite different effects on the incentives operating at the sub-group and supra-group levels.

Consider first the incentives operating at the sub-group level. We can assume that in any group of sufficient size, there will be potential sub-group entrepreneurs who would like to see the group organized along alternative lines. What varies between groups is not the presence of such actors, but the incentives and constraints they face in pursuing their interests. Theorists of collective action have recognized for some time that cohesion becomes more difficult to maintain as group size increases (Olson 1965; Black 1974), an insight confirmed by classic experimental results on cooperation in n -person prisoner's dilemmas (Bonacich et al. 1976; Fox and Guyer 1977; Hamburger, Guyer, and Fox 1975). There are a number of reasons for this relationship. As group size increases, so too does the internal heterogeneity of the group's sociopolitical preferences (Alesina and Spolare 2003), multiplying the number of cross-cutting cleavages along which sub-group entrepreneurs can seek to mobilize factional violence. Moreover, we can expect that larger groups will contain a higher number of viable sub-groups, thus increasing the difficulty of managing distributional conflicts between them. In addition, Rohner (2007) shows that intra-group tensions will increase with group size due to the decreased reputational costs of defection. Thus, as shown in Figure 1, we should expect the internal (centrifugal) pressures promoting the production of intra-ethnic fragmentation, F , to be an increasing function of the group's relative size, r . We should also expect that this relationship

will be somewhat attenuated as $r \rightarrow 0.5$, as larger minorities are generally more successful at extracting resources from the state (Estaban and Ray 2001), and group leaders are likely to invest a portion of those increased returns in efforts to foster greater internal cohesion. Hence, if we considered only the incentives operating at the sub-group level, we would expect a monotonically positive, concave relationship between a group's relative size, r , and its likelihood of experiencing internal collective violence (see Figure 1).

However, this picture changes dramatically when we consider the incentives facing the state. As we argued above, the state's most basic interest lies in the preservation of domestic peace and stability. Large-scale collective violence threatens perceptions of domestic security, creating a strong incentive for states to buy-off or suppress factional conflicts before they become visible. Of course, all states face limitations in the resources they can devote to such efforts. Given the impossibility of suppressing *all* potential conflicts, states are forced to decide which threats are most dire.⁵ All else being equal, we should therefore expect that efforts to buy-off or suppress conflict will be directed more towards larger groups than towards smaller groups, as these are the groups whose violence poses the greatest threat to perceptions of general stability.⁶ Thus, looking again to Figure 1, we should expect the external (centripetal) pressures promoting the suppression of intra-ethnic fragmentation, S , to be an increasing function of the group's relative size, r . In contrast, however, to the centrifugal pressures operating at the sub-group level, this centripetal relationship should experience none of the same attenuation as $r \rightarrow 0.5$. If anything, the relationship should strengthen as $r \rightarrow 0.5$, as each step closer to societal parity implies not only a further increase in the potential scale of violence within the group in question, but also a corresponding decrease in the probability that there exist any

additional groups of equal or greater size in the same country that could split the allocation of state suppressive efforts.

In summary, we expect the internal pressures promoting the production of intra-group fragmentation to be an increasing function of r , such that $F'(r) > 0$, $F''(r) < 0$, and $F(0) = 0$ for $0 \leq r \leq 0.5$; and we expect the external pressures promoting the suppression of intra-group fragmentation to be an increasing function of r , such that $S'(r) > 0$, $S''(r) \geq 0$, and $S(0) = 0$ for $0 \leq r \leq 0.5$. Let us suppose further that the probability of intra-group violence is proportional to the difference in strength, D , between these two opposing pressures:

$$Pr[Violence] \propto D = F(r) - S(r)$$

Then, as long as $F'(0) > S'(0)$, the logic of Figure 1 makes clear that there must be a unique value, r^* , at which the probability of internal violence is maximized.⁷

Taken together, these two levels of analysis thus allow us to generate the counter-intuitive prediction that the likelihood of internal collective violence amongst politically active ethnic minorities is not a simple positive function of relative group size, r , but rather a concave curvilinear function of r . Relatively small minority groups face little distributional heterogeneity, and thus offer little opportunity for sub-group entrepreneurs to promote factional violence. At the other extreme, relatively large minority groups are more likely to have their internal conflicts suppressed by the state before they become visible to outside observers. In other words, sub-group entrepreneurs in relatively small groups face an absence of *internal opportunity* for the mobilization of intra-group violence, whereas sub-group entrepreneurs in relatively large groups face an absence of *external opportunity* for the mobilization of intra-group violence. It is therefore in the middle ranges, where both of these pacifying forces are at

their weakest, that we should expect the greatest proportion of internal violence to be observed (see Figure 1). Hence, we have our first observable implication:

HI: Amongst politically active ethnic minorities, the likelihood of internal violence has a curvilinear relationship to relative group size, with minima at $r = 0.0$ and $r = 0.5$, and a maximum at r^* .

