Why Civil Wars Come in Different Sizes[1]

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Abstract:

Scholars of civil war have debated the relative importance of state strength, opportunity for insurgency, democratic governance, and ethnocultural factors as determinants of the onset of a civil conflict. There has been less work considering why some internal wars are more militarily severe than others. This paper tests measures of state and rebel capabilities, regime type, and cultural characteristics as predictors of total battle losses in internal conflicts as well as colonial conflicts in the period 1946-2002, using a new dataset of battle deaths. The results imply that democracy is a more important factor in containing the battle damage from civil conflict than power parity between states and rebels. Ethnicity and religion are not associated with the most militarily severe civil wars.

Key words: Civil war, insurgency, battle deaths, democracy, ethnicity

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Introduction

Civil conflict is now the dominant form of warfare, accounting for all but three of the conflicts that broke out from 1990 to 2002[3] and 90% of civilian and combatant battle deaths during the same period.[4] Scholars have investigated and begun to converge on a handful of variables that seem most important to understanding the onset, incidence, and duration of civil conflict (Sambanis 2002; Gates 2003). But battles come in all sizes. Academics commonly look for a total of at least 1000 battle deaths to define a conflict as a 'war'—a toll that the highly organized and internationally backed Dhofar Rebellion in Oman (1972-5) or the dramatic and successful 1989 uprising against Romanian President Ceausescu probably did not quite reach. Some insurgencies, like those in Mindanao in the Philippines or Tamil areas of Sri Lanka, remain geographically isolated but are nonetheless long and bloody. And a few civil wars have been giant military contests, sweeping across entire states and, at times, collapsing them entirely. The three largest internal wars of the post-WWII era—in Vietnam, China, and Afghanistan—have combined to destroy more than three million people in combat. Yet, to date, there has been little academic work on what accounts for this variation in the military severity of internal conflict.

Collier and Hoeffler (2001) have argued for the importance of factors that provide opportunities and resources for rebellion, rather than objective grievances—such as political repression, economic inequality, or ethnic divisions—in predicting the onset of internal violence. Fearon and Laitin (2003) join them in minimizing the importance of regime characteristics or societies' ethnic and religious composition. However, they offer a different interpretation of the correlation between economic variables, such as a low

[3] Based on the Uppsala/PRIO list of armed conflicts. The interstate conflicts costing more than 1000 battle deaths in a single year during this period were the Gulf War, the Ethiopia-Eritrean War, and upsurges in violence between India and Pakistan in 1999 and 2002. See Gleditsch et al. (2002) and Eriksson et al. (2003).

[4] Calculated from data presented in Lacina & Gleditsch (2003).

GDP per capita, and conflict, pointing to the ease with which an insurgency can be launched in a weak state.

Other models have put more emphasis on factors that may motivate rebellion as a popular movement rather than an insurgency by an opportunistic fringe. Elbadawi and Sambanis (2002) find that ethnic fractionalization and political repression are important factors in a model combining civil conflict onset and duration. Ellingsen (2000) similarly argues that ethnic characteristics are associated small internal conflicts, but believes they have less explanatory power than political regime and economic factors. Hegre et al. (2001) argue that transitional regimes and regime change are strongly associated with civil conflict, while Reynal-Querol (2002) finds that religious polarization and a lack of inclusiveness in the political system are particularly threatening.

All of these studies are based on the observed incidence of civil war. Thus, all conflicts have equal weight. They do not consider why, when such conflicts occur, some become quite severe in military terms, going on for years and costing hundreds of thousands of lives, while others are relatively easily defeated, geographically contained, or involve only desultory, limited, or disorganized violence. This paper investigates the debate on the relative importance of rebel advantages, state strength, regime type, and social composition as determinants of civil peace by looking at their influence on the military size of various civil conflicts, measured in battle deaths.

Knowing why some conflicts have been more severe than others is interesting for readily apparent reasons: less civil war and less deadly civil war are desirable goals for human civilization. It has been documented that there is a legacy of arrested development (Murdoch and Sandler 2002; Collier, Elliott et al. 2003) and poor public health outcomes (Krug, Dahlberg et al. 2002; Ghobarah, Huth et al. 2003) in the years after a civil war has ended in both a civil war state and its neighbors. Seven of the 10 states with the worst mortality rates among children under 5 have recently suffered a civil

war (Black, Morris et al. 2003). The magnitude of these negative impacts is likely to be related to the number of casualties during war, because militarily less severe conflicts cause less damage to physical and human capital and thus a shorter period of economic and social reconstruction. Smaller wars also lead to less internal and trans-border displacement, conditions that place populations at high risk for malnutrition and infectious disease.

Investigating conflict size is also a theoretically interesting way to illuminate the contrasting importance of rebel and state strength, regime, and social grievance in internal conflict. Do wars only become large enough to generate high numbers of battle deaths when widespread grievances turns a rebellion into a mass movement rather than marginal insurgency? Are unfavorable conditions for political settlement of conflict, such as autocracy or anocracy, tied to large conflicts? Or is the opportunity to rebel against a disorganized and poor state sufficient to cause large numbers of battle deaths, even if the insurgents are a tiny group?

This paper explores these questions by means of a new dataset of battle deaths in civil conflicts from 1946 to 2002. 'Battle deaths' refers to all combatants and civilians killed by means of violence in the course of a military contest; these fatalities can be distinguished from indirect deaths caused by war-related hardships, as well as from deaths in unorganized violence (such as rioting) or in one-sided violence (such as genocide or massacre). The focus on battle deaths would not necessarily be the most useful way to answer questions of military strategy or for determining which wars have been most costly in humanitarian terms; it is, however, a useful measure of the military size of a conflict (Lacina and Gleditsch 2003).[5]

State versus Insurgents

[5] See Lacina & Gleditsch (2003) for a full discussion of this dataset, a definition of battle deaths, and a discussion of the differing explanatory power of various measures of the human costs of conflict. The dataset and documentation of the coding decisions made are available at www.prio.no/cwp/datasets.asp

In the study of interstate war, power parity has been suggested as a necessary condition for the deadliest international conflict to occur (Kugler and Lemke 1996; Lemke 1996). World War I and II epitomize the scenario of conflict between groups of states nearly evenly matched in geopolitical resources. In their study of interstate conflict duration, Bennett and Stam (1996) argue that power parity, measured in terms of military size, quality, and state's population and economic capabilities, leads to lengthy interstate wars:

> When one side is stronger than its adversary, it will be able to inflict more damage on the adversary in a given period than the adversary is able to inflict on it, and the opponent may be quickly overwhelmed. This will lead to the weaker side surrendering sooner than it otherwise would, as it recognizes the probability of winning the ongoing conflict is small (241-2).[6]

Benson and Kugler (1998) suggest that such findings can be directly extended to internal violence, and that relative parity between government and opposition extractive capacities can be used to predict the severity of internal violence, in a manner almost identical to the well-known *War Ledger* approach to interstate violence (Organski and Kugler 1980). They show that the relative capabilities of a state and its challengers successfully predict the severity of the confrontation, measured along a scale that includes both nonfatal and fatal outcomes.[7] Using models of conflict onset, Fearon and Laitin have argued that the weakness of states is the signal factor in incidence of civil war, while Collier and Hoeffler stress variables that strengthen rebel groups. Both arguments implicitly assume that war can only exist when the normal capabilities gap between a government and its challengers narrows.

In regards to the question of the size of civil wars, theory suggests a somewhat different role for power parity. Parity seems important, but so does the absolute level of

[6] For related work on conflict outcomes see Stam (1999).

[7] The results are weakened by the fact that Benson and Kugler have only subjective data for rebel capabilities. To obtain this variable, they had regional experts rate various oppositions' capacity relative to the corresponding government (202-3). The experts were not shown the events coding that was to serve as Benson and Kugler's independent variable. In practice, however, it seems likely that experts were familiar with many of these events through their own knowledge and judged opposition effectiveness based on the nature of the challenges mounted, making the correlation between this variable and the independent variable for incidence of insurgent events somewhat tautological.

capacity at which the sides achieve equality. The possibility for a large military conflict depends on both side's ability to organize and sustain military force at a relatively high level. Immediate regime collapse may result in relatively few or even no lives being lost. Parity at very low levels of capability may result in an anarchic and disorganized conflict zone marked more by humanitarian crisis, predatory violence, and banditry than intense battle engagement. For example, armed factions in some of the world's poorest states, such as the West and Great Lakes regions of Africa, have displayed an remarkable total lack of willingness among combatants to engage in actual military combat (Mueller 2003). And both strong and weak states can struggle against very small, lightly armed bands of insurgents using guerilla tactics if they are able to operate out of an area of public sympathy, rough terrain, or otherwise limited state penetration—Northern Ireland, Palestine, and post-Baath Iraq all offer salient examples. Such guerilla conflict may certainly become very deadly, as in the Vietnam War, but it is often incapable of creating such massive combat events. More conventionally organized forces, such as those seen in the Chinese or American Civil Wars, have fought most of histories largest military conflicts.

Keeping in mind that we should expect the highest numbers of battle deaths to occur in situations where there is both parity between and a reasonable degree of military and organizational capacity by both state and rebels, it is useful to review the variables that models of conflict onset have used to proxy state and rebel strength.

Measures of State Strength

A state can be said to be strong in terms of its capacity to curtail insurgency by police and military force, as well as in terms of the bureaucratic capacity to deliver goods and services that will curb the sympathy and recruits offered to rebels. State bureaucratic capacity is also necessary in order to negotiate peace by making credible promises to implement any kind of reforms or concessions. Finally, state strength depends on the

network of roads, communications, and other infrastructure that can deliver military and bureaucratic power to any area or population.

