Ruthless Rulers: Coalition Size and the Severity of Civil Conflict

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What explains the level of violence during civil wars? In this paper, we argue that the size of the ruling coalition is a critical determinant of the severity of conflict. To maintain control over patronage, elites will fight to ward off challengers. The degree to which they use coercion hinges upon the level of private benefits they receive, which is in turn determined by coalition size. Further, we expect democracies to be more constrained in their use of force due to larger government coalitions and constraints on power. To proxy for coalition size, we use new data on the ethnic affiliation of heads of state. An empirical analysis of over 200 armed civil conflicts reveals that conflicts involving smaller ruling coalitions yield a greater number of deaths.

How do ruling elites respond to challenges to their authority during periods of armed insurrection? Why are some civil wars particularly brutal and deadly while others are less severe? For example, when faced with the Zapatista uprising in Chiapas, the Mexican government responded in a relatively reserved manner and quickly entered into negotiations with indigenous leaders. By contrast, in 1982 in Syria, the government of Hafez Assad responded to the Muslim Brotherhood revolt by leveling the city of Hama and killing over 10,000 people in just 2 weeks. All governments, regardless of regime type, work to prevent armed insurrection, but they vary in their degree of coerciveness. Elites clearly wish to retain their dominant position, but some respond to armed challenges through mass killings while others do not. What explains this variation in conflict severity?

There has been surprisingly little attention given to this question, despite its theoretical and practical importance. Most quantitative research on armed conflict focuses on the onset or the duration of fighting (see Balch-Lindsay and Enterline 2000; Collier and Hoeffler 2000; Hegre, Ellingsen, Gates, and Gleditsch 2001; Fearon 2003, 2004), without looking in depth at the level or severity of violence.¹

Yet understanding the severity of conflict is important because we would like to know when and where fighting is likely to be especially bloody and indiscriminate. Intense civil wars often have long-term developmental consequences, not only for the state involved in fighting, but for other states as well (Murdoch and Sandler 2004; Salehyan and Gleditsch 2006).

There are several related bodies of literature, although none of these directly deal with the issue of civil war severity. For instance, several studies analyze extreme cases, such as genocide or politicide, which often, but not always, coincide with periods of civil war, without accounting for less dramatic responses to opposition groups (Rummel 1995; Krain 1997; Harff 2003). Other studies have looked at refugee flows, which may be taken as an indication of the magnitude of violence, and have found, as we should expect, oppressive regimes, civil wars, and economic misery lead to greater emigration (Schmeidl 1997; Davenport, Moore, and Poe 2003; Moore and Shellman 2004). Finally, using events data and codings of human rights reports, research on state terror has shown that democratic governments are generally less repressive than authoritarian regimes and that the level of threat is important in determining government responses (Poe and Tate 1994; Davenport 1995, 2004; Davenport and Armstrong 2004). However, this literature does not explicitly deal with violence during civil conflicts. Lacina (2006) and Kalyvas (2006) are among the first to directly deal with this subject; Lacina (2006) examines a number of variables including democracy, ethnic diversity, and economic development, while Kalyvas (2006) emphasizes territorial control and compliance with authorities in a micro-level analysis.

The level of violence in a conflict is not simply an unfortunate by-product of war, but is a strategic choice made by elites. As state actors are responsible for the supply of government violence, it is important to emphasize the motives of these groups (see Mason and Krane 1989; Moore 2000). In this paper, we argue that the size of the governing coalition determines the benefits of rule, which in turn influences repression strategies and the severity of conflict. In particular, we argue that as the size of the ruling elite decreases, the severity of civil conflicts will increase because government leaders are less constrained in their ability to use force and members of the ruling cohort are more likely to go along with campaigns of repression. When political leaders draw support from a narrow segment of society, the private benefits received by each supporter are likely to be large, providing powerful incentives for privileged groups to stay in power at all costs and support the leader’s efforts to crush political opponents. We further expect that this relationship will be different in democratic states, with democracies being more constrained in their use of force.

Although we believe that our argument is broadly generalizable, regardless of other characteristics of state elites, we believe that a useful way to approximate the size of the ruling cohort is by looking at the ethnic affiliation of the head of state. In most societies, ethnicity is not only a salient socio-political cleavage, but it is often the most important one (Fearon 1999; Caselli and Coleman 2002). Ethnicity often becomes a fault-line around which conflicts occur. Leaders draw most heavily from friends, family members, and ethnic kin for support. For example, the government of Saddam Hussein in Iraq was mainly comprised of loyal Sunni Arabs—a minority of the Iraqi population—and the Kurdish and Shia oppositions were met with torture, execution, and mass murder. Similarly, in Lebanon, the ethnic Maronite political and economic elite responded quite forcefully to challenges to their dominance.

Our work builds upon research by Barbara Harff (2003), who empirically demonstrates that genocides and politicides are more likely to occur in countries where the ruling elite is drawn from an ethnocultural minority group. Harff writes, “The

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2 While the term genocide refers to the deliberate mass killing of a particular ethnic group, the term “politicide” has been coined to refer to systematic slaughter of members of a political faction (see Harff, 2003).
narrower the ethnic base of the regime, the greater the risks of conflict that escalates to genocidal levels” (Harff 2003:64). She finds that a dummy variable for minority ruling elite is positively associated with extreme acts of violence. We further develop this theoretical argument by looking at the specific incentives and constraints that the size of the ruling coalition creates more generally. We also extend the empirical analysis by (1) looking at the full range of violence during civil war beyond state-supported genocide and (2) utilizing a continuous measure of elite ethnicity to better capture the size of the ruling cohort. Our findings confirm and expand upon Harff’s finding that smaller ruling elites lead to more intense conflicts.