The logic of internal and external cross-pressures depicted in Figure 1 also allows us to generate additional predictions concerning variation in the relationship between group size and internal conflict in different social and political contexts. Considering first the supra-group level of analysis, it is important to note that states differ greatly in the freedom with which they can devote resources to the violent or non-violent suppression of factional violence. In fully consolidated democracies, the combination of competitive elections and institutional constraints on executive actions can greatly increase the difficulty of buying-off factions through side payments or repressing their activities through force. Indeed, the literature on state repression consistently finds that democracies are less likely to use repression when faced with domestic unrest (Davenport 2004, 2007b; Davenport and Armstrong 2004; Bueno de Mesquita et al. 2005). In the language of our model, this reduction in the provision of suppressive force by the state amounts to a downward shift in the S curve, such as the shift from S_0 to S_{Dem} shown in Figure 2. While this shift clearly predicts an increase in the aggregate probability of intra-ethnic violence, Figure 2 makes clear that such a shift also generates the counter-intuitive prediction that democratic institutions should generate higher values of r^* . In other words, because they inhibit the application of suppressive force by the state, democratic constraints on executive

action should be expected to raise the relative size at which intra-group violence is optimally produced. Hence, we have our second hypothesis:

- H2:** In states with strong democratic constraints on executive action,
- (a) the probability of intra-ethnic violence will be higher, and
 - (b) the value of r^* will be higher.

Shifting to the sub-group level of analysis, it seems clear that we should also expect that ethnic groups would differ in their levels of cohesion and solidarity. While ethnic boundaries are always subject to contestation, groups whose boundaries are characterized by descent-based markers of ethnic distinction are likely to present higher barriers to the machinations of sub-group entrepreneurs. Members of groups distinguished from the broader society by the uniform presence of racial, religious, or linguistic markers, may experience stronger ties of ethnic affinity, both because they provide a conveniently homogenous target for political entrepreneurs seeking to emphasize group unity (Geertz 1973), and because decreased opportunities for exit tend to increase the loyalties that members feel towards their group (Hirschman 1970). In the language of our model, this reduction in the ease with which sub-group entrepreneurs can foment internal fragmentation amounts to a downward shift in the F curve, such as the shift from F_0 to F_{Eth} shown in Figure 2. While such a shift clearly predicts an decrease in the aggregate probability of intra-ethnic violence, it also predicts a decrease in the value of r^* . That is, because stronger ethnic bonds inhibit the success of divisive mobilizational appeals, they also lower the relative size at which intra-group violence is optimally produced. This brings us to our final hypothesis:

H3: In groups with high levels of ethnic cohesion,

(a) the probability of intra-ethnic violence will be lower, and

(b) the value of r^* will be lower.

V. Data and Methods

In order to test these hypotheses, we require measures of both relative group size and internal violence across ethnic groups. Among the datasets currently available to the discipline, the Minorities at Risk (MAR) Project (2009) stands alone in offering measures of both of these factors across a global sample of politically mobilized ethnic groups, and therefore represents the ideal starting point for our analysis. However, this data source also carries important limitations that must be addressed before we can proceed. Rather than attempting to capture the full universe of ethnic groups worldwide, MAR imposes several key selection criteria that govern which groups are recorded. In brief, these criteria require that the ethnic groups be (1) politically relevant, in the sense that they formulate demands vis-a-vis the state, (2) demographic minorities, and (3) subject to social or political discrimination. The first two criteria pose no difficulties, as they simply describe the domain to which our theory is intended to apply: politically relevant ethnic minorities. The third criterion, though, is more problematic. At first glance, it's quite possible that this selection rule is correlated with group size. If, for instance, smaller minority groups are more likely to face discrimination and thus more likely to be included in the MAR sample, this could severely bias our inferences regarding the relationship between minority group size and internal conflict.

To ensure against this possibility, we draw information from the Ethnic Power Relations (EPR) dataset (Cederman, Min, and Wimmer 2010), which utilizes expert surveys to identify all