Theories of state formation often focus on the development of rulers' extractive powers in support of war efforts. Organski and Kugler argue for the importance of taxation and extraction as a measure of state capacity:

> It should not surprise the reader that we should turn to the field of taxation in order to transform our theoretical concerns into operational measures of penetration and extraction. … Few operations of governments depend so heavily on popular support—or on fear of punishment. … Without some form of tax revenue, there is no national unity, and no control. Failure to impose and extract taxes is one of the essential indicators of governmental incapacity to obtain and maintain support (1980: 74).

A government that enjoys strong extractive capacities will have sufficient resources available to fund the military, police, bureaucracy, and infrastructure that are necessary to controlling rebellion.

Data on extractive capacities are often very limited, and in practice many studies of civil war onset instead use GDP per capita to proxy state strength.[8] A measure of national production or income, it tells us something about how much revenue is available to the state, but not necessarily how much the state obtains nor how it does so. This may have significant drawbacks. A state that has developed a bureaucracy for collecting taxes (and for delivering the threat of punishment and/or some minimal level of public goods to compel them) also has a presence in the lives of its citizens that may begin to translate into a national identity and symbiosis with the state that makes rebellion less attractive.[9] Thus, the development of extractive capacity may be important above and beyond the absolute amount of revenue obtained. Oil-producing states, while often relatively

[8] See Elbadawi & Sambanis (2002), Fearon & Laitin (2003), and Reynal-Querol (2002). Hegre et al. (2001) and Ellingsen (2000) find that a similar measure, energy consumption per capita, performs well in predicting conflict onset.

[9] Thies (2004) has investigated this relationship in the other direction, questioning whether the presence of external and internal rivals (the latter measured by occurrence of civil conflicts) enhances the level of extraction in post-colonial states. He finds that while external rivalries spur increases in states' tax-to-GDP ratio, internal political rivalries generally do not. An exception is internal ethnic rivalry, which seems to "provide the state with the symbolism it needs to ratchet up its extractive activities among elements of the population supportive of its continued rule" (68).

wealthy, tend to have weaker than normal state structures because they are assured revenue from outside the tax structure (Bates and Lien 1985); Fearon and Laitin find that dependence on oil production more than doubles the odds of civil war onset, which they argue is due to state weakness. A similar mechanism by which weak states raise money without building an elaborate state apparatus is by taxing international trade; Reno (1995) has referred to the "thin veneer" of a state in cases where a regime lives off rents from international trade and other privileges of sovereignty.

In obtaining a predicted size of a civil war, low state capacity and low national income should generally be associated with inability to contain rebellion. However, a regime that is relatively wealthy but bureaucratically weak, such as an oil producer, may be able to invest in the military force necessary to curb rebellion once it has begun, even if it has not invested in the bureaucracy needed to fully penetrate society and deliver public goods. A regime suffering from the combination of revenue poverty and a limited state apparatus will struggle to address internal challenge. Hallmarks of such regimes would include reliance on taxes from international trade, inability to control inflation, poor development of infrastructure, and poor performance on the most basic social indicators. The State Failure Project has found, for example, that high infant mortality is the best predictor of a regime set for collapse (Esty, Goldstone et al. 1998; Esty, Goldstone et al. 1998).

Proxies of Rebel Strength

Like a state, a rebel group must display organizational and military capacity, and must maintain the loyalty of its followers. Even in the face of the most odious of regimes, rebellion presents a collective action problem. The members of an insurgency run great risks and endure significant hardships for the uncertain and non-excludable public good of regime change. Rebel leaders will thus require a combination of threats and incentives to recruit and maintain a following. Gates (2002) has posited that such leaders will have

more or less ease in doing so according to the geographic, ethnic, and ideological space that exists within their following (2002). When rebels are more tightly packed in terms of physical location, cultural homogeneity, and political goals, it is easier for their leaders to monitor and motivate them. Testing such a theory is difficult, however. Lacking good information on the composition and organization of most rebel groups, conflict onset models have focused on national characteristics that seem likely to provide opportunities for insurgent leaders to either obtain rewards for their followers or to elude the state.

Collier and Hoeffler identify factors they believe provide financial resources to rebellion: national dependence on primary commodity exports, some of which are low-weight goods that can be looted; diasporas able to provide remittances; presence of a foreign backer; and a recent conflict, which they argue will mean there is leftover military hardware available. Also, the opportunity costs to rebel soldiers will be lower if young men struggle to find lucrative employment. They measure such a situation with low economic growth, low income per capita,[10] and poor rates of male secondary education. However, testing for poor economic performance prior to a civil war onset presents an endogeneity problem, because even several years before a conflict investors and households may withdraw assets from a country in anticipation of instability. Miguel, Satyanath & Sergenti (2004) use rainfall levels, which can cause negative shocks to Sub-Saharan African countries' economic growth, as an instrumental variable to circumvent this issue. Because civil wars do not change the weather, at least directly, a drop in rainfall before conflict is a more truly independent observation of adverse economic conditions. They find a positive relationship between negative growth shocks due to weather and onset of civil conflict, and argue that public works programs could be used to mitigate the problem of excessive unemployment in the aftermath of such events.

[10] Fearon and Laitin find that per capita income performs better in conflict onset models than percentage of young males in the population or rates of male secondary schooling. They argue that this implies that income per capita is a proxy of state capacity rather than a surplus population of potential rebels.

Beyond money and men, organization needs of rebellion have been related to geography. Large tracts of thinly populated rural land, mountains, swamps, and jungles all require a more extensive and sophisticated infrastructure network if state military or bureaucratic presence is going to spread across the country. Such areas also provide cover for insurgents and are difficult to police thoroughly. Fearon and Laitin argue that rural populations are more easily monitored by rebel groups than are urban dwellers: "Local knowledge allows the active rebels to threaten retribution for denunciation credibly. … In the city, anonymous denunciation is easier to get away with" (Ibid: 80). Following such theory, both the Collier and Hoeffler and Fearon and Laitin models find terrain and/or low population density play a role in predicting conflict onset.

Factors enabling the start of a rebellion may also lower the costs of continuing it. However, those resources that provide finance and willing young men to insurgency may work to the government's advantage as well. The presence of marketable commodities, high levels of remittances, foreign patrons, black markets in military hardware, and idle young men can, in theory, provide opportunities to both sides of the conflict. Depending on how gains control of these resources and when, and their military fortunes to that point, they may speed the end of the conflict or allow one side to avoid a pending defeat and thus prolong it. In terms of sheer intensity, remittances, foreign patronage, and readily available military hardware assist combatants in becoming better armed. Unless this advantage becomes quite lopsided and leads to a rapid victory of one side, the conflict will probably become bloodier. Natural resources, however, may play a more complicated role. Battles may be fought to control natural resources in otherwise non-strategic areas, but may also lead combatants to allow fighting to lull or even cooperate with the other side while they pursue plunder (Ross 2004). In fact, lootable commodities that are relatively simple to extract, such as alluvial diamonds, should tend to contribute

to the formation of combatant groups that are decentralized and prone to indiscipline, and thus often ineffective militarily.

Terrain that may aid rebellion is also not necessarily that which is most likely to lead to the largest civil wars. When rural and other thinly populated areas provide rebel groups with useful havens, they should be able to elude the state and fight a longer war. But rough terrain, such as mountains and swamps, while useful for eluding capture and continuing a rebellion with only a small force, has military disadvantages for both sides of the conflict. In such areas, guerilla tactics will often be most useful. Both sides will probably have to deploy in relatively small clusters, reducing the number of people involved per engagement. Such wars can be devastatingly deadly. But the rapid creation of very large numbers of battle losses is more frequently associated with open territories where large forces can be deployed, visibility is good for aerial strikes and heavy artillery bombardment, and heavy weaponry such as tanks can operate.

The Impact of Democracy

In addition to considering state and rebel strength, scholars have investigated the importance of various regime arrangements to the onset of civil violence. Plausibly, where the state is widely perceived as responsive and legitimate, armed challenge should become unthinkable for most of the populace. Conversely, autocracy and repression provide real grievances among the populace. Yet a number of models (Benson and Kugler, Collier and Hoeffler, Fearon and Laitin) find that economic measures trump democracy in explaining conflict outbreak.

Elbadawi and Sambanis (2002) provide a model of civil war prevalence (onset and duration) that dissents from this result. They find that democracy is negatively associated with conflict, especially if one looks at the regime type several years before the outbreak of conflict, suggesting that consolidating a democratic history offers the best protection against violence. Reynal-Querol (2002) does not find that democracy broadly

defined predicts a reduction in civil war, but she places regime arrangements along a scale of inclusiveness[11] and finds that more inclusive arrangements have a negative relationship to ethnic conflicts. These results imply that the depth of a democracy and its ability to address the concerns of all constituencies is the most important feature of liberal government in conflict prevention.

In a somewhat similar vein, others have argued that the relationship between regime and conflict may be parabolic, with consolidated democracies and autocracies suffering little or no violence. Hegre et al. (2001) examine the association between internal violence and regimes that are neither fully autocratic nor democratic.[12] Using a non-linear term to measure democracy, they find that intermediate regimes are at highest risk for internal war, even controlling for recent regime transitions.[13] Such results suggest that intermediate regimes, inherently incoherent in their mix of features, arise because of competing internal elites. Disunity makes the government highly vulnerable to challenge from within and without. Benson and Kugler likewise emphasize the immunity from civil conflict of democracies that are also strong states, which arises because "effective democracies not only provide institutional guarantees of expression to their populations but also can effectively implement the rules agreed on by the majority" (Ibid.: 199). In their models, they find that democratic regimes enjoy reduced threats of violence when compared to authoritarian regimes with similar state capacities.