In the following section, we develop an argument about the size of the winning coalition, access to state patronage, and conflict severity in greater detail. We discuss our operational definition of coalition size by arguing that ethnic affiliations are a useful way to proxy the size of the ruling elite. Following this, we discuss our data and methods and then conduct a quantitative analysis of over 200 civil conflicts. Results indicate that our main hypothesis is supported: as the size of the leader’s ethnic group decreases, the intensity of civil conflict increases. In addition, we find modest evidence that the relationship between group size and conflict severity tends to be reversed in democracies as larger ruling coalitions increase the severity of a conflict. We also find that conflicts over territory, as opposed to conflicts over the central government, tend to be less severe. The final section concludes.

**Winning Coalitions and Incentives to Maintain Power**

In this section, we develop a theory about the negative relationship between the size of the winning coalition and the intensity of conflict when leaders are faced with an armed challenge to their dominance. We combine our expectations about patron–client ties with theories of collective action to develop our main argument: the intensity of a civil conflict will increase as the size of the ruling elite decreases.

Even in the most autocratic and dictatorial regimes, leaders do not rule alone. Governing coalitions—loyal supporters drawn from a larger population—form around the leader in a mutually beneficial relationship. In return for their political support, members of these coalitions receive substantial benefits and leaders provide targeted goods in order to maximize their chances of political survival (Ames 1987; Bueno de Mesquita et al. 2003). Every regime provides a mixture of public and private goods. Although democratic governments rely more heavily upon public goods which reach large segments of the population for support (Lake and Baum 2001), even these regimes will provide “pork” to core supporters through measures like subsidies, targeted projects, and favorable contract terms (Ramseyer and Rosenbluth 1997; Shugart 1999).

Governments rarely (if ever) rely on the support of all citizens, but rather discriminate between core constituents and outsiders. When a leader steps into office, she does so by gaining the backing of a central group of supporters, or winning coalition, which comprises the subset of the population whose support is necessary for the political survival of the leader. This coalition maintains the minimal membership sufficient to sustain its position, although political institutions play a role in determining how large this group must be. Minimal coalitions are chosen over a broader base of support in order to maximize the marginal benefits to individual members and minimize the amount the ruler must pay to sustain her base of support. Leaders prefer to maintain winning coalitions that are as small as possible in order to reduce the size of payments that must be made to supporters, the remainder of which can be privately consumed. For their part, members within the winning coalition also prefer it to be small so as to reduce the number of competitors for patronage.
In addition, as the size of the winning coalition increases, the provision of public (as opposed to private) goods becomes more attractive as it is more efficient to do so (Bueno de Mesquita et al. 2003). Public goods are by definition supplied broadly, and it is relatively cheaper and more efficient for governments to provide such goods when they must rely upon a larger support base. Moreover, in large-coalition systems it is difficult to identify individual supporters and grant them targeted goods, again making public goods provision more attractive.

This mutually beneficial relationship between leaders and their winning coalitions inspires the formation of strong bonds of loyalty. Political scientists often make the assumption that incumbents seek to maintain office, and this claim has become almost axiomatic in the literature; but equally important, we believe, is the desire for supporters to maintain current and future streams of private benefits through lending their support to that leader. Challenges to the leader’s dominant position are therefore likely to be strongly opposed by those who expect to benefit from his or her rule. The size of the winning coalition plays a major role in determining the benefits of membership, which in turn influences how loyal supporters are to the leader. Smaller coalitions yield higher per-person benefits and thus a higher degree of political loyalty.3

The implications of this argument are clearly dissimilar in different political systems as institutional variation greatly influences the size of the winning coalition needed to rule (Shugart 1999; Haggard and McCubbins 2001).4 In autocratic systems where the winning coalition is often fairly small, those in the coalition will demonstrate a very strong loyalty toward the leader for fear of permanent exclusion if a challenger deposes the government. In the most extreme cases, personalistic dictatorships may involve no more than the leader and a small inner circle of supporters who are lavished with patronage in exchange for their allegiance. Other authoritarian types, such as one-party regimes, may increase the size of the winning coalition, but by and large continue to exclude vast segments of society.

By contrast, in democratic systems, the winning coalition tends to be larger on average. Although there are exceptions, democratic governments typically need to maintain the support of at least the median voter to stay in power.5 Because of the increase in coalition size, the risks and costs associated with abandoning the leader are fewer as the private benefits each supporter receives in exchange for her loyalty are diminished. In addition, in democracies with regular alternation of power, losing office today does not necessarily mean being out of power indefinitely, and so maintaining incumbency of political leaders is less critical. In authoritarian regimes, losing power is often more catastrophic due to exile, imprisonment, or even death (Goemans 2000). Finally, as democracies draw support from a larger number of people, thereby encouraging the provision of greater levels of public goods, exclusion from power is less costly in terms of benefits received. As public goods, by definition, cannot exclude members of society, if a leader loses office, supporters continue to receive future streams of public benefits.

Coalition Size and Conflict Severity

This relationship between leaders and their core supporters is crucial for understanding the conduct of governing elites in responding to threats to their rule. Leaders faced with the threat of civil conflict must mobilize their support base in

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3 Bueno de Mesquita et al. (2003) stress this “loyalty norm” in their discussion about the degree of affinity between leaders and supporters.

4 The institutionalist literature on public goods provision focuses heavily on differences between democracies. Here, we are less ambitious in scope and discuss the distinction between democracies and nondemocracies.

5 There is a vast literature on the effects of institutional design and electoral rules on the number of people represented in a democracy. For examples see Powell (2000), Cox (1997), Lijphart (1999), and Shugart (1999).
order to repress dissent quickly and forcefully, or else risk losing power. The size of the winning coalition affects the lengths to which supporters will go to maintain the leader’s rule. Typically, armed conflicts involve control over the central government or succession/territorial autonomy, both of which—if successful—imply losses for the governing elite. If an insurgent group successfully topples the government, supporters of the old regime are likely to be excluded from receiving private benefits altogether. Their stream of current and future private resources will cease, leaving them with only publicly provided goods. Even more drastically, members of the old regime may face purges, resulting in death or exile. Successful revolutions—for example, Russia, China, Iran—often lead to members of the former ruling elite being forced out of the country or exterminated. Moreover, when they form a small faction winning coalitions are easily targeted victims of persecution in the event of an overthrow. Successful succession or autonomy by a region implies a less drastic loss, but a loss nonetheless, as the central government has a diminished pool of resources (e.g., land, taxable populations, natural resources, etc.) from which to extract for its own benefit.