politically relevant ethnic groups in the world, regardless of their status or power. While EPR does not record instances of intra-ethnic conflict, it does record each group's relative size — that is, the group's population divided by the total population of the country in which they reside. This means that we can use EPR group list to construct a baseline distribution of minority group sizes against which to compare the MAR sample for potential bias. In 2005 (the most recent year available in both datasets), the EPR data identify 554 politically relevant ethnic minorities in 126 countries. In contrast, from the MAR data we identify only 274 disadvantaged ethnic minorities in 115 countries. However, while this makes clear that MAR represents only a subsample of the full universe of ethnic groups, we find that the distributions of group sizes in the two samples are nearly identical (EPR: $\mu = 0.09$, $\sigma = 0.11$; MAR: $\mu = 0.10$, $\sigma = 0.11$). Moreover, a Kolmogorov-Smirnov test of distributional equivalence fails to reject the null hypothesis that the two samples of groups sizes were drawn from equivalent underlying distributions ($D = 0.0874$, $p = 0.1636$). We thus conclude that "disadvantaged" ethnic minorities represent a subsample of "politically relevant" ethnic minorities drawn as-if at random with regard to group size, and that the MAR selection procedure is therefore unlikely to bias the results reported below. Hence our key independent variable, **Relative Group Size**, is set equal to the group's population divided by the total population of the country in which they reside, as recorded in the MAR dataset. Because our theory predicts a curvilinear relationship between relative group size and the likelihood of internal collective violence, all models also include a squared version of this variable.

Our dependent variable, **Fracture**, is measured dichotomously on a group-year basis and equals 1 for any group-year in which we observe *internal collective violence*, as recorded in the MAR dataset over the period 1990 - 2006. We define internal collective violence as events in

which: (1) competing factions are explicitly organized along intra-group lines, (2) those factions pursue their aims through violence directed at group members, and (3) the violence is mobilized collectively in the form of large-scale riots or armed clashes. By requiring that the violence be organized and collective, this definition purposely excludes small-scale attacks perpetrated by lone individuals, as we are interested in the dynamics of *collective* fragmentation rather than the isolated acts of a few disaffected outcasts (see Appendix A for details). In the 17-year period examined here, 54 of the 274 groups in our sample experienced at least one episode of internal collective violence.

To test Hypothesis 2, we also require a measure of the strength of democratic institutional constraints. The standard approach in the civil conflict literature seeks to capture the effects of democracy using a 21-point democracy-autocracy scale derived from the Polity IV dataset, which combines measures of the strength of executive constraints, the competitiveness of executive selection, and the degree of popular political participation (Marshall and Jaggers 2009). However, Vreeland (2008) notes that the participation component of the Polity index is measured, in part, on the basis of whether civil violence has been observed in a given country. The standard Polity index may therefore generate spurious inferences regarding the relationship between democracy and civil conflict. Instead, we utilize the alternative *XPolity* index developed by Vreeland (2008), which simply removes the problematic participation component from the estimation of the democracy-autocracy scale. This yields an index, ranging from -6 to 7, which captures more precisely the specific causal factor referenced in our second hypothesis: the degree to which executive action is constrained by institutional checks and competitive selection.

To capture the effects of ethnic cohesion referenced in Hypothesis 3, we code three dichotomous measures of the ethnic markers used to define group membership. In order to qualify, such traits must be markers of *ethnic distinction*. That is, they must be passed down primarily through kin relations, they must be nearly ubiquitous amongst members of the group, and they must be generally absent from the broader population. Drawing on information from the MAR dataset, we set **Race** equal to 1 if the group is characterized by a distinct physical appearance, **Religion** equal to 1 if the group is characterized by distinct religious beliefs, and **Language** equal to 1 if the group is characterized by the use of a distinct language (see Appendix A for details).

We also derive a number of control variables from the MAR dataset, intended to measure factors which, while not directly captured by our theory, may nevertheless be correlated with both group size and factional conflict and could therefore bias our main results if they were omitted from the analysis (see Appendix A for details). First, we note that though our theory assumed that states will generally devote their efforts to the suppression of factional conflict, this is certainly not always the case. In particular, when facing an armed insurrection by a specific ethnic group, states may instead devote their efforts to the *promotion* of factional splits within that group, as internal conflicts are likely to weaken the effectiveness with which the group can challenge state forces. Indeed, both Kalyvas (2008) and Lyall (2010) find that states can be quite strategic in promoting intra-group divisions when challenged by ethnic rebellions. We therefore control for **Rebellion**, which equals 1 if the group was involved in collective violence against state forces in the previous five years.

Second, we note that while our theory focused exclusively on within-country dynamics, many ethnic groups also have close kin across an international border. Such groups can be

expected to face heightened distributional tensions, as members from either side are likely to differ in their sociopolitical preferences, economic needs, and cultural practices (Posner 2004). The inevitable movement of kin across the border will therefore tend to generate imbalances in the degree to which group members are satisfied with the status quo that will be difficult to eliminate as long as the interstate border forces members into separate political regimes. This mechanism is highlighted by Chan (2004), Downman (2004), and Kim (2006), who each examine how the pressures of immigration can generate distributional tensions and factional conflict within ethnic groups. Thus, we include *Transnational Dispersion* as a control variable, setting it equal to 1 for groups that have close kin in a separate country that borders their own.