Why might regime arrangements impact the size, as well as the onset, of a civil war? Autocracy and political repression provide grievances that could increase the amount of support a rebellion attracts. However, effective repression could also dissuade

[11] From worst to best: authoritarian, partially free, majoritarian, presidential, proportional.
[12] The civil war-prone nature of such regimes has been found by a number of studies, including the models by Collier & Hoeffler, Fearon & Laitin, and Reynal-Querol discussed in this paper. See also Ellingsen (2000) and Sambanis (2001).
[13] Elbadawi and Sambanis also find that the conflict risk of regime change is less severe for democracies: "This suggests that polities with deeper democracies may be better able to handle regime transitions than midlevel regimes or autocracies" (Ibid.: 331).

many from daring any challenge against the state. Insurgency is illegal in all societies, but perhaps democratic guarantees of due process and civil liberties are a weakness when it comes to countering internal violence.

Of course, governments as well as rebels kill people in a civil war. And democratic governments may be more restrained in their actions against combatants and civilians because of institutional checks on their powers (such as courts where human rights cases can be heard) or public pressure that arises from empathy for civilians or sympathy with insurgent goals. Valentino, Huth & Balch-Lindsay (2004) argue that democratic governments are less likely to resort to mass killings of the civilian supporters of elusive guerilla insurgents. Democracy is also negatively associated with incidence of genocide (Harff 2003). On the other hand, the public may support very firm measures to control insurgents and safeguard the nation, especially if the rebels are obviously distinct from the majority in some way (e.g. ethnic separatists) or tainted by their own violent history. For example, Russian voters by and large support a firm stance toward Chechnya, Filipinos have been largely unsympathetic to the Moro insurgency in Mindanao, and Columbians opted for President Uribe's promise of a more aggressive approach toward ongoing narco-rebellion.

Democracies may end as well as conduct wars differently. They have the ability to use representative structures of government to address opposition grievances and provide for power-sharing, for example devolving powers to regional or separatist elites. A process of democratization during a civil war may also mark a move towards peace through power sharing or other changes in regime arrangements and, thus, the chance, to arrest the build-up of battle loses. For example, India has dealt with internal insurgencies by developing a looser federalism among its states and tribal areas. The threat of post-WWII internal insurgency by communists in a variety of European countries gradually disappeared as far-left factions became incorporated in the political process. In El

Salvador, Guatemala, and Nicaragua, uneven processes of democratization gradually incorporated rebels into elections and eventually ended theses interlinked civil wars. A power-sharing government that presides over a transition to post-conflict elections is now the basic formula for most peace negotiations supported by the international community. On the other hand, democratization and regime evolution may breed instability, and strengthen irresponsible nationalist or populist leaders, thus creating conflict (Mansfield and Snyder 2002).

Finally, a possible link between democracy and lower battle losses in internal conflict come from the study of interstate war and the observation that democracies tend to win interstate wars. Reiter and Stam (2002) argue that democratic armies perform better than autocratic armies, winning international conflicts rapidly with fewer losses. They posit this edge is due to norms of individual initiative among the soldiers and the culture of meritocracy that leads to a superior officer corps and free flow of information through the chain of command. Choi (2003) has argued that democracies have coordination advantages when working with allies (for an interesting debate of this topic see also: Desch 2002; Desch 2003; Lake 2003; Reiter and Stam 2003). If these democratic advantages in military quality exist, they are likely to translate into the field of civil conflict. Similar norms of initiative and meritocracy might also suffuse the police forces and the civil service, who also play a role in curbing rebellion.

Another explanation posited for why democracies win more of the interstate wars they fight is that democratic leaders are more accountable for costly wars which leads them to select fewer wars and wars they can win easily and to adopt strategies and tactics that minimize the risk of casualties and, thus, public backlash (Bueno de Mesquita and Lalman 1992: 153-4; Bennett and Stam 1996: 243). This argument seems a less than compelling explanation of how regimes behave in civil war. States can, to some extent, choose which interstate wars they fight. For example, Siverson (1995) finds that

democratic war initiators have lower battle deaths than democratic targets or autocracies. By contrast, although a regime may invite civil unrest by its abuses, it seldom initiates or selects the conflict, at least not in a manner comparable to the almost ritualized process of escalating hostilities and diplomatic gestures that often precede an interstate war. Put simply, there is no civil war until the people fight back.

Ethnic and Religious War

The intensity of interstate conflict, it has been argued, depends in part on the salience of the issues at hand (territory being particularly important to most states) and the existence of enduring rivalries or previous disputes between the states, which tend to galvanize both political elites and publics into a willingness to pay higher costs for their foreign policy goals (Bennett and Stam 1996). Observers of civil war have similarly looked for issues or social cleavages around which a state can become enduringly divided into warring camps. The most common candidates are ethnolinguistic or religious identities. Any group needs a common identity around which to organize and cultural characteristics may readily provide one. As Thies (2004) notes in relationship to ethnicity: "The crucial distinction is the flexibility of individual loyalties, which range from relatively high levels of flexibility in ideological conflicts to almost exclusive rigidity in ethnic conflicts" (2004: 61). Similar rigidity may attach to religious confessions.

Results of conflict onset models are decidedly mixed on the importance of ethnicity and religion. Both the Collier and Hoeffler and Fearon and Laitin models minimize the importance of social identities in comparison to rebel opportunities and state strength. Collier and Hoeffler fail to find any significant association between civil conflict and ethnic or religious fractionalization or polarization, or ethnic dominance, Gini coefficients for economic inequality, or a simple ratio between a nation's richest and poorest economic strata. Fearon and Laitin likewise find that "it appears *not* to be true that a greater degree of ethnic or religious diversity—or indeed any particular cultural

demography—by itself makes a country more prone to civil war" (Ibid.: 75). Their results are similarly negative for economic inequality.[14]

Others have laid more stress on cultural factors. Hegre et al. (2001) report that ethnic heterogeneity is important to conflict onset in their model, while Reynal-Querol (2002: 29) finds that religious differences are more important than linguistic divides in predicting onset of ethnic civil wars. She argues that these religious differences are particularly fixed and nonnegotiable, although it is unclear why confession should be more rigid than linguistic identity. Elbadawi and Sambanis, in their model combining onset and duration of conflict, suggest that ethnic fractionalization does increase the risk of conflict and that the effects of political underdevelopment are amplified in polarized or ethnically dominated societies. They explain:

> Greater fractionalization implies a higher number of competing groups with potentially different preferences over the outcomes of any sociopolitical conflict. Lower levels of democracy make the peaceful articulation of demands and the adjudication of social conflicts harder, increasing the potential for grievance (Ibid.: 310).

The importance of the interaction of cultural factors and democracy is also argued by Ellingsen (2000). Considering ethnic, religious, and linguistic identities simultaneously, she finds a higher domestic conflict risk in nations with a great number of ethnic/religious/linguistic groups or in conditions of polarization. However, in the same models she reports much larger findings associated with autocracy and anocracy: the risk of internal conflict is 1.5 and 3 times greater, respectively, than what democracies face.

Given the considerable uncertainty over whether cultural identities contribute to the outbreak of conflict, should we expect them to impact conflict size?[15] If cultural

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[14] On its own, economic inequality seems to have little predictive power of civil war (Hegre, Gissinger & Gleditsch, 2003). However, where economic and cultural cleavages interact, they may be more explosive. Francis Stewart (2002) has described such inter-group disparities as horizontal inequality. Difficulties in measuring the intersection of cultural identity and economic status have limited empirical tests of this theory to date.

[15] Recall that conflict size has been defined in terms of battle deaths, which does not include one-sided violence. Certain types of one-sided violence, especially genocide, almost by definition take place only in situations of divided cultural identities. For a discussion of patterns in and determinants of massacres and

demands tend to have a particularly zero-sum nature, it may be impossible for the parties to negotiate an early end to conflict. Some have argued that the post-Cold War era has been one of apolitical and exceptionally bloody ethnic conflicts (Snow 1996; Duffield 1998; Kaldor 1999; Thies 2004). The image of ancient hatreds leading to particularly senseless violence is a frightening and powerful one.

On the other hand, despite the attention paid to it, ethnic conflict is neither truly a 'new' phenomenon (Kalyvas 2001) nor uniquely bloody.[16] Wars are a cruel business. The largest civil wars of the post-WWII era (in Vietnam and China) were primarily 'ideological' in nature. Many civil conflicts have had an ethnic dimension—Afghanistan, Cambodia, Ethiopia, Mozambique—but much of their toll in battle deaths was due not to barbaric hatreds but external military assistance that was provided (if not always used) in the name of Cold War ideological schisms.

Cultural demands are generally thought of as totally rigid, but any competition for political power is zero-sum if rival political elites are unwilling to accept each others' participation in any form. Competing ideologies or even personal rivalries may also be impossible to negotiate. Cultural identities, often tied to regional elites who respond to different constituencies, may actually lend themselves power-devolution and partial autonomy arrangements, for example the ethnic federalism of Ethiopia or India. Elites competing for control of the center or proposing ideologies for the entire nation may actually be less likely to find peaceful terms on which to live-and-let-live.

Finally, from the perspective of rebel groups' and states' strength, cultural cohesion is useful, but only up to a point. Ethnic homogeneity among rebels or loyalists may galvanize identities and strengthen allegiances, and allow elites to mobilize their

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other one-sided violence see Harff & Gurr (1988), Harff (2003), and Valentino, Huth & Balch-Lindsay (2004).

[16] The end of the Cold War has led to a paradoxical situation in which internal conflict has declined somewhat even as most media and security analysts assume a historically unprecedented wave of internal violence is underway. See Lacina (2004).

followers with lively depictions of the culturally inferior, barbarous, and primordial enemy. Thies (2004) argues that ethnic wars increase a state's extractive capacity because the regime will be particularly able to mobilize its own ethnic group. However, mobilization on cultural grounds puts a ceiling on the number of followers that a leader can compete for, at least without relaxing his rhetorical stance. One might expect, therefore, that, among cultural conflicts, the most severe would take place not in highly diverse states but ethnically polarized states, in which the majority faces a minority nearly as big. In this case, parity can more easily occur, as each group has a large number of potential supporters to tap.