Following from this, our main argument is that the size of the winning coalition influences the severity of the response to insurgents, with smaller ruling coalitions leading to a greater degree of violent repression. Leaders wish to maintain their incumbency and are often willing to use heavy-handed tactics to suppress challengers to their rule. Yet leaders cannot enact repressive policies alone and the size of the winning coalition will determine the constraints to which they are subject. In a system with a small ruling coalition, the ruler is relatively less constrained in her ability to use force. She must rally her support base to come to her aid when faced with a threat, and because of strong patron–client bonds, supporters are more likely to defend the ruler in order to maintain their benefits. In large coalition systems, the benefits of patronage are not as great and so followers are less willing to pay the costs of engaging in repression. This lack of commitment to the leader will place limitations on the extent to which she can resort to violence by diminishing the willingness of supporters to rally to her aid. In sum, leaders with smaller ruling coalitions have more opportunity to be repressive because they are subject to fewer constraints than leaders with larger coalitions.

To illustrate this argument, while in power, each member of the winning coalition receives \((\pi - p)/n\) in private goods, where \(\pi\) is the total amount of resources to be distributed, \(p\) is the level of public goods supplied, and \(n\) is the number of supporters in the winning coalition. Clearly, as \(n\) decreases in size, the level of private goods received by each supporter becomes larger, thereby increasing loyalty.\(^6\) When faced with a challenger, the government could respond by accommodating opponents and including them in the winning coalition. Accommodation increases the size of \(n\) to \(n’\) which reduces the per-person rewards to coalition members; however, it is easy to see that for small values of \(n\), an increase in coalition size has a larger marginal impact on individual utilities than for larger values of \(n\).\(^7\) The government can also choose repression, in which members of the coalition must pay a cost, \(c\), for complying with the leader’s directives to engage in violence. Therefore, for individuals in the coalition, repression is more attractive than accommodation so long as: \((\pi - p)/n' < (\pi - p)/n - c\).

The implication for large coalition systems is that the benefits of excluding challengers (preventing a move from \(n\) to \(n'\)) are relatively low compared with the costs of using repression. These coalitions will constrain the leader’s ability to use

\(^6\) For simplicity, we ignore for now that public goods, \(p\), is a function of \(n\). This does not alter the basic intuition behind the argument.

\(^7\) To use a numerical example, in percentage terms, the shift in \(n\) from 10 to 11 is much larger than a shift from 100 to 101.
coercion as accommodation is less costly. Conversely, small coalitions will place constraints on the leader’s ability to accommodate the opposition because repression and the preservation of the coalition are relatively more attractive. Thus, we should see greater levels of violence in the latter case.

If an insurgent group is successful in winning regional autonomy or secession, the size of \( p \) is reduced, also implying a loss, but a loss of a somewhat different type. Successful autonomy campaigns do not necessarily threaten the incumbency of the ruling elite directly or affect the size of the winning coalition at the center. However, the loss of tax revenues and land resources diminishes the overall resources of the state and a decline in the level of payments that can be made to the winning coalition. In either case, when the size of the winning coalition is small, this group has strong incentives to fight hard to maintain their level of benefits. However, territorial autonomy campaigns may provoke less of a reactionary backlash because they are less likely to threaten the leader’s tenure in office.

As a final point, given the collective action problem that mobilization presents—including mobilizing supporters to repress challengers—we expect that where the government draws its support from a smaller winning coalition, they will find it easier to overcome collective action problems (Hardin 1982). From the ruling cohort’s perspective, repression may be considered a “public good.” Most studies have focused on the problems of collective action on the part of potential rebels (Lichbach 1995; Gates 2002), while paying less attention to the problem leaders face in mobilizing a support base. However, while governments have police and military forces at their disposal, the support of these agents is by no means assured. State security forces often crumble or turncoat when challengers emerge. Leaders cannot necessarily be certain of support and must overcome free-rider incentives among their supporters in mobilizing against the threat from a civil conflict.

Large groups have more difficulty overcoming the free-rider problem. Smaller groups, on the other hand, find it easier to monitor their members, prevent free riding, and overcome collective action problems (Olson 1965). Furthermore, the selective benefits given to the privileged group can be more easily doled out to ensure support, as can negative sanctions, when group size is small. For these reasons, we expect that when faced with a threat, leaders who have smaller support groups will find it easier to mobilize their supporters and make sure that members contribute to the security of the winning coalition.

**Hypotheses**

Based upon these arguments, we develop three interrelated hypotheses about coalition size and the severity of conflict. Although we do not believe that the motivations and tactics of rebels are irrelevant to conflict severity, our main focus here is on government incentives. We will, however, include a number of controls that we believe to be associated with rebel killings. First, we expect that because it is easier for small groups to overcome collective action problems and because loyalty to leaders is likely to be strong in cases where the winning coalition is small, the size of the ruling elite will be a critical determinant of severity of the of civil conflicts. More formally, we state this hypothesis as follows:

**Hypothesis 1:** (Size of winning coalition): As the size of the leader’s winning coalition decreases, the severity of conflict will increase.

Our second hypothesis relates to the character of democratic institutions. We expect that democracies will be less heavy-handed in responding to threats. Democracies encourage a larger coalition size, but independent of the effect of democracy on the size of the ruling cohort, such regimes place greater checks on
executives and provide significant protections for individual rights. Thus, our first expectation is that in the aggregate democracies will kill fewer people when threats emerge. In related work, others have found greater respect for human rights and lower levels of state terror in democratic states (Poe and Tate 1994; Davenport 2004). Secondly, to the extent that coalition size varies independently of democracy, we expect the relationship between the size of the winning coalition and violence to be different in autocratic versus democratic states with the variation in coalition size having a less pronounced effect in democracies. This suggests an interactive effect between regime type and coalition size as democratic institutions reduce the impact of coalition size.