Third, we note that ethnic groups differ substantially in the kinds of organizations used to defend their interests vis-a-vis the state and the broader society. Groups whose interests are represented exclusively by lawfully organized political parties or social movements may find it easier to avoid internal factional violence, both because such organizations should make it easier for the group to settle internal distributional disputes peacefully, and because such organizations should facilitate the monitoring and suppression of factional conflict by the state. In contrast, groups with militant armed wings should face lower barriers to internal conflict, and higher barriers to state suppression. Hence, *Militant Organization* is set equal to 1 for any group which includes organizations that promote joint political action through violent means. Finally, because states differ in their capacities to monitor the activities of their citizens and exert coercive force over their behaviors, we also control for *GDP per capita* and the *Total Population* of the country (logged), as these have been found to be key indicators of state capacity and state reach (Fearon and Laitin 2003; Collier and Hoeffler 2004; Sambanis 2006).

The main models are each estimated using logistic regression, with Huber/White robust standard errors adjusted for clustering by country. As a check against the potential bias produced by duration dependence each of these models also includes *Peace Years*, which measures the number of years since the last *Fracture* event in a particular group, along with a natural cubic spline of *Peace Years*, as per the recommendations of Beck, Katz, and Tucker (1998).⁸ In addition, all independent variables are lagged by one year to guard against the possibility of reverse causation.⁹

Because the central observable implication derived from our account concerns the curvilinear shape of the relationship between *Relative Group Size* and *Fracture*, we also conducted additional robustness checks in which we relaxed the functional form assumptions of the parametric specification. This was necessary due the well-known difficulties associated with quadratic interaction terms, which can force a relationship to appear U-shaped even when the true data generating process does not have a quadratic form. To assess this possibility, we utilize thin plate regression splines, a variety of semiparametric regression which is flexible with respect to the non-linear shape of the response function (Wood 2006). This approach allows the data to inductively inform the shape of the relationship between our variables of interest, allowing more precise estimation of the shape of the relationship between *Relative Group Size* and *Fracture*, unconstrained by the quadratic parametric form.¹⁰ To optimize the selection of the smoothing parameter λ that governs the tradeoff between maximizing the fit and maximizing the parsimony of the resulting functional form, we utilize an approach known as generalized cross-validation (GCV), which seeks to minimize prediction errors while penalizing over-fitting (Green and Silverman 1994).¹¹

VI. Results

The results from the logistic regressions are reported in Table 1. Model 1 is a baseline specification, which includes only the effects of *Relative Group Size* and the *Peace Years* variables. Model 2 adds the variables measured at the group level: *Race*, *Religion*, *Language*, *Rebellion*, *Transnational Dispersion*, and *Militant Organization*. Finally, Model 3 adds the variables measured at the state level: *XPolity*, *GDP per capita*, and *Total Population*. All three models demonstrate strong confirmation of Hypothesis 1. Regardless of which control variables are included in the specification, the statistically significant coefficients for *Relative Group Size* ($p = 0.001$) and *Relative Group Size*² ($p = 0.008$) show that that the likelihood of internal collective violence has a curvilinear relationship to the relative size of an ethnic minority, as predicted by our two-level theory of group fragmentation. This relationship can be more easily visualized by plotting the predicted likelihood of internal collective violence as a function of relative group size (see Figure 3). As the plot shows, the likelihood of fragmentation is lowest both for the smallest groups and the largest groups, and reaches its peak in the middle ranges. This analysis also allows us to estimate the value of r^* , the point at which the sum of the pacifying forces stemming from the absence of internal opportunity at the sub-group level and the absence of external opportunity at the supra-group level are at their weakest. The results indicate that the most violence-prone configuration occurs when a group comprises approximately 25% of the total country population.

The evidence in Table 1 also provides strong confirmation of Hypothesis 2a. The coefficient for *XPolity* is positive and statistically significant ($p = 0.034$), lending credence to the argument that while states generally have strong incentives to suppress factional violence, they can be constrained in their freedom to do so by strong democratic institutions. The results also

provide partial confirmation of Hypothesis 3a. Though the coefficients for *Race* and *Religion* are quite far from statistical significance, *Language* has a statistically significant ($p = 0.002$) negative effect in all specifications. Hence, while minorities marked by racial and religious boundaries apparently exhibit no additional capacities for maintaining group unity, the presence of a shared and distinct language dramatically improves the likelihood that factional violence will be avoided. This finding seems to echo the expectations of many of the classical theorists of nationalism such as Anderson (1991), Gellner (1983), and Deutsch (1953) who argued that communities are rendered more cohesive when members can communicate more effectively with each other than they can with outsiders.

The control variables generally behave as expected. The positive and significant coefficient for *Rebellion* indicates that states do not suppress factional violence uniformly, but rather behave quite strategically in this regard, becoming more likely to allow or promote intra-ethnic violence rather than suppressing it when faced with an insurrection by a disadvantaged ethnic minority. The coefficients for *Transnational Dispersion* and *Militant Organization* are both statistically significant and positive, indicating that groups that straddle an international border and groups that include an armed militant wing are more likely to face internal collective violence.

The results from the semiparametric spline regression are also strongly supportive of Hypothesis 1 (see Table 2). The functional form estimated through the GCV procedure, which also includes a separate smoothing spline for the effect of *Peace Years*, yields a highly significant effect for *Relative Group Size* ($p < 0.0001$).¹² As shown in Figure 4, the predicted probabilities drawn from the model conform very closely with the inferences drawn from the parametric model. The results again show that the likelihood of conflict peaks for groups which

comprise approximately 25% of the total country population. Moreover, the model shows that the effects of *Relative Group Size* are highly significant, not only in statistical terms, but also in substantive terms. Holding all else constant, shifting from $r = 0.02$ to $r = 0.25$ nearly triples the likelihood of observing internal collective violence. This is strong evidence that the curvilinear relationship estimated between *Relative Group Size* and *Fracture* is not a mere artifact of the functional form assumptions imposed by the quadratic interaction term, but rather is a real property of the data in our sample. Indeed, given the flexibility of the spline regression model, it is remarkable that such a simple functional form was selected. The model estimates the effective degrees of freedom in the relationship to be 1.916, which indicates that the function requires only a small number of "knots" (changes in the direction of the curve) to account for the observed patterns.¹³

The spline regressions also provide the ideal means of testing our secondary hypotheses, H2b and H3b. Recall that our model predicts that r^* , the relative group size at which internal violence is optimally produced, will vary across different social and political contexts. In particular, we expect r^* to be higher when state suppressive activities are inhibited, and we expect r^* to be lower in groups with greater levels of internal cohesion. To test these conjectures, we estimate spline regressions on separate subsamples of our data, allowing us to estimate changes in r^* at a far greater level of precision than would be possible with purely parametric approaches that enforce a quadratic functional form. For the first conjecture (H2b), we draw the subsample from upper end of the *XPolity* distribution (i.e. observations for which $XPolity > 5$), and for the second conjecture (H3b) we draw the subsample of linguistically distinct groups (i.e. observations for which $Language = 1$). Because imbalance in the distribution of group sizes between these subsamples could bias our inferences, we also conduct

robustness checks in which we use Coarsened Exact Matching (Iacus, King, and Porro 2009) to generate matched subsamples with nearly identical distributions of group sizes. In every case, we find that the results reported below are substantively equivalent, regardless of whether the raw subsamples or the matched subsamples are used.

As reported in Table 2, the smooths of *Relative Group Size* remain strongly significant across each of the subsamples. However, the specific shapes estimated by the spline function vary greatly across these conditions. The relationships can be more readily visualized by plotting the predicted probability of internal violence as a function of *Relative Group Size* for each subsample, as shown in Figure 5. As predicted by our theory, the plot shows that the optimal production of internal violence occurs at much lower group sizes within the *Language* subsample, and occurs at much higher group sizes within the *Democracy* subsample. Whereas this optimum point was estimated at $r^* = 0.25$ for the full sample, within the *Language* subsample we estimate $r^* = 0.11$ and within the *Democracy* subsample we estimate $r^* = 0.38$. This represents additional evidence that the specific mechanism we postulated — the two-level tradeoff between internal pressures of fragmentation and external pressures of suppression — is actually driving the curvilinear relationship between *Relative Group Size* and the likelihood of internal collective violence that we observe in the data.

Conclusion

Taken as a whole, the evidence presented here lends substantial credence to our two-level model of group fragmentation, demonstrating that internal collective violence is produced through the efforts of sub-group entrepreneurs seeking leverage in intra-group distributional conflicts, while also demonstrating that such intra-group battles necessarily occur in the shadow

of state power. This account allowed us to generate the counter-intuitive prediction that the likelihood of internal collective violence is a curvilinear function of relative group size, while also successfully predicting how the specific shape of that relationship should change under varying sociopolitical contexts that alter the relative strengths of the internal and external pressures operating on the production of internal collective violence. The results thus demonstrate that while political entrepreneurs may cloak their pursuits in the rhetoric of blood and kin, the underlying forces driving the emergence of intra-ethnic violence are fundamentally rooted in the pursuit of resources and power.

Moreover, while we have focused on the category of politically relevant ethnic minorities as a convenient target for empirical analysis, the implications of our account reach far beyond this class of groups. Our model is premised on the observation that such groups find themselves operating at the intersection of cross-pressures emanating from both the sub-group and supra-group levels. While this is certainly true of disadvantaged ethnic minorities, it is also true of any number of politically mobilized groups operating in the context of villages, states, or even firms. More generally, we might say that the empirical patterns identified here are characteristic of conflict in *nested hierarchies*, in which key actors are operating at both lower and higher levels of aggregation. The results presented above are thus only a starting point. If our account is correct, we should find similar empirical patterns in other conflict settings characterized by nested hierarchies of power relations. However, a more complete investigation of this possibility will have to await the efforts of future research.

Table 1. Logistic Regressions: Internal Collective Violence

	Model 1	Model 2	Model 3
Relative Group Size	9.3435** (3.8065)	9.3748*** (3.3329)	15.8190*** (4.5711)
Relative Group Size²	-18.5445** (9.2837)	-22.0764** (8.6882)	-30.5078*** (11.4102)
Race		-0.5074 (0.3365)	-0.2021 (0.4487)
Religion		0.0319 (0.2306)	0.2302 (0.3389)
Language		-1.1378*** (0.3300)	-1.2624*** (0.4160)
Transnational Dispersion		1.0742*** (0.3429)	0.6975** (0.3510)
Militant Organization		1.8125*** (0.3604)	1.7395*** (0.4462)
Rebellion		0.8294*** (0.2277)	0.7170** (0.3253)
XPolity			0.0822** (0.0387)
GDP per capita			-0.0311 (0.1913)
Total Population			0.2655** (0.1035)
Peace Years	-1.2777*** (0.1756)	-1.2712*** (0.1634)	-1.0391*** (0.1761)
Spline 1	-0.0577*** (0.0154)	-0.0591*** (0.0152)	-0.0446*** (0.0145)
Spline 2	0.0428** (0.0172)	0.0437** (0.0172)	0.0354** (0.0165)
Spline 3	-0.0175 (0.0111)	-0.0176 (0.0111)	-0.0188 (0.0125)
Constant	-1.8218*** (0.2930)	-3.8881*** (0.5487)	-7.4752*** (1.8217)
N	4473	4425	3315

Note: Robust standard errors in parentheses. ** $p < 0.05$, *** $p < 0.01$

Table 2. Semiparametric Spline Regressions: Internal Collective Violence

	Model 5	Model 6 (Democratic subsample)	Model 7 (Linguistic Subsample)
S (Relative Group Size)			
EDF	1.916	1.682	1.842
χ^2	84.81	33.59	47.08
<i>p</i>	< 0.00001	< 0.00001	< 0.00001
Deviance explained	21.5%	19.2%	18.2%
N	4473	1374	755

Note: Each model represents a semiparametric version of Model 1, estimated on a different subsample of the data. The χ^2 statistic tests the significance of the smooth of *Relative Group Size*, compared to the null hypothesis of no effect.