Modeling Battle Deaths: Research Design

To test the military size of civil conflict, I use a new dataset of battle deaths from 1946-2002 (Lacina and Gleditsch 2003), based on the Uppsala/PRIO list of state-based armed conflicts (Gleditsch, Wallensteen et al. 2002; Eriksson, Wallensteen et al. 2003). The data were aggregated into 114 civil wars, some of which also drew international participation, as well as 14 colonial wars (see Appendix A). Purely interstate wars were excluded.

The Uppsala/PRIO dataset includes information on conflicts down to the level of 25 battle deaths in a single year. However, fatality information is often far less accurate or missing at this level. More importantly, I wish here to test only armed conflicts that required the combatants to sustain at least a modest level of organization and military engagement. With threshold of violence of just 25 battle deaths the list of conflicts includes coups lasting only a few hours, temporally-isolated terrorist strikes (such as the 1987 ETA supermarket bombing in Spain), and dramatic assassination attempts (e.g. the attack on Moroccan King Hassan's birthday party in 1971). These cases lend themselves to studies determining onset of conflict and unrest, but not to testing the dynamics of wars over time, such as how terrain impacts rebels' ability to organize or how regime type influences the ability to negotiate an end to conflict. The normal, though arbitrary,

threshold for defining civil wars is 1,000 battle deaths. To obtain a slightly larger sample size, I have included all cases with 900 or more battle deaths.[17]

Using ordinary least squares (OLS) regressions, I test the size of civil conflicts in a model in which military varies according to controls for duration and population, measures of state strength, measures of rebel strength, regime characteristics, and cultural characteristics. The unit of analysis is the civil conflict, and military severity is measured as the natural log of total battle deaths. Log transformation was used to correct both for the tremendous skew in the dependent variable, and because much of the fatalities data available consists of rounded estimates rather than exact integer values.[18] The precision of the difference in size between one conflict and another when these estimates are used is therefore somewhat spurious. As an additional check against the uncertainty that must always adhere to casualty figures, I also tested the data for total battle deaths provided by the low and high (as opposed to best) estimates in the Lacina & Gleditsch data. The results were not impacted, except in one case noted below.[19] Finally, I perform regressions using a sample that includes both civil and colonial wars in order to investigate any differences in the patterns that prevail in internal conflicts against subject peoples. These conflicts require slightly different coding of independent variables, as I explain below.

The *Duration* of the conflict is measured in years, and logged.[20] It is expected to have a positive relationship to the number of lives lost in combat. The log of the total

[17] This cut-off is admittedly equally arbitrary in theory. In practice, I chose this cut-off as the lowest value for which there were no conflicts with an unknown number of total battle deaths.
[18] See Lacina & Gleditsch (2003) for a discussion of the limitations of the data.
[19] A series of regressions were also run with a recoding of the Vietnam War, which is the largest conflict in the dataset, and one of the most difficult to categorize. After 1964 this civil war becomes an interstate war in many conflict datasets. The results presented here instead consider all battle deaths up to 1975, but the results are not substantively affected if only the violence up until 1964 is considered.
[20] 2002 was the final year of fatalities data collected, although some of these conflicts were still ongoing in 2003 or 2004. Because the regressions can take duration into account, such cases can still be tested in combination with variables measured before the start of the conflict. Their scores for democratization are marked as unknown, however, as it is not clear what the states' regime composition will be after peace has been re-established.

population was also included as a control variable. I also controlled for the degree of international participation in the war. Outside backers are a potential source of strength for either state or rebels. In a model of duration of intrastate conflicts, Regan (2000) finds that interventions on either or both sides of a conflict tend to prolong fighting, with the partial exception of military intervention on behalf of a government which can help a war to wrap-up. Intervention may also, however, create an overwhelming advantage on one side and a quick end to conflict. Examples include Indian intervention on behalf of East Pakistan (Bangladesh) in 1971 or the 1999 NATO intervention in Kosovo. But for conflict size, the effects of intervention are expected to be primarily towards more severe conflicts, by bringing more military force and organizational capacity (especially a state army backing an insurgency). Civil wars that become internationalized are most often those in strategically important countries or in which the stakes are otherwise particularly high for the international community, are they are likely to be hard-fought. Also, because the data on battle loses is not time-series, there may be a positive relationship to large conflicts that signals the interveners' response to battle deaths rather than the ones caused by their intervention. Governments are likely to ask for counterinsurgency assistance only if they feel threatened, and rebels will attract more outside patronage if they have shown themselves to be a credible fighting force. And outsiders may have humanitarian motives for entering a war that has become extremely bloody.

Dummy variables were coded to note conflicts in which at least one state made either a *Pro-Government Intervention* or *Pro-Rebel Intervention*, as recorded in Regan's intervention model. Intervention is defined as:

> …convention breaking military and/or economic activities in the internal affairs of a foreign country targeted at the authority structures of the government with the aim of affecting the balance of power between the government and opposition forces (Regan 2000: 2).

I exclude from consideration neutral interventions which did not change the military balance of a conflict.[21]

In order to measure *State and Rebel Strength,* the ideal would be a ratio between the capacities of regime and challengers, similar to the capacity ratios used to analyze power parity in interstate conflicts. For example, one could imagine a ratio between the tax capacities of each group among the populations they control. In practice, such data are simply not available. Instead, a number of variables that should signal state strength or enhance rebel strength have been tested here. In general, one expects that factors marking weak states or enhancing rebel strength should be associated with moves toward parity and thus larger civil wars. Therefore, the underlying assumption is that there is normally a great disparity in power in favor of a recognized state. However, states and rebel groups that achieve parity at very low levels of wealth and capability may not be sufficiently well armed or effective to create many battle deaths. And factors that favor rebel insurgency tactics, such as mountainous terrain, may facilitate prolonged guerilla warfare, but also make it difficult for either side to kill many opponents at a time.

Following many conflict onset models, my primary measure for state strength is *GDP per capita*.[22] The *World Development Indicators (WDI)* (The World Bank 2003) dataset includes variables that are better theoretical measures of state extractive capacity: the ratio of tax revenue to GDP and the percentage of government revenue from taxes on trade.[23] Unfortunately, the data are scarce and not available at all before the 1960s,

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[21] Regan's data includes one case of neutral intervention, that of the United Nations in the Bosnian Civil War. That intervention seemed to have too great an impact (if unintended) on patterns of battle violence to be left out of my analysis, and I have coded it as an intervention on behalf of the government here. Regression results are not substantively affected regardless of which coding is used.

[22] Logged and lagged by one year, in order to ensure a picture of the income available to the state at the beginning of the conflict rather than after some portion of one year's worth of fighting. Data taken from Fearon & Laitin (2003) and The World Bank (2003).

[23] The WDI contains other variables that, if more observations were available, would have interesting potential to proxy state strength. These include regimes' ability to control inflation and debt, measures of roads, railways, and telecommunications infrastructure, and public health indicators such as participation in immunization programs. Providing other potential measures of rebel strength, the WDI collects education and unemployment figures, and worker remittances.

yielding too few data points for a test here. There is a possible spurious correlation between low GDP or other measures of underdevelopment and numbers of battle deaths. When civil conflict occurs in especially poor nations, reliable data on fatalities will be harder to come by and estimates may be ad hoc figures without much basis in evidence such as government reports, morgue or hospital records, or demographic surveys. If such estimates tend to be systematically higher or lower than actual values, these will distort the regression results; I suspect that is there is a bias it tends to be toward overestimation and the data may, therefore, be somewhat biased in favor of finding that low GDP is associated with higher levels of battle deaths. In an attempt to focus on just one aspect of state capacity, its military strength and ability to thwart insurgency through force, I also test the number of *Military Personnel* and the amount of *Military Expenditures*; both values were logged and were taken from the year prior to the start of the war.[24] High levels of investment in the military may signal, as well as state strength, the regime's fears of a coming conflict and its build-up of anti-insurgent capacity. As a final exploration of state capacity, I test a dummy variable for states dependent on petroleum (*Oil*), defined as countries receiving more than one-third of their export revenues from fuel products (Fearon and Laitin 2003: 81). Here, expectations are ambiguous. Petrostates have weak social penetration, but they also have wealth available to purchase military capacity and crush insurgency once underway.

For factors abetting insurgency, I include *Population Density*, as well as, from the WDI, *Rural Population Density*.[25] I also test the percentage of territory that is mountainous (*Mountains*).[26] Collier and Hoeffler suggest that chronic unemployment creates a surplus population of unemployed young males who may become insurgents, although they may

[24] Data are from the Correlates of War National Militaries Capabilities dataset version 3.01 (Singer, 1972) and were downloaded with EUGene (Bennet & Stam, 2000).
[25] Population figures are taken from Fearon & Laitin (2003) and Gleditsch (2003). Land area figures are taken from the *World Development Indicators,* the CIA *World Factbook* (2004), and *The World In Figures* (The Economist, 1976). Both variables are logged and lagged by one year.

also become government recruits. In order to avoid the endogeneity problems of using GDP growth or other economic indicators to test for lack of employment opportunities, I instead test the size of the population's so-called *Youth Bulge*. An excess of individuals in their late-teens and early twenties may stress the capacity of a society to provide education, jobs, and basic services, and thus, it has been argued, lead to serious internal unrest and insecurity (Cincotta, Engelman et al. 2003). My measure is the percentage of individuals age fifteen to twenty-four out of the total population, compiled by Urdal (2002) from United Nations data.[27]

Sources of rebel financing are a final area of theoretical interest. I avoid testing a measure of primary commodity dependence as a proxy of available rebel financing, as this variable includes a number of high bulk, low value goods, especially agricultural products, which are a better signal of underdevelopment than of readily smuggled goods. Instead, I test one possible source of rebel finance, major diamond deposits. Using data from Gilmore and Lujala (2003), I code a *Diamond* dummy variable as a one if major deposits of diamonds were discovered in the state at any time prior to or during the civil war. As theories of rebel financing become more developed, and patterns of financing in the absence of Cold War aid become clearer with time, a more nuanced test of the relationship between rebel's access to capital and battle deaths will be possible.