Hypothesis 2a: (Democracies): Conflicts will be less severe in democratic states.

Hypothesis 2b: (Democracies and coalition size): The effect of coalition size on conflict severity will be different in democracies, with democratic institutions mitigating the effect of coalition size.

Ethnic Nepotism and Winning Coalitions

In practice, it is quite difficult to determine the exact size of the support base for any given leader. However, in nearly all societies, ethnicity is a salient and often dominant political cleavage (Rabushka and Shepsle 1972; Lijphart 1977; Horowitz 1985; Gurr 2000), and ethnic nepotism heavily shapes the contours of the winning coalition. Leaders are often expected by members of their tribe, clan, or denomination, to provide benefits to their kin, which is why, in several parts of the world, parties coalesce around ethnic cleavages (Ferree 2004). We do not assume that ethnicity is fixed or “primordial”; rather, we agree with the view that salient ethnic identities are socially constructed and partially a function of incentives generated by social and political institutions (Miles and Rochefort 1991; Laitin 1998; Posner 2004). However, ethnicity is not easily and instantly manipulated either; at least in the short to medium term, ethnic identities are stable, and changing understandings of ethnicity evolve rather slowly. People cannot change their ethnicity “at will” and are constrained in their menu of available identities by phenotypic traits and social constraints. Changing conceptions of ethnicity require a broad social consensus, and historical attachments to ethnic symbols and narratives ensure a certain stability of ethnic identities, which makes classifying a collectivity as an ethnic group meaningful.

Because of denser interpersonal networks within ethnocultural groups, ethnic ruling coalitions are often easier to construct and have certain advantages. Fearon (1999) and Caselli and Coleman (2002) argue that the ascribed nature of ethnicity favors the creation of coalitions based on ethnicity as opposed to other traits, which are not easily identifiable. Ethnicity is used as a mechanism to “distinguish losers from winners so that they can be excluded from entry into the winners’ coalition,” (Fearon 1999:2). When ethnicity imparts boundaries to winning coalitions, transferring membership between coalitions is nearly impossible. Therefore, leaders often draw upon an ethnic support base because switching loyalty between political groups is difficult and because it allows leaders to clearly distinguish between supporters and outsiders. Ethnicity thus acts as a useful cue to both politicians and members of the public. Politicians use ethnicity to determine who their supporters are and maintain patron–client bonds, and people at large use ethnicity as a way of determining their chances of being included in the winning coalition and receiving private benefits.

Finally, although we reject strict biological/genetic arguments for ethnic nepotism (Vanhanen 1999), family and social ties are important determinants of who is included in the winning coalition. Social networks are denser within ethnic groups
than across them. Because repeated interaction with members of one’s family, close network of friends, and associates inspires trust—either through rational mechanisms (Kreps 1990) or affective ties (Putnam 1993, 2000)—leaders will tend to favor members of this inner circle as members of their winning coalition. As one’s associates often come from members of the same ethnicity, drawing from this group for support tends to heavily include members of a particular ethnic background by default.

There is an extensive literature on ethnic cleavages and political/economic performance, which further supports our claim that ethnic divisions have an important influence on policy outcomes. Easterly and Levine (1997) demonstrate, using cross-national data, that economic growth and public goods provision are negatively associated with ethnic heterogeneity. Using data at the subnational level, Alesina, Baqir, and Easterly (1999) and Miguel and Gugerty (2005) demonstrate that ethnic divisions decrease the provision of public goods in the United States and Kenya, respectively. While these studies do not focus of violence per se, they lend support to the claim that ethnic cleavages are often quite important determinants of the allocation of resources. Moreover, findings that broadly based public goods are less forthcoming in divided societies are entirely consistent with our claim that exclusionary policies often follow ethnic cleavages. Leaders often use ethnic markers to identify coalition members in order to dole out private benefits and exclude non-members.

Although our main arguments described above should apply more generally, we believe that the ethnicity of the leader can serve as a useful proxy for the winning coalition. Of course, this is not a perfect measure because other cleavages may be important as well. We do not claim that intraethnic divisions are irrelevant or that interethnic coalitions are impossible to construct. However, in the absence of better measures of coalition size, we believe that this indicator is a useful first-step, and in general, it is an appropriate approximation of our main concept. Our reading of several cases—for example, Rhodesia, South Africa, Iraq, Syria, and Bosnia—confirms that ethnic divisions heavily shape the composition of the ruling elite. Below, we also discuss an alternative nonethnic measure of coalition size and demonstrate that our key results hold regardless of the indicator used. As an additional robustness check, we will limit our analysis to cases of ethnic civil war because ethnic cleavages may be particularly salient under these circumstances.

Data and Methods

We measure the severity of violence by the total number of deaths that occur during an entire conflict episode. Because we do not have reliable annualized fatalities data, we use information on the total number of deaths for the entire rebellion period. Therefore, our unit of observation is the time span of the entire conflict. Our dependent variable in this analysis comes from the battle-deaths data compiled by Bethany Lacina and Nils Petter Gleditsch (2005). This data provides estimates of the number of persons killed during the armed conflicts listed in the Uppsala University/Peace Research Institute of Oslo Armed Conflicts Data Set (Gleditsch, Wallensteen, Eriksson, Sollenberg, and Strand 2002). For inclusion in this data set, the conflict must include fighting between the government and a specific organized rebel group seeking control over the government or territory. This data is especially useful for our purposes as conflicts that generate a low threshold of at least 25 deaths are included, giving us ample variation on our dependent variable. Using the higher battle-death threshold of 1,000 deaths as in the Correlates of War project (Singer 1987) or the Fearon and Laitin (2003) data would be problematic because it would only include rather high values of the dependent variable. Three estimates are given in the battle-deaths data, a low estimate, a high estimate, and a “best guess”—in all cases we use the best guess estimate for battle deaths.
Unfortunately, there are no good data that disaggregate fatalities committed by the government and those committed by rebel forces, although our theory relates mainly to government killings. However, we believe that it is reasonable to use this data set, despite this limitation. Based upon our reading of several cases, in the vast majority of conflicts the ability of the state to inflict casualties is higher than that of the rebels, leading these figures to predominantly reflect government-induced deaths. Moreover, government and rebel killings are likely to be highly correlated. Finally, as we will discuss below, we include several control measures to account for the strength of the rebel group(s), which should be related to rebel-caused deaths. Instead of using the raw count of persons killed, we use the natural log of the death rate in a country. The death rate is found by dividing deaths by population (in 100,000s), using population figures at the beginning of the conflict. This practice ensures comparability between more and less populous countries and logging reduces the skewness in the data.

Our main independent variable is size of the winning coalition, which we proxy for by including our own data on the size of the leader’s ethnic group. To construct this data, we first identified all of the leaders who served during the period of armed conflict in question using the leader data complied by Goemans, Gleditsch, and Chiozza (2006). Second, we gathered data on the ethnic group of the leader primarily through assessments by the Minorities at Risk project and the Library of Congress Country Studies (2007) series, as well as a variety of secondary sources. Because ethnic names and categories often change across sources, we made certain that our ethnic labels were drawn from the list of ethnic groups compiled by Fearon (2003) in order to use this data set on our other ethnic indicators described below. Third, when there was only one leader in power during a conflict, or when all of the leaders shared the same ethnic group, this ethnicity was listed as the “dominant” group during the conflict. When there was a change in leaders that lead to a change in the ethnic group in power but no corresponding change in the conflict (a rare occurrence), the ethnicity of the leader that served for a majority of time was entered. However, for 13 cases of civil conflict, we could not reliably identify the ethnic identity of the group in power and so we treat these cases as missing. Finally, our data on leader ethnicity was merged with the Fearon (2003) ethnic groups data set, which lists the size of the ethnic group as a proportion of the country population. This group proportion variable is the independent variable of interest in our regressions.

As an alternative measure, we also ran our models using the winning coalition size variable created by Bueno de Mesquita et al. (2003). This variable is a composite measure, which uses information from the Polity IV project and data collected by Arthur Banks. This variable is attractive as a test of robustness because it is not explicitly based upon ethnic criteria. While we believe our ethnic indicator is an appropriate proxy for coalition size, using this measure will allow us to test our hypotheses using a markedly different indicator of the same general concept.

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8 We also conducted our analysis using Fearon and Laitin’s (2003) classification of civil war. Results do not change given this specification, although we do not feel it is appropriate to exclude low values of our dependent variable.

9 We also refer to Harff (2003), who shows that government-supported genocides and politicides are more likely to occur when an ethnocultural minority group is in power. These extreme acts of violence are more clearly the result of government repression. Our data and results may be seen as complementing her study.

10 The mean (log) death rate is 4.2, or 66 per 100,000 in absolute numbers.

11 For more information on the construction of the winning coalition size variable, see Bueno de Mesquita et al. (2003). The data are also available at http://www.nyu.edu/gas/dept/politics/data/bdm2s2/logic.htm. Additionally, we used their indicator of coalition size over selectorate size W/S. Our results do not change significantly using this specification, although this ratio is less germane to our theory.

12 These two measures are correlated at the 0.18 level.
To test our hypothesis about regime type and battle deaths, we use the latest version of the Polity data (Marshall and Jaggers 2002). This data is a composite index of democratic and authoritarian characteristics of a regime and ranges from \(-10\) to \(10\). Using the standard practice in the literature, we classify countries with a Polity score of \(6\) or more as democracies and create a dummy variable for these cases.\(^{13}\) Because we expect the effect of coalition size to be conditional on regime type, we include a multiplicative interaction between our democracy indicator and the group proportion variable described above.\(^{14}\)

We also consider a number of control variables. First, we include a variable for the total number of ethnic groups in a country, as listed by Fearon (2003). This variable is highly correlated with the group proportion variable because as the number of groups increases, the relative size of all groups—including the ruling group—decreases and so leaving it out of the regression would lead to substantial bias.\(^{15}\) The number of groups variable also accounts for general ethnic fragmentation in a country; we expect that when a country is highly fragmented, the number of battle deaths relative to a country’s population will decrease because rather than involving the entire country, the conflict may only affect involved groups.

Second, we include a variable for the number of years a conflict persists; clearly, longer conflicts should be correlated with a higher number of battle deaths. Third, we include a variable for Gross Domestic Product (GDP) per capita (logged), to test whether conflicts are more or less severe in wealthier countries. Fourth, we include a number of controls for external intervention. Several “civil” conflicts involve troops contributed by third-parties and so using information from the Uppsala/PRIO-Armed Conflicts Data set on internationalized civil war, we include variables for (1) intervention on behalf of the government, (2) intervention on behalf of the rebels, and (3) intervention for both government and rebels. Foreign interventions of all types are expected to increase the number of battle deaths. We believe it is especially important to control for military intervention on behalf of the rebels because when the opposition is backed by another state, death counts may heavily include killings committed by rebels (and their allies) as opposed to government forces.

We also suspect that territorial conflicts may be different from conflicts over the central government. First, killings during territorial conflicts are often limited to particular regions rather than in the country as a whole. Second, territorial conflicts almost always revolve around issues of ethnicity, perhaps making our ethnic-based indicator of coalition size more appropriate in these situations (a point we will discuss later). Third, as we argued above, territorial conflicts may imply less of a loss to members of the ruling coalition—they do not necessarily threaten the center—and provoke less of a reaction. As such, we control for territorial conflicts using a dichotomous variable differentiating territorial from governmental conflicts that comes directly from the Uppsala/PRIO data set.

Finally, we include a variable from Cunningham, Gleditsch, and Salehyan’s (2006) data set on rebel groups to measure the relative strength of the opposition. This is a five-part coding (rebels are: much weaker, weaker, parity, stronger, much stronger), which is based upon careful readings of secondary literature, newspaper accounts, the Keesings Record of World Events, and various other sources. This variable takes into account the rebels’ troop size, level of external support, control

\(^{13}\) We also ran our models with the full range of the Polity scale and results remain similar.

\(^{14}\) We do not interact democracy with the Bueno de Mesquita et al. (2003) W indicator, however. Because the W measure is based upon Polity data, collinearity between the variables makes the inclusion of interaction terms difficult.

\(^{15}\) In particular, since ruling group size and the number of ethnic groups are highly related, if we were to estimate the effect of group size by itself, without this control, we may be simply picking up the effect of ethnic pluralism. We have also used a measure of ethnic fractionalization, with similar results.
over territory, and internal cohesion.\textsuperscript{16} We expect our fatality data to be positively correlated with this measure of rebel strength. We believe that the stronger rebel groups are relative to the government, the more likely there will be a higher number of rebel-caused fatalities and, thus, a larger total death rate. Therefore, although our theory is based upon government incentives, we also control for rebel characteristics.

To estimate the models, because the death rate is a continuous measure, we employ Ordinary Least Squares regressions.\textsuperscript{17} In doing so, we are faced with a methodological challenge: several of the cases in the data set involve the same government/rebel dyad. For example, there are three conflicts listed for China versus Tibetan rebels (1950, 1956, 1959) as well as three entries for Indonesia versus Fretelin (East Timor) (1975–1987, 1992, 1997–1998). Because we cannot assume that these observations are independent, we use robust standard errors adjusted for clustering on unique conflict dyads. We also considered a number of alternative models to deal with this problem, which did not change the substantive results of our models. In cases where the same dyad appeared multiple times, we consolidated observations by taking the sum of deaths across all periods. We also clustered by country rather than dyads, and we ran a random effects Generalized Least Squares model. Neither of these affected our results significantly.

We also run our models by splitting the sample into two categories for governmental conflicts and territorial conflicts under the hunch that parameters may be nonconstant across these conflict types. Although ethnic groups may contest power at the center (e.g., Shias and Sunnis in Iraq; Tutsis and Hutus in Rwanda and Burundi), territorial conflicts are more likely to revolve around issues of ethnicity. Territorially based ethnic groups—such as Kurds, Tamils, Sikhs, Basques, etc.—often demand autonomy from the central government; in fact, there are no cases listed in which a secessionist movement was not ethnically different from the center. As our proxy for coalition size is based on ethnicity, some readers may find our justification for using this indicator to be more valid in ethnic conflicts as ethnicity is clearly a predominant cleavage in territorial autonomy campaigns.\textsuperscript{18} In an additional model that we do not report, we restricted our analysis to cases of ethnic civil war as identified by Fearon and Laitin (2003); although we lose a significant number of observations, our key results remain unchanged.

Finally, we comment on the possibility of selection bias in our results and reestimate our principal regression using a Heckman selection model. Because conflict onset and severity may not be independent processes—combatants anticipate the level of violence before choosing to fight—it may be appropriate to correct for potential biases.

### Results

Our results for the pooled models are listed in Table 1.\textsuperscript{19} In Model 1, we include all of our variables but exclude the democracy/group size interaction and the territorial conflict dummy. In Model 2, we use the winning coalition size variable from Bueno de Mesquita et al. (2003) in place of our group size variable to check the

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\textsuperscript{16} If more than one rebel group is listed during the civil war, we include data on the strongest of the groups.

\textsuperscript{17} We have also tried the Poisson and negative binomial event count estimation techniques with the log of population and duration on the right-hand side. Both models are based upon the exponential functional form. Our results are sensitive to these modeling choices. However, because we have no prior expectations about the true functional form in our data and because a linear OLS model is the best first order approximation of any true functional form, we use this estimation method.

\textsuperscript{18} For the cut for territorial conflicts, we also considered a variable which indicates the size of the ethnic group fighting for autonomy. However, this variable did not reach statistical significance nor did it affect our other results.

\textsuperscript{19} We test for multicollinearity using the variance inflation factor (VIF). These diagnostic tests reveal that this is not a major concern in our models.
robustness of our findings when using an alternative measure. In Model 3, we add the interactive term and in Model 4, we include the territorial dummy variable as well. \( P \)-values for two-tailed tests of significance are included in parentheses. All of the variables of interest are significant and in the predicted direction. \( R^2 \) of 0.55–0.59 indicate that our models explain a bit more than half of the variation in the data. Rebel strength is positively correlated with battle deaths and is significant across all models. As we should expect, stronger rebel groups generate more intense battles with the government as these conflicts often display more conventional military tactics.\(^{20}\) GDP per capita does not appear to be significantly related to conflict severity, however. As expected, longer conflicts lead to more deaths and the number of groups in a country reduces the number of deaths. Foreign interventions are also associated with a higher number of deaths, with balanced rebel/government interventions having the greatest effect.

Turning to our variables of interest, we find that the variable for size of the ruling elite is significant and negative, indicating that larger winning coalitions lead to fewer deaths during periods of conflict, confirming Hypothesis 1. Because the dependent variable is logged, the interpretation of the coefficient on group size indicates that the full range of variation on this variable from zero to one accounts for a change in \( Y \) by over 250%. As a more plausible example, using estimates from Model 1, a shift in group size from 25% of the population to 50% is associated with a 65% decrease in deaths/population, holding other variables constant. Model 2 confirms this general relationship using the alternative \( W \) measure—our results are robust to the inclusion of this nonethnic measure of coalition size. Also as expected, severity of conflicts is lower in democracies with democratic states killing on average 79% fewer people. Model 4 shows that territorial conflicts generate 76% fewer deaths than governmental conflicts. Thus, in addition to the statistical strength of the findings, the substantive effects of these variables are quite strong.

\(^{20}\) Following the suggestion of a reviewer, we also added a control variable for total government military personnel based upon Singer (1987). This did not significantly change our results.

<table>
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<th>Table 1. OLS Regressions for Battle-Deaths</th>
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<tr>
<td>Model 1</td>
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<td>Group size</td>
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<td>( W ) Score (Bueno de Mesquita et al. (2003))</td>
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<tr>
<td>Democracy</td>
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<td>Dem ( \times ) group size</td>
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<td>Rebel strength</td>
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<td>( N )</td>
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Robust standard errors were used in estimating these models, clustered on conflict dyads. \( p \)-values, in parentheses, are of two-tailed significance tests.
Turning to the interactive effect between democracies and group size (Models 3 and 4), we find a positive interaction suggesting that the effect of ethnic coalition size is different in democratic settings. We confirm our hypothesis that the negative relationship between coalition size and casualties is less pronounced for democracies. Perhaps more striking is the coefficient on the interaction term, which is considerably larger in absolute size than that of group proportion. While we cannot be reasonably certain (statistically speaking) about the true slope of the effect in democracies, this finding suggests that on average the relationship between group size and the number of battle deaths is actually reversed in democratic states. Our initial expectation was that the slope for democracies would be flatter than that of autocracies, but generally in the same direction. Instead, there is modest evidence that as the size of the ruler’s ethnic group increases in democracies, so do fatalities. We speculate that this relationship may hold for two reasons. First, for the low end of the group size measure, democratic governments that do not command majority support such as India, the governing elite must rule in coalition with others of a different ethnic background, which may lead to moderation. Second, and more disturbingly, democratic governments that have the support of a large majority of the population may find the suppression of minorities attractive (see Mann 2005 for a discussion). In many cases, democracies hope to gain electoral benefits through the suppression of minorities—“getting tough” on insurgents can be popular among democratic voters. Finally, many of these “democratic” cases involve recent transitions and unstable regimes, which may differ from established democracies. These arguments are primarily speculative and deserve further research, although we believe them to be entirely plausible.

Table 2 reports the split sample between governmental conflicts and territorial conflicts. Our indicator of coalition size may be more appropriate in territorial conflicts, because these are more likely to revolve around ethnic cleavages. Although some of the parameters have changed somewhat between the pooled and unpooled models and between different cuts of the unpooled data, our main results still hold. Across the models, coalition size continues to have a negative effect on

| Table 2: OLS Regressions Grouped by Conflict Type |
|----------------------------------|------------------|
| **Model 5**                     | **Model 6**      |
| **Government**                  | **Territory**    |
| Group size                      | \(-2.06 (.021)\) | \(-3.13 (.023)\) |
| Democracy                       | \(-3.94 (.045)\) | \(-3.15 (.059)\) |
| Dem \(\times\) group size       | \(5.05 (.131)\)  | \(4.61 (.127)\)  |
| Rebel strength                  | \(0.77 (.005)\)  | \(1.59 (<.001)\) |
| Number of groups                | \(-0.21 (.001)\) | \(-0.29 (.001)\) |
| Duration                        | \(0.19 (<.001)\) | \(0.15 (<.001)\) |
| GDP per capita                  | \(-0.07 (.399)\) | \(-0.03 (.721)\) |
| Intervention for government     | \(0.95 (.124)\)  | \(0.34 (.630)\)  |
| Intervention for reb.           | \(1.19 (.097)\)  | \(1.46 (.171)\)  |
| Intervention for both           | \(3.26 (<.001)\) | \(2.83 (<.001)\) |
| Constant                        | \(4.65 (<.001)\) | \(3.63 (.013)\)  |
| \(N\)                           | 111              | 102              |
| Clusters                        | 95               | 71               |
| \(R^2\)                         | 0.51             | 0.62             |

Robust standard errors were used in estimating these models, clustered on conflict dyads. \(p\)-values, in parentheses, are of two-tailed significance tests.

21 Yet we cannot be confident, in a statistical sense, that the coefficient of group size is different from zero for democracies.
battle deaths, although this effect is more pronounced in the territorial conflicts, judging by the larger coefficient in Model 2. Nevertheless, Hypothesis 1 continues to receive good support across conflict types. Democracy and the democracy/group size interaction have a consistent effect on conflict severity, as described previously. The interaction terms continue to suggest that across conflict types, the effect of group size in democracies is different, and perhaps even positively related to fatalities. Thus, our results hold regardless of whether conflicts are over the central government or if there is an ethnic separatist movement seeking greater autonomy.

Selection Model

Selection bias in conflict studies is often a problem because the countries where we see fighting are those that have, for certain unmodeled reasons, "selected" themselves into conflict. In other words, when studying behavior during conflict, it is important to consider why conflict occurs in the first place—rational actors should take into account the likely outcome or severity of a war before they enter into one.

Selection bias may be at work in several ways. First, when minority leaders are in power, challenger groups may be deterred from fighting if they believe repression costs will be very high. If small winning coalitions fight hard and repress severely, this would suggest that potential challengers would be more reluctant to fight. Second, insurgents may fight, believing that it will be easy to defeat smaller groups in power. If this is true, most leaders should give up before fighting erupts or be defeated quickly and with minimal bloodshed. In the cases where we see actual fighting, then, the leader believes that she can win despite the small number of members in her support group. Finally, we have suggested above that large winning coalitions may be less likely to experience fighting because it would be relatively less costly for them to accommodate challengers by including them in the winning coalition. Therefore, accommodation, rather than repression, would be the norm in systems with large winning coalitions and we would see few, if any, deaths.

This discussion suggests that it would be appropriate to use a Heckman regression to model this selection bias—rebels and governments choose to fight with the potential conflict outcome and severity in mind. The Heckman model is a method that obtains estimates for the first stage of the model (here, conflict onset) and saves a selection bias term, which it uses to correct the estimates in the outcome stage (here, conflict severity). Technically, if the process leading to the 0/1 event is correlated with subsequent outcomes within the 1 category—regardless of whether this is a strategic choice or some other process—Heckman corrects for this correlation. The two stages need not be identical, different processes may drive onset and severity; but here it is important to account for coalition size in both stages. Unfortunately, we do not have data on our main indicator of coalition size—the size of the leader’s ethnic group—for cases of nonconflict. Therefore, given this data constraint, it is not possible to conduct a selection model using our preferred indicator. However, we can use the W measure compiled by Bueno de Mesquita et al. (2003). While we have reasons to prefer our own indicator, this measure is a suitable substitute.

To estimate the conflict onset step of the selection model, we use variables from Fearon and Laitin’s (2003) article on the causes of civil conflict. Specifically, the variables we use are GDP per capita, mountainous terrain, population, and the Polity index. Table 3 reports the results from the Heckman model. For the onset process, we find that the Bueno de Mesquita et al. (2003) measure of coalition size is negatively related to conflict onset, which is consistent with the expectation that conflicts are less likely in large-coalition systems. This is in line with the argument

\[ F \text{ tests for the interacted variables reveal that they are jointly significant.} \]
that in countries with large coalitions, there are fewer excluded groups with grievances against the state and low relative costs for accommodation.

The Heckman model then corrects for this selection bias in estimating the results for conflict severity, which is reported in the top portion of Table 3. The results are largely consistent with our earlier findings. In particular, conflicts are less severe as the size of the ruling coalition increases. Furthermore, territorial conflicts are relatively less bloody. The finding that violence is less severe in democracies is not supported in this model, although this may be due to colinearity between the W measure and the Polity index. Of the control variables, the signs and significance levels are also consistent with results reported above, although GDP per capita is now significant. Thus, even when considering the possibility of selection bias, our results remain robust to this specification. Ideally, however, we would like to run this model using our ethnic indicator of coalition size, although we must await further data collection before this is possible.

**Discussion and Conclusions**

We have argued that the size of the ruling elite will determine government responses to armed insurgencies. A case example will serve to illustrate our principal findings relating to the size of the group in power. Iran and Iraq were both faced with a Kurdish insurgency, but responded in very different ways. In Iran, Persians make up a slight majority of the population, or approximately 51% of the country, and form a large share of the ruling elite. By contrast, before the removal of Saddam Hussein, the Iraqi regime was run mainly by Sunni Arabs who constitute approximately 16% of the population. Aside from being a small minority, Sunni Arabs in Iraq were not even a plurality in the country (Shia Arabs are the largest group). Despite being similar in terms of GDP, oil resources, and some cultural traditions, these governments’ responses to the Kurdish threat were quite different.
The postrevolutionary regime in Iran fought against the KDPI (Kurdish Democratic Party of Iran) throughout the 1980s and sporadically during the 1990s. This conflict has been relatively contained and has generated roughly 8,500 deaths. Iran grants Kurds limited autonomy in the province of Kurdistan and recognizes some Kurdish language and cultural rights. Kurds also have representation in the Iranian parliament as well as in regional bodies. While the conflict is very real and major human rights violations have been documented, Iran has been relatively constrained in its handling of the Kurdish question, especially in comparison with its neighbors in the region.

By contrast, the Sunni-dominated regime of Saddam Hussein saw the Kurds as a much bigger threat and committed more severe human rights violations. This small minority fought exceptionally hard against both Kurds and Shias to maintain power. The most recent phase of the conflict against Kurdish separatists in Iraq (1973–1993) has left an estimated 40,000 people dead—nearly five times the number in Iran. While Iran used (relatively) targeted repression against its Kurdish factions, Iraq engaged in indiscriminate killings against Kurdish soldiers and civilians alike. For example, the use of poison gas in Halabja in 1988 left up to 5,000 men, women, and children dead in a period of only a few days. After the first Gulf War, mass repression against the Kurds also led to a significant number of deaths and thousands of refugees. Thus, the size of the ruling elite in these two cases can account for much of the variation in response to a similar secessionist movement. The Iraqi government saw the Kurdish insurgency as a more fundamental threat, while the Iranian regime was less concerned about losing power.

As our theory suggests, the smaller the size of the group in control of the government, the more intense civil conflicts will tend to be. Through regression analysis, we find robust results in support of our hypotheses. In addition to the finding that smaller winning coalitions repress more heavily, we have also demonstrated that democracies are more constrained in their use of violence. However, we rather unexpectedly find that coalition size is positively related to battle deaths for democracies and we believe that further investigation into the conduct of democracies during periods of conflict is warranted. We also demonstrate that territorial conflicts tend to be less severe than conflicts over the center. Our results hold in analyses of all civil conflicts and when we separate conflicts into categories for territorial and governmental wars.

Looking into the characteristics of ruling elites can yield important insights about a variety of phenomenon. Bueno De Mesquita et al. (2003) have argued persuasively that the size of the winning coalition can explain a variety of domestic and foreign policies, including conflict behavior. Here, we have argued that the size of the winning coalition can explain elite responses to challengers. We have also argued that a useful way to measure coalition size is to look at the size of the leader’s ethnic group. Further research and data collection should be devoted to an examination of a larger number of cases, including during nonconflict periods. Developing useful proxies for winning coalition size is likely to improve our analyses of state repression, the causes of war and peace, the provision of public goods, and a number of other outcomes. Furthermore, it will be important to examine the strategies and motivations of rebels during periods of civil war in addition to government elites.

From a normative and policy perspective, we further believe that efforts to encourage broad winning coalitions are justified. Power-sharing pacts among large segments of the society and other institutional arrangements designed to increase...
coalition size can mitigate conflict (Lijphart 1977, 1999). Democratic institutions most obviously increase the size of the ruling elite and should be promoted. However, our results also suggest that the “tyranny of the majority” in democratic states may be a problem that must be addressed. Strong guarantees for minority rights are important to prevent abuses by the majority.

References