Figure 1. Two-Level Model of Fragmentation

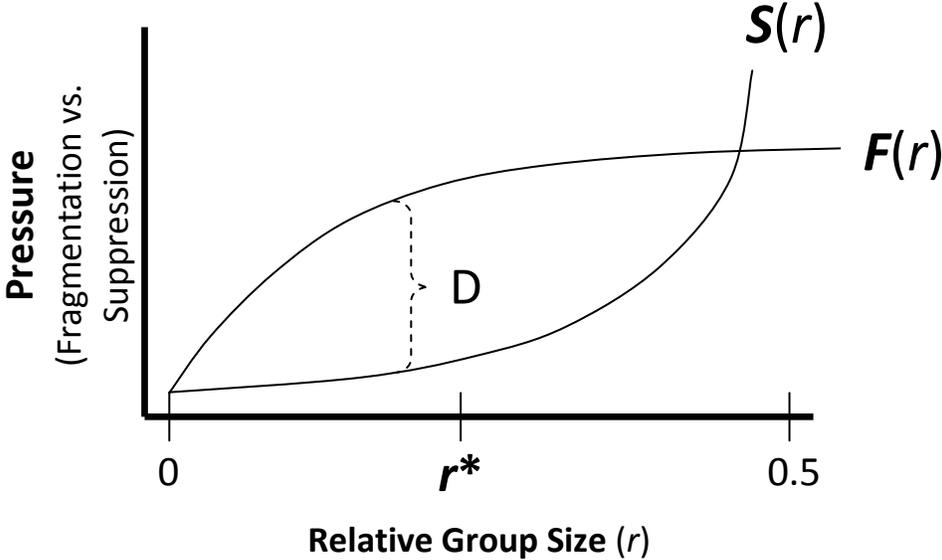
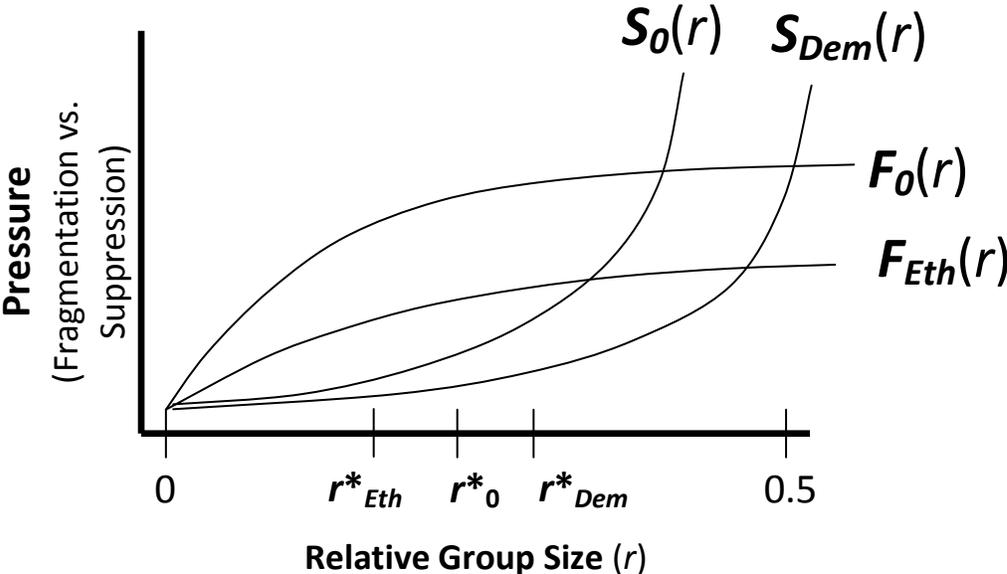
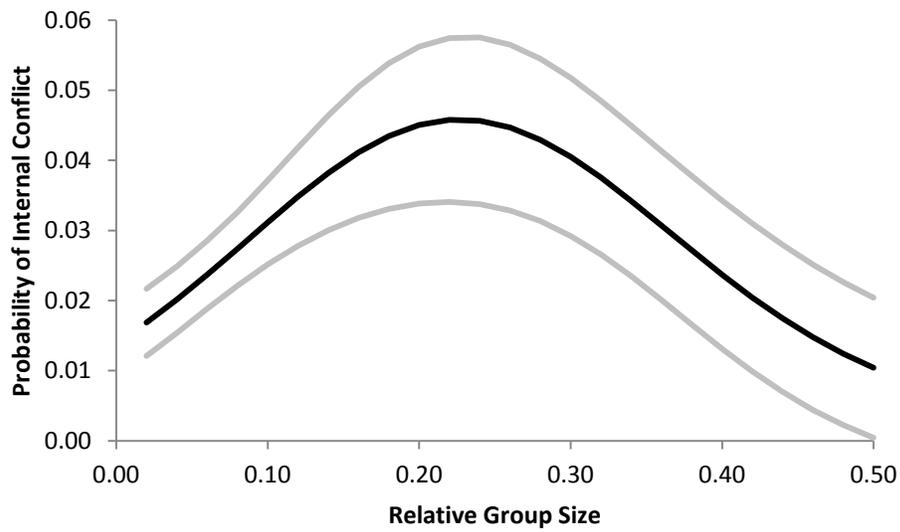


Figure 2. Fragmentation in Context

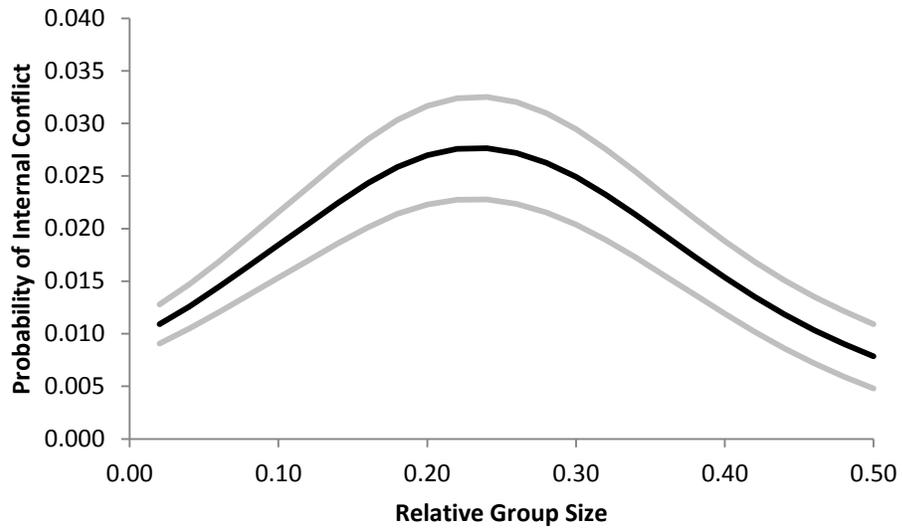


**Figure 3. Probability of Internal Conflict:
Logistic Regression with Quadratic Interaction**



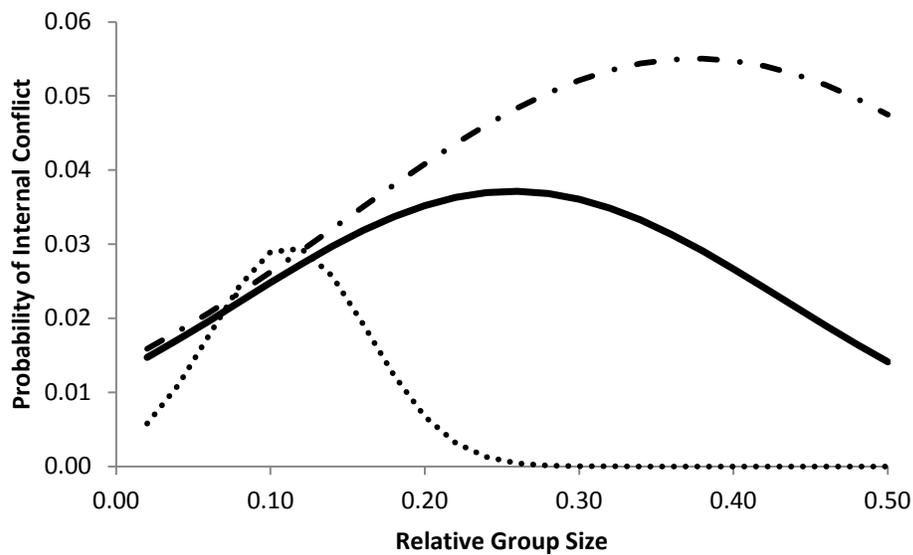
Note: Predicted probabilities based on coefficients from Model 1. Grey lines represent standard errors of the predicted probabilities.

**Figure 4. Probability of Internal Conflict:
Semiparametric Spline Regression**



Note: Predicted probabilities based on Model 5. Grey lines represent standard errors of the predicted probabilities.

**Figure 5. Probability of Internal Conflict:
Distinct Language vs. Democratic Constraints**



Note: Predicted probabilities based on Models 5, 6, and 7. The solid line shows results derived from the full sample (Model 5), the dashed line shows results derived from the *Democracy* subsample (Model 6), and the dotted line shows results derived from the *Language* subsample (Model 7).

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Footnotes

¹ For instance, Gorenburg (2000) uses survey data to demonstrate the existence of significant variations in nationalist sentiments within ethnic minority groups in the Russian Federation.

² See Duffy and Lindstrom (2002), Azam (2001), and Bahry et al. (2005) for discussions of the "solidary" incentives such organizations provide for membership.

³ Notable exceptions are the examinations of in-group policing by Fearon and Laitin (1996) and Bhavnani and Miodownik (2008).

⁴ In the following section, we relax this assumption by examining circumstances under which states would have an incentive to promote factional violence rather than suppressing it.

⁵ Wilkinson's (2004) analysis shows that states can behave quite strategically in this regard, allowing some conflicts to boil over while actively suppressing others, depending on political context.

⁶ This conjecture is also supported by the sociological literature on perceptions of group threat, which consistently finds a positive relationship between the relative size of a group and the level of threat it is perceived to pose (King and Wheelock 2007; Meuleman, Davidov, and Billiet 2009).

⁷ Note that the condition $F'(0) > S'(0)$ simply eliminates the degenerate case in which external pressure exceeds internal pressure for all values of r . Note also that it is not strictly necessary that $F''(r) < 0$ and $S''(r) \geq 0$; as long as $F''(r) < S''(r)$, the argument still holds.

⁸ The results are unchanged if we instead use the 'squared' + 'cubed' approach recommended by Carter and Signorino (2009).

⁹ We also conduct a number of robustness checks to ensure that this particular specification is not driving our results. In particular, we tried modified versions of Model 3 with the addition of a lagged dependent variable, using the standard *Polity2* index to measure democracy instead of *XPolity*, and the use alternative severity thresholds for *Rebellion*. In each instance, we find that the results are substantively equivalent to those reported here, and so we omit them in the interest of space.

¹⁰ For a discussion of the strengths and weakness associated with different approaches to the estimation of smoothing splines, see Hastie, Tibshirani and Friedman (2001).

¹¹ The model is estimated using the *mgcv* package in R; see Wood (2001) for details. For an interesting application of GCV to the study of international conflict, see Ramsey (2008).

¹² Note that the precise level of this significance test should be taken with a grain of salt, as the χ^2 test underlying it is only approximate in the context of the generalized cross-validation approach used to select the smoothing parameter.

¹³ In contrast, the smoothed form for the *Peace Years* variable has an effective degrees of freedom of 5.514, indicating a far more complex functional form is required to adequately account for the observed patterns.