To investigate regime characteristics, I note the combined Polity IV score (Marshall and Jaggers 2003) of the state where the civil war occurred, in the year prior to conflict outbreak (*Polity Score)*.[28] The lag is intended to capture the characteristics of the challenged incumbent regime, correcting for the possibility that first year of civil war led

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[26] Again logged and lagged. From Fearon & Laitin (2003).
[27] Again, the data was lagged one year. However, the first year of available data are from 1950. These were treated as suitable estimates for wars that began in the years 1946-50, as the measured size of a population's youth bulge changes rather slowly.
[28] The polity scale gives regimes scores from 0 to 10 in terms of both democratic and autocratic characteristics. Changing the sign on the autocracy scores and then adding the two measures places states along a range from -10 to 10.

to a change in regime score or one of the special Polity codings for a state that is so disrupted that its regime type can not be ascertained. The change in regime type (*Change in Polity Score*) over the course of the conflict is also noted for those conflicts that terminated in or before 2002, by subtracting the initial score from that noted in the year after the conflict ended. This variable therefore has both direction and magnitude. Finally, the *Polity Score Squared* variable is the initial regime score multiplied by itself, yielding high values for consolidated democracies and autocracies and low values for transitional or mixed-type regimes. If insurgency is best quelled by stable regimes, rather than any particular advantage to autocracy or democracy, this variable will perform better than the original Polity score.

Tests of cultural characteristics presented here include measures of both fractionalization and of polarization. I use *Ethnolinguistic Fractionalization* and *Religious Fractionalization* indexes that give the probabilities for two individuals from a society having different ethnic identities or belonging to different confessions, respectively.[29] Polarization (*Ethnic Polarization* and *Religious Polarization*) is based on data reporting the sizes of the largest and second largest ethnic groups and religious groups. I divide the size of the second largest group by that of the first. The resulting ratios for ethnicity and for religion gives the degree of parity in the cultural bases that competing elites have available for mobilization.

The sample of colonial conflicts is not large enough to test on its own, but it was combined with the civil wars dataset to investigate possible differences in dealing with internal insurgency in subject areas. A dummy variable for *Colonial* wars noted those conflicts that involved an extrasystemic, or non-recognized, geographic entity (see

[29] Fractionalization and size of ethnic groups come from the compilation by Fearon and Laitin, which they base in part on the Soviet *Atlas Narodov Mira* produced in 1964.

Appendix A).[30] Such wars may be characterized by extremely unequal capabilities, suggesting a low number of battle deaths. However, governments may also be particularly indiscriminate when dealing with colonized populations, and their home constituencies may be less aware of or sympathetic to rebel grievances and battle losses. Independence may also be a particularly difficult concession for governments to make. Territory, international prestige as an imperial power, and economic wealth are all at risk, and in territories where there is a significant metropole settler population, such as French Algeria or British Kenya, the possibility of native governance may be feared and bitterly contested. Finally, colonial conflicts may present particularly great counterinsurgency challenges—they require the projection of force into territory that is usually noncontiguous and distant, often poor in infrastructure, and unfamiliar to the military.

Coding of independent variables for colonial conflicts required special theoretical consideration. The control variable for total population was also drawn from the subject territory, where the greatest exposure to battle violence occurred. Intervention data for these wars were coded by me according to the criteria discussed above. In order to truly capture the factors of interest, variables for state strength—GDP, military personnel and expenditures, and oil dependence—and regime characteristics were drawn from the metropole state. Variables describing potential rebel strength—population density, terrain, presence of diamonds, size of the youth cohort—were drawn from the characteristics of the subject territory in the first year available, usually the year of independence, with the exception of the youth bulge data which is available through 1950 even for subject populations.

[30] The Uppsala/PRIO dataset codes Palestinian insurgency versus Israel and the Namibian insurgency against South Africa as civil wars. These are included with the colonial (extrasystemic) wars here. Independent variables draw on data regarding the metropole (state strength and regime character) or the subject territories (rebel strength). Such codings are more logically consistent with the actual dynamics of the conflicts than drawing all variables from the characteristics of the sovereign state, as was done for civil wars.

In terms of cultural factors, such as ethnic and religious fractionalization, colonial conflicts become more theoretically difficult to group with civil conflicts. The homogeneity within either the metropole or the subject territory could aid mobilization, while any similarities between metropole and subject populations might increase sympathy for the other side's grievances and losses. The sample here is not large enough to create a test in which colonial conflicts have scores for the cultural characteristics of the metropole and subject territories separately and in combination. Therefore, the colonial conflicts were excluded from the cultural characteristics portion of this analysis.

Modeling Battle Deaths: Findings

Table 1 lays out the results of an OLS regression for the natural log of the number of battle deaths in the civil conflicts that have taken place between 1946 and 2002. The model, despite its small sample size, obtains a reasonable goodness of fit (adjusted R-squared). The control variables, population and duration, display the expected consistent, positive relationship to number of battle deaths. Both have a coefficient of less than one implying a decreasing rate of additional fatalities as time or population expand, which is what intuition would predict.

Table 1: OLS Regression of Ln Battle Deaths in Civil Conflicts 1946-2002, Tests of State and Rebel Strength											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Ln Duration	0.49***	0.48***	0.48***	0.47***	0.50***	0.52***	0.50***	0.49***	0.50***	0.49***	0.50***
	(0.11)	(0.13)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Ln Population	0.25**	0.27**	0.22**	0.25**	0.25**	-0.0099	0.11	0.27**	0.23**	0.23**	0.24**
	(0.073)	(0.079)	(0.076)	(0.078)	(0.073)	(0.12)	(0.092)	(0.076)	(0.074)	(0.074)	(0.074)
Pro-Government Intervention	1.40***	1.37***	1.39***	1.38***	1.46***	1.57***	1.67***	1.40***	1.40***	1.40***	1.41***
	(0.27)	(0.31)	(0.30)	(0.29)	(0.28)	(0.27)	(0.29)	(0.27)	(0.27)	(0.27)	(0.28)
Pro-Rebel Intervention	0.95***	1.01***	0.89***	1.08***	0.94***	0.93***	0.94***	0.94***	0.92***	0.95***	0.95***
	(0.23)	(0.27)	(0.24)	(0.24)	(0.23)	(0.22)	(0.23)	(0.23)	(0.23)	(0.23)	(0.23)
Polity Score	-0.060**	-0.083***		-0.063**	-0.054**	-0.053**	-0.056**	-0.054**	-0.061**	-0.060**	-0.061**
	(0.018)	(0.022)		(0.018)	(0.019)	(0.018)	(0.018)	(0.094)	(0.018)	(0.018)	(0.018)
Polity Score Squared			-0.00047								
			(0.0041)								
Change in Polity Score		-0.033									
		(0.026)									
Ln GDP				0.0078							
				(0.12)							
Petrostate Dummy					0.44						
					(0.27)						
Ln Military Personnel						0.30**					
						(0.11)					
Ln Military Expenditures							0.18*				
							(0.72)				
Ln Pop Density								-0.099			
								(0.094)			
Mountains									0.14		
									(0.10)		
Diamonds										-0.12	
										(0.028)	
Youth Bulge											-0.012
											(0.023)
Constant	3.26***	2.98***	3.98**	3.13	3.13*	6.24***	3.19*	3.28*	3.14*	5.20***	3.72*
	(1.28)	(0.026)	(1.33)	(1.84)	(1.27)	(1.66)	(1.27)	(1.28)	(1.27)	(1.20)	(1.54)
N	114	89	114	107	114	114	112	114	114	68	114
Adjusted R^2	0.53	0.58	0.49	0.54	0.54	0.56	0.55	0.53	0.54	0.44	0.53

***=p<1.001; **=p<0.01, *=p<0.05

Intervention is also associated with more deadly wars. Conflicts with a pro-government intervention have been four times as deadly as those without, while pro-insurgent interventions have occurred in wars more than two and half times as lethal as normally expected.[31]

The investigation of regime characteristics is extremely thought provoking. More democratic regimes are consistently associated with smaller civil conflicts. Moves toward democracy have a negative coefficient, suggesting less militarily severe conflicts, but are not significant. The squared Polity score, which favors consolidated regimes but does not distinguish between liberal and illiberal government, is not remotely significant (p=0.909). These results suggest that democracy mitigates internal war by making it easier for the regime to credibly address grievances and grant concessions, autonomy, or

[31] The dependent variable here is log transformed, as are some of the independent variables. The coefficients are therefore somewhat less intuitive than in a basic OLS regression. The underlying basic equation (the example here has one logged and one unlogged independent variable) is of the form $\ln y = a + b_1 * \ln x_1 + b_2 * x_2$. This is mathematically equivalent to $y = a * x_1 ^ b_1 * e ^ (b_2 x_2)$. In Model 1, therefore, the coefficient of 1.4 on the dummy variable for the presence of a pro-government intervention is equivalent to multiplying the number of battle deaths by e^1.4*1—or, roughly, four.

power-sharing. Democratic military effectiveness, institutional checks on the state, and public aversion to casualties may also play a role. It does not appear to be true that democracies suffer more battle losses to rebels because of their liberality in granting civil and political rights. There is no indication in these results of adverse battlefield effects from democratization or other regime transition during war.

Variables capturing state strength have less consistent predictive power than regime type. GDP per capita has the expected negative sign but it is not significant. This may be in part due to the trade-off between the possibility for parity and some minimum level of organizational capacity, although experiments with a squared term for GDP per capita, testing for a parabolic relationship, produced similarly weak results. The petrostate dummy also performs poorly. Oil regimes often combine weak states with significant wealth, enabling a regime to develop a repressive capacity even if it has not built a strong state. Military build-up, measured in either personnel or military expenditure, has a significant positive relationship to battle deaths. These results should be treated with caution, however. In both of these regressions the significance of total population disappears, and so these variables may simply be signaling the underlying number of people exposed to the war. The correlation between large states and large armies is strong.[32] Having a large military before a very deadly civil war may also simply mean that the regime correctly anticipates major internal military conflict in its future. In that case, however, these results signal that their preparatory measures for combating insurgency did not avail them much. In fact, taken on the whole, the lack of a dramatic relationship between economic and military variables and very low battle casualties implies that counter-insurgency and state strength, while they clearly have a place in preventing conflict, provide less help in minimizing the severity of conflict. This is perhaps because it can be so very difficult to entirely squelch a long-running and committed rebellion

entirely through military means: even quite strong states have been forced to seek political solutions to deal with guerilla wars.

Factors predicting opportunities for insurgency also do not perform well. Population density, mountainous terrain, and presence of diamonds, and size of the youth bulge are insignificant. The coefficient on the diamond dummy variable and on the size of the youth cohort are actually negative implying less battle violence. The weak predictive power of the population density and terrain variables can be explained by pointing to the fact that while rural guerilla warfare is very difficult for a state to entirely squelch, it is not usually the most deadly battle tactic. Mountainous terrain, especially, should be associated with combatants moving in small groups, thus limiting the number of battle deaths either side can easily inflict in a short time. Lootable resources and unemployed young men have been called resources for insurgency. But they can equally be resources for government forces. Also, armies dependent on decentralized harvesting of natural resources and insurgent bands of discontented but ill-trained youth have serious built-in weaknesses in terms of organization and discipline and, thus, their ability to engage in or sustain combat may be limited.

Adding colonial conflicts to the sample produces largely the same results (Table 2). Duration, population, and intervention continue to be positively related to conflict. State and rebel strength measures have little explanatory power. Although military personnel and military spending are tied to larger conflicts, it is likely they are borrowing much of their explanatory power from total population.

[32] The correlation of the logged population and logged number of military personnel is 0.82. The correlation of logged population to logged military expenditure is 0.69.

Table 2: OLS Regression of Ln Battle Deaths in Civil and Colonial Conflicts 1946-2002										
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Ln Duration	0.48*** (0.11)	0.50*** (0.11)	0.48*** (0.13)	0.47*** (0.11)	0.50*** (0.11)	0.53*** (0.11)	0.50*** (0.11)	0.50*** (0.11)	0.50*** (0.11)	0.49*** (0.11)
Ln Population	0.25** (0.075)	0.25** (0.074)	0.28** (0.080)	0.26** (0.079)	0.25** (0.074)	-00077 (0.12)	0.12 (0.094)	0.28*** (0.077)	0.23** (0.074)	0.28** (0.085)
Pro-Government Intervention	1.24*** (0.27)	1.29*** (0.27)	1.23*** (0.30)	1.25*** (0.29)	1.35*** (0.27)	1.45*** (0.27)	1.53*** (0.28)	1.30*** (0.27)	1.29*** (0.27)	1.31*** (0.27)
Pro-Rebel Intervention	0.95*** (0.23)	1.02*** (0.23)	1.13*** (0.27)	1.15*** (0.24)	1.01*** (0.23)	1.00*** (0.22)	1.01*** (0.23)	1.00*** (0.23)	0.99*** (0.23)	1.03*** (0.23)
Colonial Dummy	0.27 (0.37)	-0.14 (0.41)	-0.019 (0.43)	-0.17 (0.42)	-0.077 (0.41)	-0.54 (0.43)	-0.37 (0.42)	-0.14 (0.41)	-0.025 (0.41)	-0.13 (0.048)
Colonial Dummy*Polity Score		0.10* (0.048)	0.11* (0.048)	-0.064** (0.019)	0.10* (0.048)	0.096- (0.047)	-0.096* (0.047)	0.099* (0.05)	0.091 (0.050)	-0.061** (0.019)
Polity Score	-0.044* (0.017)	-0.061** (0.019)	-0.081** (0.023)	-0.064** (0.019)	-0.055** (0.019)	-0.053** (0.018)	-0.057** (0.019)	-0.053** (0.019)	-0.061** (0.019)	-0.061** (0.019)
Change in Polity Score			-0.026 (0.026)							
Ln GDP				-0.0036 (0.13)						
Petrostate Dummy					0.41 (0.28)					
Ln Military Personnel						0.30** (0.11)				
Ln Military Expenditures							0.17* (0.73)			
Ln Pop Density								-0.11 (0.090)		
Mountains									0.17 (0.10)	
Diamonds										-0.16 (0.26)
Constant	3.40* (1.31)	3.21* (1.29)	2.83* (1.39)	3.20 (1.86)	3.09* (1.29)	6.22*** (1.69)	3.17* (1.29)	3.23*** (1.29)	3.07* (1.28)	2.83* (1.42)
N	127	127	102	120	127	127	125	127	127	127
Adjusted R^2	0.49	0.51	0.55	0.52	0.51	0.53	0.52	0.51	0.51	0.5

***=p<1.001; **=p<0.01, *=p<0.05

When added to a basic model of battle deaths, a dummy for colonial conflict has a positive but insignificant relationship to conflict size. However, when interacted with the regime characteristics of the metropole, the results are quite interesting. The results for the *Polity Score* variable shows that democratic governments are still correlated with smaller battle losses. But democratic governments actually fought slightly *more* deadly colonial wars in this period.[33] The wars most important in driving that result are the French Indochina War and the Algerian War of Independence; the only autocratic colonial power in the sample is Portugal. Thus as a finding of democratic colonialists' viciousness, these results would be weak. They are more useful in signaling that we need to consider why democratic regimes engaged in conflict have generally been able to contain battle deaths, but democratic colonialists have not. The most obvious

[33] Colonialism has always presented some difficulties for theories of the democratic peace, especially those who argue that democracies enjoy liberal norms that make them more peaceful overall, rather than simply

distinctions between those contexts are, first, the greater cultural differences between the populations which may impact public opinion, and, second, the limited non-democratic regime practices within the subject territory. A democratic government faced with colonial war, unlike its counterpart facing civil violence, does not have a readily available structure through which to pursue promises of power sharing and reform. Colonial insurgents demand a total break with the current power arrangements, and independence is perhaps the most costly economic and political concession a state can make. A colonial democratic power still has a democratic military, however, and so the importance of this factor in explaining the smaller numbers of battle deaths in democratic civil wars now seems less persuasive. Although, if liberal norms have permeated the fighting forces they may have lower morale in a colonial war which they perceive to be unjust.

Table 3: OLS Regression of Ln Battle Deaths in Civil Conflicts 1946-2002, Tests of Cultural Factors

	Model 1	Model 2	Model 3	Model 4
Ln Duration	0.53***	0.50***	0.52***	0.50***
	(0.11)	(0.11)	(0.11)	(0.11)
Ln Population	0.29***	0.25*	0.22**	0.26**
	(0.074)	(0.074)	(0.074)	(0.075)
Pro-Government Intervention	1.45***	1.40***	1.42***	1.38***
	(0.27)	(0.28)	(0.27)	(0.28)
Pro-Rebel Intervention	0.94***	0.94***	0.95***	0.94***
	(0.23)	(0.23)	(0.23)	(0.23)
Polity Score	-0.057**	-0.060**	-0.064**	-0.059**
	(0.018)	(0.018)	(0.018)	(0.018)
Ethnic Fractionalization	-0.83*			
	(0.40)			
Religious Fractionalization		0.08		
		(0.57)		
Ethnic Polarization			-0.64	
			(0.41)	
Religious Polarization				0.22
				(0.40)
Constant	2.95*	3.23*	3.82**	3.08*
	(1.26)	(1.30)	(1.32)	(1.32)
N	114	114	114	114
Adjusted R^2	0.55	0.53	0.54	0.53

***=p<1.001; **=p<0.01, *=p<0.05

among themselves. See Henderson (2002), Mann (2001), and Reiter & Stam (2002). For a defense see

Finally, Table 3 displays the results of modeling battle deaths in civil conflicts (colonial conflicts excluded) according to the cultural make-up of the state. Again, democracy is associated with smaller civil wars. Ethnic and religious make-up, measured in terms of either fractionalization or polarization, have little significance as predictive variables. The sign and significance on the ethnic fractionalization variable implies, in fact, that ethnically diverse societies have, if anything, smaller civil conflicts. This may imply something about the difficulty of mass mobilization in highly divided societies, but this result, however, was the only finding that was not confirmed in models that used the low estimates of battle deaths, or excluded the Vietnam War after 1964.[34] This argues that cultural fractionalization may not be a significant factor at all. And it is clear that there is no support here for a thesis of new, bloody 'ethnic' wars opposed to old, civilized 'ideological' civil war, a distinction that is has always been theoretically tenuous if not arbitrary. These results also fail to suggest that ethnic or religious diversity provide elites with remarkable advantages in mobilizing their followers and convincing them to bear the costs of intense conflicts.

How Many Have to Die?

Conflict onset and conflict duration are not equivalent to conflict size. Economic models of conflict have focused on state weakness and opportunities for rebellion. These forces, which tend to move a state and its would-be challengers toward parity, do not necessarily determine how deadly the conflict will be. Parity at a very low level of wealth may leave both sides fairly inept in military terms. Factors favoring insurgency may make rebellions long and difficult to stamp out, but also confined to guerilla tactics in rough terrain that are usually not the deadliest way to do battle. Cultural characteristics also do not explain the severity of military engagements.

Ravlo, Gleditsch, & Dorussen (2003).

[34] South Vietnam and North Vietnam each had a low rate of ethnic fractionalization (near the bottom 25th percentile in a world ranking) and they suffered the largest war in this dataset.

There is not yet a consensus on how and if democracy and democratization relate to conflict onset. However, in the models presented here democracy is strongly associated with the smaller size of civil conflicts. In democracies, rebellion can be undermined by addressing public grievances. Insurgents can be brought to the bargaining tables with promises of government reforms, power-sharing, or devolution of autonomy and combatant groups have the possibility of evolving into political factions and winning power through an electoral system. Democracies have institutional restraints and public pressures potentially checking wanton use of military force. And democratic armies, which seem to be more effective in interstate conflict, may enjoy some of those same battle advantages during internal conflicts.

It has been argued that grievances are so common across all societies that it is opportunity (weak states and potential rebel assets) that determines where and when the wars will actually begin. Such an observation may seem initially to suggest that democracy has little to contribute to peace and that investment in counter insurgency is the best road to state stability. Yet few if any conflicts continue until all opportunity to rebel vanishes, and the last malcontent has been arrested or killed. Rather, conflict is sustained and even intensified because an important portion of the nation continues to believe negotiation is not a credible option for influencing their political destiny. It is here, perhaps, that more democratic states or those able to move toward democracy may enjoy an advantage and suffer fewer combat deaths as a result. Wars won through state capability alone seem to have been truly Pyrrhic victories.

References

Bates, R. and D. H. D. Lien (1985). "A Note on Taxation, Development, and Representative Government." Politics and Society **14**(1): 53-70.

Bennett, D. S. and A. C. Stam (1996). "The Duration of Interstate Wars, 1816-1985." American Political Science Review **90**(2): 239–257.

Benson, M. and J. Kugler (1998). "Power Parity, Democracy, and the Severity of Internal Violence." Journal of Conflict Resolution **42**(2): 196–209.

Black, R., S. Morris, et al. (2003). "Where and Why are 10 Million Children Dying Every Year?" Lancet **361**: 2226–34.

Bueno de Mesquita, B. and D. Lalman (1992). War and Reason: Domestic Imperatives and International Imperatives. New Have, CT, Yale University.

Choi, A. (2003). "The Power of Democratic Cooperation." International Security **28**(1): 142–153.

Cincotta, R. P., R. Engelman, et al. (2003). The Security Demographic. Washington, DC, Population Action International.

Collier, P., L. Elliott, et al. (2003). Breaking the Conflict Trap: Civil War and Development Policy. Oxford, Oxford University Press.

Collier, P. and A. Hoeffler (2001). Greed and Grievance in Civil War. Washington, DC, World Bank.

Desch, M. C. (2002). "Democracy and Victory: Why Regime Type Hardly Matters." International Security **27**(2): 5–47.

Desch, M. C. (2003). "Fair Fights or Food Fights?" International Security **28**(1): 180–194.

Duffield, M. (1998). "Post-Modern Conflict: Warlords, Post-adjustment States and Private Protection." Civil Wars **1**(1): 65-102.

Elbadawi, I. A. and N. Sambanis (2002). "How Much War Will We See? Explaining the Prevalence of Civil War." Journal of Conflict Resolution **46**(3): 307–334.

Ellingsen, T. (2000). "Colorful Community or Ethnic Witches' Brew?" Journal of Conflict Resolution **44**(2): 228-49.

Eriksson, M., P. Wallensteen, et al. (2003). "Armed Conflict, 1989–2002." Journal of Peace Research **40**(5): 593–607.

Esty, D. C., J. Goldstone, et al. (1998). The State Failure Project: Early Warning Research for U.S. Foreign Policy Planning. Preventive Measures: Building Risk Assessment and Crisis Early Warning Systems. J. L. Davies and T. R. Gurr. Lanham, MD, Rowman and Littlefield.

Esty, D. C., J. Goldstone, et al. (1998). "The State Failure Report: Phase II Findings." Environmental Change and Security Project Report 5.

Fearon, J. D. and D. D. Laitin (2003). "Ethnicity, Insurgency, and Civil War." American Political Science Review **97**(1): 75-90.

Gates, S. (2002). "Recruitment and Allegiance: The Microfoundations of Rebellion." Journal of Conflict Resolution **46**(1): 111-120.

Gates, S. (2003). Empirically Assessing the Causes of Civil War. Oslo, Centre for the Study of Civil War, PRIO. Manuscript.

Ghobarah, H. A., P. K. Huth, et al. (2003). "Civil Wars Kill and Maim People–Long after the Shooting Stops." American Political Science Review **97**(2): 189–202.

Gilmore, E. and P. Lujala (2003). The Location of Natural Resources Database. ECPR Joint Session of Workshops, Edinburgh.

Gleditsch, N. P., P. Wallensteen, et al. (2002). "Armed Conflict 1946–2001: A New Dataset." Journal of Peace Research **39**(5): 615–637.

Harff, B. (2003). "No Lessons Learned from the Holocaust? Assessing Risks of Genocide and Political Mass Murder since 1955." American Political Science Review **97**(1): 57–73.

Hegre, H., T. Ellingsen, et al. (2001). "Towards a Democratic Civil Peace?" American Political Science Review **95**(1): 33–48.

Henderson, E. A. (2002). Democracy and War: The End of an Illusion. Boulder, CO, Lynne Reiner.

Kaldor, M. (1999). New and Old Wars: Organized Violence in a Global Era. Stanford, CA, Stanford University Press.

Kalyvas, S. N. (2001). ""New" and "Old" Civil Wars: A Valid Distinction?" World Politics **54**(1): 99-118.

Krug, E. G., L. L. Dahlberg, et al. (2002). World Report on Violence and Health. Geneva, World Health Organization.

Kugler, J. and D. Lemke (1996). The Evolution of the Power Transition Perspective. Parity and War: Evaluations and Extensions of The War Ledger. J. Kugler and D. Lemke. Ann Arbor, MI, University of Michigan**:** 3–34.

Lacina, B. and N. P. Gleditsch (2003). The Human Cost of War? A New Dataset of Battle Deaths. Seminar on "The Demography of Violence," hosted by the International Union for the Scientific Study of Population, Thorbjørnrud, Norway.

Lake, D. A. (2003). "Fair Fights? Evaluating Theories of Democracy and Victory." International Security **28**(1): 154–167.

Lemke, D. (1996). Small States and War: An Expansion of Power Transition Theory. Parity and War: Evaluations and Extensions of The War Ledger. J. Kugler and D. Lemke. Ann Arbor, MI, University of Michigan**:** 35–56.

Mann, M. (2001). Democracy and Ethnic War. Democracy, Liberalism and War: Rethinking the Democratic Peace Debate. T. Barkawi and M. Laffey. Boulder, CO, Lynne Reiner**:** 67–85.

Mansfield, E. D. and J. Snyder (2002). "Democratic Transitions, Institutional Strength, and War." International Organization **56**(2): 297–337.

Marshall, M. G. and K. Jaggers (2003). Polity IV Project, Center for International Development and Conflict Management at the University of Maryland.

Miguel, E., S. Satyanath, et al. (2004). "Economic Shocks and Civil Conflict: An Instrumental Variables Approach." Journal of Political Economy: Forthcoming.

Mueller, J. (2003). "Policing the Remnants of War." Journal of Peace Research **40**(5): 507–518.

Murdoch, J. C. and T. Sandler (2002). "Economic Growth, Civil Wars, and Spatial Spillovers." Journal of Conflict Resolution **46**(1): 91-110.

Organski, A. F. K. and J. Kugler (1980). The War Ledger. Chicago, IL, University of Chicago Press.

Ravlo, H., N. P. Gleditsch, et al. (2003). "Colonial War and Democratic Peace." Journal of Conflict Resolution **47**(4): 520–548.

Regan, P. (2000). Civil Wars and Foreign Powers: Outside Intervention in Intrastate Conflict. Ann Arbor, MI, University of Michigan Press.

Regan, P. (2000). Users Manual for Pat Regan's data on Interventions in Civil Conflicts. Binghamton, NY, Binghamton University. Available at http://bingweb.binghamton.edu/~pregan/.

Reiter, D. and A. C. Stam (2002). Democracies at War. Princeton, NJ, Princeton University Press.

Reiter, D. and A. C. Stam (2003). "Why Political Institutions Matter." International Security **28**(1): 168–179.

Reno, W. (1995). Corruption and State Politics. Cambridge, Cambridge University Press.

Reynal-Querol, M. (2002). "Ethnicity, Political Systems, and Civil Wars." Journal of Conflict Resolution **46**(1): 29-54.

Ross, M. (2004). "How Do Natural Resources Influence Civil War? Evidence from Thirteen Cases." International Organization **58**(1): 35–68.

Sambanis, N. (2002). "A Review of Recent Advances and Future Directions in the Quantitative Literature on Civil War." Defence and Peace Economics **13**(3): 215-243.

Siverson, R. M. (1995). "Democracies and War Participation: In Defense of the Institutional Constraints Argument." European Journal of International Relations **1**(4): 481–9.

Snow, D. M. (1996). UnCivil Wars: International Security and the New Internal Conflicts. Boulder, CO, Lynne Rienner.

The World Bank (2003). The World Development Indicators and World Bank Atlas on Cd-Rom. Washington, DC, The World Bank.

Thies, C. G. (2004). "State Building, Interstate and Intrastate Rivalry: A Study of Post-Colonial Developing Country Extractive Efforts, 1975-2000." International Studies Quarterly **48**(1): 53-72.

Urdal, H. (2002). The Devil in the Demographics: How Youth Bulges Influence the Risk of Domestic Armed Conflict 1950-2000. 43rd Annual Convention of the International Studies Association, New Orleans.

Valentino, B., P. K. Huth, et al. (2004). "'Draining the Sea': Mass Killing and Guerilla Warfare." International Organization **58**(2): 375–407.

Appendix A: Battle Deaths in Civil and Colonial Conflicts 1946-2002†

Civil Conflicts

Years	Conflict	Battle Deaths
1946	Bolivia (MNR)	1,000
1946-9	Chinese Civil War	1,200,000
1946-9	Greek Civil War	154,000
1946-54	Philippines (Huk Rebellion)	9,000
1946-8	USSR (Lithuania)	8,620
1946-50	USSR (Ukraine)	17,769
1947	China (Taiwan/Nationalists)	1,000
1947	Paraguay (vs President Higinio Moringo)	4,000
1948-2002	Burma (Myanmar) Civil War	75,318
1948	Costa Rica (National Liberation Army)	2,000
1948	North Yemen (Yahya Family)	4,000
1948-50	South Korea (Leftist Insurgency)	31,525
1950	China (Tibet I)	5,000
1950	Indonesia (South Moluccas)	5,000
1953	Indonesia (Darul Islam)	1,000
1955	Argentina (Perón overthrown)	900
1955-75	Vietnam War	2,097,705
1956	China (Tibet II)	4,000
1956-9	India (Nagaland)	1,487
1957-8	Cuba (26th of July Movement)	5,000
1958-61	Indonesia (PRRI, Permesta, Darul Islam)	33,444
1958	Lebanon (Nasserites)	1,400
1959	China (Tibet III)	67,000
1959	Iraq (Nationalists)	2,000
1959-61	Laotian Civil War I	3,500
1961-90	Iraq (Kurdish Insurgency)	80,150
1962-91	Ethiopia (Eritrea)	200,000
1962-70	North Yemen (Royalists)	50,000
1963-73	Laotian Civil War II	26,000
1963-72	Sudan (Anya Nya)	20,000
1964-5	Zaire (CNL)	29,965
1965-94	Chadian Civil War I	34,799
1965-2002	Columbian Civil War	24,779
1965	Dominican Civil War	3,280
1965-95	Guatemalan Civil War	46,300
1966-8	India (Mizoram)	900
1967-75	Cambodia (Khmer Rouge)	250,000
1967-70	Nigeria (Biafra Rebellion)	75,000
1970-2002	Philippines (Mindanao)	71,653
1970-82	Thailand (CPT)	6,604
1971	Pakistan (Bengali Insurgency)	61,223
1971	Sri Lanka (JVP)	1,630
1971-93	United Kingdom (Northern Ireland)	3,271
1972-5	Dhofar Rebellion (Oman)	2,000
1972-95	Philippines (NPA)	24,500
1972-9	Rhodesia (ZANU, ZAPU)	27,000
1973-7	Argentina (ERP, Montoneros)	2,984
1973	Chile (General Pinochet)	2,095
1974-92	Bangladesh (Shanti Bahini)	1,227
1974	Cyprus (Turkish Cypriots)	5,800
1974-7	Pakistan (Baluchi Insurgency)	8,800
1975-95	Angola (UNITA)	144,000
1975-83	Ethiopia (Ogaden)	38,000
1975-98	Indonesia (East Timor)	33,525
1975-90	Lebanese Civil War	130,700
1975-89	Morocco (Western Sahara)	13,000
1976-91	Ethiopia (EPRP, TPLF, EPDM, OLF)	16,000
1976-8	Indonesia (West Papau)	8,500

Civil Conflicts (Continued)

1976-92	Mozambique Civil War	174,599
1978-2000	Afghan Civil War I	556,000
1978-98	Cambodia (Post-Vietnamese Invasion)	92,125
1978-9	Nicaragua (FSLN)	10,000
1978-9	Uganda (vs President Idi Amin)	3,847
1979-91	Salvadoran Civil War	55,000
1979-85	Iranian Revolution & Civil War	10,230
1979-82	Syria (Muslim Brotherhood)	15,450
1980-99	Peru (Sendero Luminoso)	30,937
1981-9	Nicaragua (Contras)	32,114
1981-96	Somalian Civil War	66,750
1981-8	South Africa (ANC, PAC, Azapo)	3,850
1981-91	Uganda (Post-Amin violence)	107,950
1983-93	India (Sikh Insurgency)	18,875
1983-2001	Sri Lanka (Tamil Insurgency)	57,450
1983-2002	Sudan (Southern Sudan)	55,500
1984-2002	Turkey (Kurdish Insurgency)	35,520
1986	S. Yemen (Yemenite Socialist Party faction)	13,000
1989-2002	India (Kashmir)	24,310
1989-2002	India (Assam)	3,172
1989-91	Indonesia (Aceh)	1,750
1989-96	Liberian Civil War	23,349
1989	Romania (National Salvation Front)	909
1989-90	Sri Lanka (JVP)	2,800
1990-4	Rwanda (FPR)	5,500
1991-2002	Algerian Civil War	90,200
1991-4	Azerbaijan (Nagorno-Karabakh)	20,000
1991	Iraq (Shia and Kurdish Insurgency)	20,000
1991-2000	Sierra Leone Civil War	12,997
1991	Yugoslavia (Croatia)	9,050
1992-5	Bosnian Civil War	55,000
1992-5	Croatian Civil War	950
1992-8	Egypt (Muslim fundamentalists)	1,347
1992-3	Georgia (Abkhazia)	3,000
1992	Georgia (South Ossetia)	950
1992-6	Tajikistan Civil War	41,300
1994-6	Russia (Chechnya I)	46,500
1994-2002	Uganda (LRA, WNBF, ADF)	4,500
1994	Yemen (North vs South)	5,500
1995-2002	Burundi Civil War	6,000
1995-96	Pakistan (MQM)	2,500
1996-97	Zaire (Mobutu overthrown)	4,000
1996-2002	India (Naxalites)	1,494
1997-2002	Chadian Civil War II	954
1997	Congo-Brazzaville I (Dénis Sassou Nguemo)	7,000
1997-2002	Nepal (Maoists)	4,100
1998-2002	Angola (UNITA)	16,725
1998-2001	Democratic Republic of Congo	145,000
1998-2002	Congo-Brazzaville II (Bernard Kolelas)	2,999
1998-99	Guinea-Bissau (General Ansoumane Mane)	2,350
1998-2002	Rwanda (Hutu opposition)	3,958
1998-9	Yugoslavia (Kosovo)	4,500
1999-2002	Indonesia (Aceh)	980
1999-2002	Russia (Chechnya II)	46,600
2000-1	Guinea	1,100
2001-2	Afghan Civil War II (post-US Invasion)	4,000

Colonial (Extrasystemic) Conflicts

Years	Conflict	Battle Deaths
1946-54	French Indochinese War	365,000
1946-9	Indonesian Indep vs Netherlands	6,874
1947	Madagascar Indep vs France	12,180
1948-57	Malaysian Communist Party vs UK (Malaysian Emergency)	10,845
1949-2002	Palestinian Insurgency vs Israel	15,025
1952-6	Kenyan Mau Mau Rebellion vs UK	12,955
1953-6	Moroccan Istiqal vs France	3,000
1953-6	Tunisian Indep vs France	2,000
1954-62	Algerian Indep vs France & France vs the OAS	252,026
1957-60	Cameroon Indep vs France	4,270
1960-74	Angolan Indep vs Portugal	79,000
1963-73	Guinea-Bissau Indep vs Portugal	7,155
1964-74	Mozambique Indep vs Portugal	36,750
1966-88	Namibian Indep vs South Africa	25,000

†Some conflicts listed through the year 2002, the final year of battle death information collected, were ongoing in 2003 or 2004. There is some difference of interpretation in conflict dates, conflict intensities, and aggregation of conflict-years into distinct wars between this list and the Uppsala/PRIO Armed Conflict Dataset. See the documentation of Lacina & Gledistch (2003) for more information at www.prio.no/cwp/datasets.asp.

Appendix B: Residual Analysis for Model of Civil Conflicts, 1946-2002, Including Duration, Population, Interventions, and Polity Score

Worst 5 Overestimates of Battle Deaths

Conflict Name	Observed	Predicted	Residual (Based on ln)
Guinea 2000-1	1,100	20,824	-2.9408
Dhofar Rebellion	2,000	27,830	-2.6330
Uganda 1978-9	3,847	33,737	-2.1713
Aceh Insurgency 1999-2001	980	8,160	-2.1194
Lebanon 1958	1,400	8,611	-1.8165

Worst 5 Underestimates of Battle Deaths

Conflict Name	Observed	Predicted	Residual (Based on ln)
Tibet 1959	67,000	6,600	2.3176
Chechnya II	46,600	4,384	2.3636
Chinese Civil War	1,200,000	109,477	2.3944
Chechnya I	46,500	3,814	2.5009
Vietnam War	2,097,705	100,686	3.0366

Best 10 Estimates of Battle Deaths

Conflict Name	Observed	Predicted	Residual (Based on ln)
Rwanda 1998-2002	3,958	4,306	-0.0843
Columbia 1965-2002	24,779	26,852	-0.0804
Rhodesia vs. ZANU, ZAPU	27,000	28,455	-0.0525
Burma/Myanmar Civil War	75,318	78,371	-0.0397
Kashmir Insurgency	24,310	25,259	-0.0383
North Yemen 1962-70	50,000	51,358	-0.0268
Cambodia 1978-98	92,125	93,772	-0.0177
Nicaragua 1981-9	32,114	32,537	-0.0131
Lithuania vs. USSR	8,620	8,596	0.0028
Zaire 1964-5	29,965	28,995	0.0329
Biafra Rebellion	75,000	71,126	0.0530
Pakistan vs. MQM 1995-6	2,500	2,326	0.0723
Iran 1979-85	10,230	9,472	0.0770

Distribution of Residuals: