

# Killing Time: The World Politics of Civil War Duration, 1820–1992

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Policymakers often trumpet the potential for third parties to stop the killing associated with civil wars, yet third parties as strategic actors also have incentives to encourage longer civil wars. We argue that in order to assess the influence of third parties on civil war duration, it is necessary to consider the interdependent nature of third party interventions as they are distributed across the set of civil war combatants. We also argue that it is important to consider the geopolitical context in which civil wars occur, rather than focusing solely on characteristics internal to these conflicts. To test our hypotheses about the impact of third parties and geopolitical factors on civil war duration, we rely on event history analysis and a sample of 152 civil wars for the period 1820–1992. We find empirical support for the idea that extremely long civil wars correspond to the equitable distribution of third party interventions—stalemates prolong wars. The analysis also indicates that separatist civil wars and ongoing civil wars in states proximate to the civil war state result in civil wars of longer duration. Finally, we find that when third parties raise the stakes of the conflict by engaging in the use of militarized force against the civil war state, the duration of these conflicts is reduced. In general, our analysis underscores the importance of modeling the interdependent and dynamic aspects of third party intervention as well as the world politics of civil wars when forecasting their duration and formulating policy.

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On March 19, 1999, American President Bill Clinton sought to rally public support for American endorsement of a bombing campaign by members of the North Atlantic Treaty Organization (NATO) against Serbian aggression in Kosovo, Yugoslavia. In detailing his rationale for American participation, Clinton

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declared, “make no mistake; if we and our allies do not have the will to act, there will be more massacres. In dealing with aggressors in the Balkans, hesitation is a license to kill. But action and resolve can stop armies and save lives” (*New York Times*, 1999). Stated differently, President Clinton, joined by the leaders of the NATO countries, sought to “stop the killing” (Licklider, 1993) in Kosovo by applying military force to punish the rampaging Serbian military and paramilitary forces, and, ultimately, to create the conditions under which a resolution to this bloody intrastate conflict might be found.

Questions concerning how to achieve humanitarian and strategic goals in civil wars have moved to the forefront of the policymaking community during the post-Cold War period. However, it is clear that, despite this recent resurgence of policy interest in civil wars, conflicts of this type are not a new feature of the interstate system (Gurr, 1993:90).<sup>1</sup> According to the Correlates of War (COW) project (Singer and Small, 1994), during the period 1816–1992 there have been 152 civil wars compared to 75 interstate wars.<sup>2</sup> This predominance of civil wars has been marked in the post-WWII period as well, with the occurrence of 80 civil wars compared to 24 interstate wars.<sup>3</sup> Civil wars have also been terribly bloody, accounting for nearly 12 million battle-related fatalities during the nineteenth and twentieth centuries.<sup>4</sup> Finally, the extensive death and destruction that was routinely wrought on domestic political systems by these civil conflicts has been accompanied by marked intractability and duration that was significantly greater than for interstate conflicts.<sup>5</sup>

In addition to their prevalence and intractability, the historical record of the interstate system indicates frequent overt and covert third party intervention in intrastate conflicts. In his path-breaking analysis of ethnic protest and rebellion in the *Minorities at Risk* (MAR) project, Gurr finds that “regional and global powers have repeatedly intervened on behalf of communal rebels or the states that they challenge” (1993:91). Based on the COW project’s strict definition of overt intervention, 22% (33/152) of the civil wars during the period 1816–1992 involved military intervention by third parties.<sup>6</sup> Of the 138 intrastate conflicts identified by Regan (1996:344) for the post-WWII period, 62% (85/138) involved some form of economic or military intervention by a third party.<sup>7</sup>

While states intervene in intrastate conflicts with some regularity, the literature suggests that in doing so third parties pursue a range of goals. Regan (1996, 2000b) argues that third party interventions are intended, on average, to end an intrastate conflict as quickly as possible.<sup>8</sup> However, other scholars counter that third parties intervene for less benevolent reasons, including lengthening the

<sup>1</sup> Hereafter, we treat the terms “intrastate conflict” and “civil war” interchangeably. We consider ethnic conflicts to be a subtype of these two broad categories.

<sup>2</sup> The 75 interstate wars exclude extra-systemic conflicts.

<sup>3</sup> Based on the period 1946–92.

<sup>4</sup> The precise figure, derived by summing the battle deaths for the 204 participants in the civil war data file (i.e., civil war states as well as third parties), is 11,960,763 (Singer and Small, 1994). Given the difficulty inherent in accounting for fatalities during civil wars, we consider this figure to be conservative. Miall (1992) and Pillar (1983) also report that civil wars are more severe than are interstate wars.

<sup>5</sup> Grant (1992:241) estimates that while interstate wars in the twentieth century have endured an average of 20 months, civil wars during this period have endured an average of 120 months.

<sup>6</sup> Small and Singer (1982:219) reason that in order for third party involvement to qualify as an intervention, “direct military participation of such a magnitude that either 1,000 troops are committed to the combat zone or, if the force is smaller or the size unknown, 100 deaths are sustained.”

<sup>7</sup> Regan’s (1996:342–44) definition of third party intervention encompasses acts such as arms transfers and economic aid, both of which, as Regan admits, can often be challenging to detect and verify.

<sup>8</sup> There are several reasons to believe that states prefer to *hasten the end* of civil wars, such as the fear of domestic political backlash from a former colony (Snow, 1996), power vacuums caused by “state failure” (Ayooob, 1995:22), and the diffusion of conflict across state boundaries (Vasquez, 1992; Lake and Rothchild, 1998).

duration of a civil war in order to distract, or drain the resources of, rival states, or simply to plunder the resources of the civil war state itself.<sup>9</sup>

More important from the standpoint of this study, the case study literature clearly indicates that the impact of third party interventions on the evolution of intrastate conflicts is often a function of the involvement of other third parties. We argue that third party interventions are interdependent and exhibit “system-like” qualities. Thus, considering the impact of each third party on the evolution of a particular civil war separately fails to capture the interdependent relationships between third parties that the qualitative literature demonstrates are rife in civil war. Ultimately, we think that it is crucial to understand the interdependent nature of third party involvement, if we are to understand the conditions under which these conflicts are likely to terminate.

In order to study the relationship between third parties and the duration of civil wars, as well as the impact of several rival factors identified in the literature, we carry out an event history analysis of intrastate conflict duration using a sample of 152 cases of civil war from the COW database for the period 1820–1992. In the following section, we discuss the literature’s consideration of civil wars as world politics problems and the role of third parties. In the third section of the paper, we formulate our hypotheses about the relationship between domestic and international factors and civil war duration. In the fourth and fifth sections we detail our research design and carry out our empirical analysis, respectively. We draw some conclusions in the paper’s final section.

## Literature Review

### *The World Politics of Civil Wars*

Interest by the world politics community in the international aspects of civil wars is long-standing (e.g., Eckstein, 1964; Modelski, 1964; Rosenau, 1964; Luard, 1972; Suhrke and Noble, 1977). However, with the diminution of Cold War hostilities, the scholarly attention devoted to a variety of internal conflicts has increased significantly, with a primary emphasis on the manner in which internal wars begin and end (Stedman, 1991, 1993, 1996; Gurr, 1993, 1994; Licklider, 1993, 1995; Zartman, 1995; Brown, 1996; Mason and Fett, 1996; David, 1997; King, 1997; Walter, 1997; Collier and Hoeffler, 1998; Lake and Rothchild, 1998; Hartzell, 1999; Hegre, Ellingsen, Gleditsch, and Gates, 1999; Mason, Fett, and Weingarten, 1999; Meek, 1999; Collier and Hoeffler, 2000; Dixon, 2000; Henderson and Singer, 2000). Despite a primary emphasis on the domestic attributes of these conflicts, a growing body of research highlights the linkage between different types of intrastate conflict and the interstate dimensions of these wars.

For example, in his analysis of the impact of ethnicity on foreign policy, Carment (1993:145) identifies a positive and robust relationship between ethnic violence and involvement of the state in violent interstate conflict.<sup>10</sup> Gurr (1993: 133) finds evidence that the “spillover” effects between conflicts in different states, particularly in terms of rebellion, obtain when communal groups straddle state borders. Davis, Jagers, and Moore (1997:159) find evidence that ethnic ties

<sup>9</sup> Again, there appear to be compelling arguments why there may be third party interest in *prolonging* civil wars. Early work by Deutsch (1964) discusses the phenomenon of “proxy wars,” in which rival third party states attempt to achieve extra-civil war goals via the course of the civil war itself. More recently, Stavenhagen (1996:216) states that “they [regional powers] may, in fact, have expansionist or geopolitical ambitions of their own, and such objectives sometimes draw them into ethnic conflicts nearby in order to consolidate their hegemony, weaken rival states, enable them to control access to valued resources or simply to strengthen their political hold on their own populations.”

<sup>10</sup> See Brecher and Wilkenfeld (1997a, 1997b) for further analyses of the relationship between “ethno-political” conflicts and the level of protraction in interstate crises.

between contiguous states are linked to increases in warlike behavior between these states. Finally, Regan's (1998:772) analysis leads to the conclusion that the more intense an internal conflict is, the less likely third parties are to intervene, although as the number of refugees generated by intrastate conflicts increases, third parties are more likely to intervene in these conflicts.

Thus, although nascent, there is sufficient evidence to suggest that a relationship, or set of relationships, obtain between civil wars and interstate behavior. Indeed, these analyses underscore the "layered" nature of this linkage, with cause and effect swirling across the domestic and interstate arenas, as the policy agendas pursued by state and nonstate actors alike intermingle in a dynamic, process-oriented environment. And it is this complexity that has resulted in a burgeoning literature seeking to explain the geopolitical aspects of civil wars, particularly the role of third parties.

A review of the case study literature on intrastate conflict further bolsters this contention. Although the degree of third party involvement varies, external intervention in civil wars is nearly ubiquitous. Moreover, the manner in which third-party intervention has taken place in these cases illustrates the multilevel causal relationships that obtain during the course of the intrastate conflict. For example, the Spanish Civil War (1936–39) demonstrates not only great-power involvement in an intrastate conflict, but also the multilevel and interdependent nature of such involvement (Thomas, 1972). Similarly, Nachmani (1990:489) reports that while the Greek civil war (1946–49) was a "bitter internal struggle," the eventual defeat of the communist forces was primarily the product of Russian and American efforts to resolve issues regarding spheres of influence in the early post-WWII period, as well as changes in Yugoslavia's foreign policy.

Similar cases of third party intervention and exogenous motives abound in the interstate system during the post-WWII period. For example, Stavenhagen (1996:203) concludes that "the Kurdish question today can only be understood as the historical result of complex international power-plays since the end of the First World War," a conclusion reinforced in Eller, 1999. Touval and Zartman (1985:259) argue that American involvement in the Rhodesian conflict (1965–79) was, in part, a function of the collapse of Portuguese control and the increased involvement of the Soviet Union in Angola. Werner (1993:111) finds that the Yemeni civil war (1962–70) involved a large set of local, regional, and major power states. Similar dynamics regarding the link between internal conflict and foreign intervention have been identified in the cases of civil war in Sri Lanka (Carment and James, 1996; Rupesinghe, 1996; Eller, 1999), Central America (Chernick, 1996; Stanley, 1996; Stanley and Peceny, 2000), Angola (Rothchild and Hartzell, 1991), Liberia (Sesay, 1996), Lebanon (Kerr, 1972; Rasler, 1983), Rhodesia/Zimbabwe (Stedman, 1991; Moore, 1995), the former Yugoslavia (Webb, Koutrakou, and Walters, 1996; Eller, 1999), and the Horn of Africa (Vasquez, 1992; Zartman, 1992; Stavenhagen, 1996).

Based, in part, on these cases of external intervention in civil wars, the literature has turned its attention increasingly to the methods by which third party states have intervened in intrastate conflicts, particularly the relationship between the mode and timing of intervention and the evolution of intrastate conflicts. Stofft and Guertner (1995:39) conclude that in the post-WWII period "unilateral interventions establish precedents that lead to more bold, potentially destabilizing behavior by other governments." Kaufmann (1996:137) contends that the long-term peace of ethnic civil wars is predicated on third parties facilitating the separation of ethnic groups into "defensible enclaves," an argument similar to the oft-cited claim by Betts (1994). Based on his large-N analysis, Regan (1996:353) concludes that interventions grounded in a mixture of economic and military strategies are more likely to be successful than the pursuit of either economic or military policies alone. Finally, Carment and Rowlands (1998) conclude that the

credibility of the intervening party's ability to escalate is often critical to the outcome of the intervention.

In general, the literature underscores the idea that the impact of individual third parties on the evolution of intrastate conflicts occurs within the context of conditions internal and external to the civil conflict itself. More important, individual third party interventions are interdependent with the behavior and interventions of other third parties. In the following section, we examine more closely the systemic properties of intrastate conflicts and the implications these properties have for the impact of third party intervention on the duration of these conflicts.

### *The Systemic Dimensions of Civil Wars*

When considering intervention into an intrastate conflict, third party actors face a complex political and strategic environment. The situation is often quite fluid, with shifting alliances altering the balance of forces between the domestic combatants. In estimating the costs and benefits of intervening, a third party seeks to anticipate not only the behavior of the domestic participants in the conflict, but also the motives, capabilities, and resolve of other third parties. Therefore, potential third parties to intrastate conflicts confront a complex of active and latent participation by several sets of actors. As such, the effect of actions pursued by any single third party actor is contingent upon the behavior of these other actors. Intrastate conflicts, therefore, are interdependent and dynamic, with third parties entering and exiting these conflicts at different times on strategic grounds that are linked to the prospects of victory and defeat for the various domestic combatants in the conflict.

Although there has been little effort to formally conceptualize intrastate conflicts, particularly third party intervention, as intrastate–interstate “webs” of relationships, for quite some time research in the fields of comparative and world politics suggested alternative levels of analysis that capture the systemlike security interests of states. For example, Brecher (1963) and Thompson (1973) stressed the relevance of subsystems in understanding militarization and interstate behavior, and Buzan (1983) introduced the notion of a “security complex” to capture the environment that political leaders consider when developing security policy.

More recently, in his study of the security policy of Third World states, Rosh (1988) introduces the notion of “security webs,” a concept that he defines as the geographic neighborhood that encompasses a state and conditions the state's domestic and foreign policies. Maoz (1996, 1997) has subsequently incorporated Rosh's security webs into his formulation of the idea of a “politically relevant international environment” (PRIE). For Maoz, a state's PRIE is defined as those states to which it is geographically contiguous as well as the major, or regional, power states. In a conceptualization similar to that proposed by Maoz, Enterline (1998) finds that the “geographic neighborhood” of a new domestic political regime has important implications for the regime's subsequent involvement in interstate conflict. Finally, in their analysis of democratization and war from a spatial perspective, Gleditsch and Ward (2000:4, *italics in original*) demonstrate empirical support for their overarching claim that “world politics is about *interdependence* and *simultaneity*.”

We find the overlapping concepts of “security web,” “politically relevant international environment,” and “geographic neighborhoods,” as well as the general concept of interdependence, to be helpful in conceptualizing behavior in intrastate conflicts for three primary reasons. First, the concept of a web, or neighborhood, stresses the importance of considering the *geographic and strategic environment* within which an intrastate conflict is nested. As the literature in



world politics consistently suggests, proximity is the chief conduit for the opportunity for action in the international system (Siverson and Starr, 1991; Goertz and Diehl, 1992; Vasquez, 1993, 1995; Gleditsch and Ward, 2000). States are likely to find change and instability in neighboring states to be more important than similar dynamics in distant locations (Gochman, 1991; Maoz, 1996), and change within states can also be a function of the behavior of neighboring states. This idea that states have vested interests in the political developments in neighboring states is also reiterated by Gurr (1994) in his analysis of ethnopolitical conflicts during the post-Cold War period. Therefore, the literature suggests that the characteristics of civil wars are, in part, a function of their interstate environment, in terms of both the behavior of third parties and nondirected effects, such as regional political instability.

Second, security webs underscore the *complex interdependence* that exists in virtually every instance of intrastate conflict. The case studies cited above underscore that third party behavior is often motivated and sustained by the choices of other third party actors. Sometimes these behaviors are a function of goals wholly unrelated to the civil war itself. Nonetheless, action and reaction in civil wars are complex and are likely to cut across levels of analysis. Thus, if a single third party actor pursues a strategy of direct military intervention on behalf of a government embroiled in a civil war, the impact of this strategy on the course of the conflict might be a function of the strategy of intervention by one, or several other, third parties.

Finally, security webs underscore the *dynamic* properties of interstate environments. Therefore, changes in the political systems or leadership in states bordering a state experiencing a civil war, for example, might affect the course of an ongoing civil war. Further, one might also hypothesize that civil wars diffuse across states (or security webs), and therefore actions taken by parties to a civil war might affect the likelihood or course of civil wars in proximate states. Thus, the security webs of states likely intersect, with third party states and local political conditions conditioning civil wars and vice versa.

In sum, the literature provides a firm basis for the contention that civil wars do not occur in isolation, but rather are embedded in the interstate system. Thus, when civil wars occur, how they evolve, and how and when they end are, in part, functions of interstate processes. How important are these processes? In this paper, we are interested in addressing this broad question. In particular, we are primarily interested in exploring the impact of two broad categories of interstate processes on civil wars: third party states and local, contextual geopolitical factors. Moreover, given the predominance of domestic factors in previous analyses of civil wars, we are interested in juxtaposing the impact of these international processes on civil war duration with several domestic factors. To this end, in the following section we formulate hypotheses linking domestic and interstate factors with civil war duration.

### Hypotheses

To date, the literature on intrastate conflicts underscores the idea that the influence of third parties is often instrumental in shaping the dynamics of these conflicts. What is less clear from this literature is *how* these interventions affect civil wars in general, and *what* implications these linkages have for policymaking. In order to address these questions, it is necessary to identify specifically the behavior influenced by third party interventions.

As noted at the outset of this article, the public debate has focused heavily on the linkage between third party intervention and the length of civil wars. In particular, the third party intervention is often linked to the time required to terminate civil wars. Hastening the conclusion of these conflicts is believed to

correspond to reduced magnitudes of death and destruction (Holbrooke, 1998). However, advocates linking intervention to the rapid termination of civil wars have been challenged by counterclaims that third party interventions merely lengthen the conflagration, ultimately resulting in an artificially stalemated conflict accompanied by greater magnitudes of death and destruction in the long run (Luttwak, 1999).

The public debate, then, is anchored in the linkage between third party behavior and the *duration* of civil wars. This linkage in the public discourse is well founded in the literature, wherein scholars have argued that civil wars, similar to interstate wars, are not discrete events, but rather *processes* (Wittman, 1979; Pillar, 1983; Dixon, 2000). As processes, civil wars are subject to conditions and factors that vary across the duration of the conflict, as, for example, one side or the other in the conflict begins to prevail on the battlefield, and third parties enter and depart the conflict. Given this emphasis on process, in the remainder of the paper we consider civil wars to be “time problems,” in which the impact of relevant factors on civil wars are incorporated as a civil war evolves. By focusing on civil war duration, we are able to speak to issues raised in the public discourse and the scholarly community in terms of the linkage between the third party intervention and the dynamics of civil wars.<sup>11</sup>

In addition to conceptualizing civil wars as time problems, we are also keenly interested in assessing the influence of the *international* dimension of civil wars (e.g., the political stability in the geographic neighborhood of the civil war state), relative to the impact of the *internal* dimension of civil wars (e.g., whether a civil war qualifies as a separatist conflict) on the duration of civil wars. It is this second dimension of civil wars, the domestic-level factors, that thus far has received the bulk of the attention in the scholarly literature and popular press during the 1990s (e.g., whether or not “ancient hatreds” exist between groups). Therefore, with an interest in studying the impact of third parties more closely, in addition to assessing the relative impact of these interventions, we consider two subcategories of conditions falling under these internal and international rubrics, respectively.

With respect to the international dimension of civil wars, the first subcategory of factors, *third party involvement*, develops expectations about the impact of third parties on the duration of a civil war. In particular, we separate out the individual and interdependent impact of the distribution of third party support for government and opposition forces. Finally, the second category of the international dimension, the *civil war state's environment*, is intended to capture aspects of the international context within which the civil war transpires, and includes conditions such as the political stability of the states proximate to the civil war state, as well as the proximity of other militarized conflicts.

In terms of the internal dimension of civil wars, the first subcategory, *characteristics of the civil war state*, captures the political, demographic, and geographic attributes of a state experiencing a civil war, as well as the type of conflict that is occurring. For example, we are interested in whether the civil war state has been buffeted by political grievances in the past, as well as whether one of the combatants is pressing separatist claims. The second subcategory within the internal dimension, *characteristics of the civil war*, is intended to capture the properties of the civil war, such as the military strength of the government and the material costs of a civil war to the inhabitants of the civil war state. Below, we specify several hypotheses associated with these internal and international dimensions.

<sup>11</sup> Our approach to the study of civil wars as event histories is commensurate with several works in progress (Collier, Hoeffler, and Soderbom, 1999; Meek, 1999; Elbadawi and Sambanis, 2000; Regan, 2000a).

*The Internal Dimension**Characteristics of the Civil War State.*

*Prior Political Grievances.* Often, the source conditions, although perhaps not the catalyst, for civil wars are grounded in long-standing domestic grievances within the civil war state (Smith, 1986; Gurr, 1993; Brown, 1996; Crawford and Lipshultz, 1998). These grievances might include a range of phenomena reflecting the legacy of a state's political, economic, and social system. In turn, this legacy might provide some insight into the degree of political legitimacy exhibited by the political system. Harff (1986, 1987) argues that preexisting internal cleavages are likely to intensify conflict between a government and national minorities, and signal a polity with low political legitimacy. In turn, the lower the political legitimacy, the less likely the conflicting groups in a civil war will agree to a return to a political arrangement approximating the status quo ante, and a civil war should endure for a longer period of time.

**H1<sub>(Prior Political Grievances)</sub>: The greater the degree of prior political grievances, the longer the duration of the civil war.**

*Geographic Size.* The prosecution of civil wars is influenced by the geographic space in which they occur. Large states are difficult to administer, and this difficulty is compounded when states undergo civil wars. The greater the geographic size of the state, the more difficult it is for the government to isolate and engage opposition groups in combat. The greater the size of the state, the more likely a civil war is to devolve into an "urban-rural" dynamic in which government forces control the cities, while opposition groups control the hinterlands (e.g., civil wars in Colombia and Angola). In addition, the greater the size of the state, the more difficult it is for government and opposition groups to project their power and take and hold territory (following the logic of Boulding's [1963] "loss of strength gradient"). Finally, the greater the size of the state, the more difficult it is for government forces to maintain the integrity of the state's borders, and the greater the likelihood that opposition forces will receive external patronage.

**H2<sub>(Geographic Size)</sub>: The greater the geographic size of the civil war state, the longer the duration of the civil war.**

*Political System Age.* As national and local bureaucracies mature, they become increasingly capable of dealing with otherwise difficult policy decisions, standard operating procedures are refined, and bureaucratic agencies are developed to deal with problems that might arise between groups. In short, more parties have a vested interest in the status quo, and these parties gain experience in effectively resolving conflicts through either force or compromise. Beyond the effect of learning on the process of finding solutions to internal conflicts, increasing political maturity also brings with it increased control over territory and a greater level of the legitimacy that belongs by default to the regime in place. Likewise, the greater the regime maturity, the greater the increase in the disparity of power between the government and the opposition groups involved in a civil war, and the shorter the duration of the civil war.

**H3<sub>(Political System Age)</sub>: The more mature the domestic political regime, the shorter the expected duration of the civil war.**

*Frequency of Neighboring States.* From a systemic perspective, borders form the basis for the security webs, PRIEs, and neighborhoods discussed by Rosh (1988),



Maoz (1996), and Enterline (1998), respectively, as well as the general notion of an interdependent interstate system proposed by Gleditsch and Ward (2000). As we noted earlier, the literature suggests that borders provide, at minimum, opportunity for interactions between states (Vasquez, 1993, 1995). Furthermore, states are likely to be more concerned with political changes in neighboring states, and will seek to influence the outcomes of these changes (Gochman, 1991; Siverson and Starr, 1991). The greater the frequency of neighboring states, the greater the number of interested parties, resulting in an increase in the general complexity of the civil war. This increase in complexity, as evidenced by the current civil war in Africa's Congo, should correspond to civil wars of longer duration.

**H4<sub>(Frequency of Neighboring States)</sub>: The greater the frequency of states bordering the civil war state, the longer the duration of the civil war.**

*Proximity to Major Power.* One claim that has emerged, principally in the popular press, is that major power states consider more proximate civil wars to be of greater security concern, and therefore respond more quickly and with greater resources than they do to civil wars that occur in states that are distant (Gurr, 1994:359). As such, even under conditions in which major power states do not intervene in civil wars overtly with military force, major power states will encourage the settlement of a proximate conflict sooner rather than later through the variety of economic and political tools that they have available.

**H5<sub>(Proximity to Major Power)</sub>: The more proximate the civil war state is to a major power state, the shorter the duration of the civil war.**

#### *Characteristics of the Civil War.*

*Separatist.* Civil wars in which opposition groups pursue territorial secession from the home state are likely to be more intractable than are wars in which opposition groups pursue goals that do not threaten the territorial integrity of the state (Licklider, 1995). Central governments may be driven to forcefully retain a secessionist region by the need for access to resources that may be located in this region, or out of fear that a successful secession will set a precedent for further attempts at secession (e.g., the recent Russian behavior regarding the breakaway republic of Chechnya). As such, we anticipate that secessionist conflicts will correspond to civil wars of longer duration, as both parties to the conflict are likely to be highly resolute.

**H6<sub>(Separatist)</sub>: The presence of separatist demands increases the likely duration of a civil war.**

*Government Strength.* The duration of militarized conflicts, both civil and interstate, is grounded in the distribution of resources across the parties (Wittman, 1979; Mason and Fett, 1996; Mason, Fett, and Weingarten, 1999). Wars in which the resources are equitably distributed should last longer, as each side is unable to achieve its likely preferred goal of military victory. Conversely, when resources are unequally distributed, the side with the greater resources is more likely to prevail. In turn, the greater the probability of victory, the more quickly a civil war is likely to end in some form.

**H7<sub>(Government Strength)</sub>: The greater the resources held by the government, the shorter the duration of the civil war.**

*Civil War Costs.* Several scholars argue that the costs exacted by a civil war on the participants have a strong influence on the dynamics of a civil war (Mason

and Fett, 1996; Mason, Fett, and Weingarten, 1999). Further, the greater the burden of the civil war to the society at large, the greater the constraints on the ability of the parties to the civil war to mobilize the resources necessary to modify the probability of victory, and the sooner the parties will seek a settlement to the conflict. Clearly, civil war duration is not tied solely to the domestic availability of resources, as resources may be supplied from abroad. In general, however, we expect that the probability of a civil war ending will, in part, be tied to the cost level exacted on the domestic system of the civil war state. As these costs increase, pressure to settle the conflict will increase as well, thus shortening the duration of the conflict.

**H8<sub>(Civil War Costs)</sub>: The greater the domestic costs of a civil war, the shorter the duration of the civil war.**

#### *The International Dimension*

##### *Third Party Intervention.*

*Intervention Supporting the Government or Opposition.* Third parties are critical to the evolution of civil wars because they offer the domestic opponents engaged in the conflict the opportunity to garner new resources, thereby altering the probability of victory for each of the sides. Clearly, the dynamics of third party intervention into ongoing civil wars are complex in terms of the timing of intervention, the resources third parties bring to bear on the conflict, and the preferences of each third party over the set of outcomes to a civil war. However, we focus here merely on the degree to which third parties involve themselves in an ongoing civil war. As such, we anticipate that in its most basic form more support for a given side by third parties is likely to alter positively the supported side's probability of winning the conflict, thereby shortening the conflict. Moreover, we expect that since the government has, at least initially, a more extensive resource base and infrastructure than do opposition groups, support for the government is likely to exert a smaller impact than will third party support for the opposition.

**H9<sub>(Intervention [Opposition])</sub>: The greater the degree of third party support for the opposition in a civil war the shorter the duration of the civil war.**

**H10<sub>(Intervention [Government])</sub>: The greater the degree of third party support for the government in a civil war the shorter the duration of the civil war. Additionally, we expect that the magnitude of this relationship should be smaller than the relationship identified in H9.**

*Balanced Intervention.* The effect of intervention on civil war duration is related to both the side that the intervening third party supports and the overall balance of interventions in the ongoing civil war. We expect that an intervention supporting one side in the absence of an intervention supporting the other side will shorten the duration of the civil war by increasing the resources available to prosecute the civil war for the supported side. However, when both sides have external support it seems likely that the civil war will be significantly prolonged. In essence, the intervening third parties are likely to have increased the ability of both sides to continue fighting, without providing a decisive advantage to either side. Therefore, a scenario in which balanced third party interventions occur is a recipe for stalemate and a longer civil war.

- H11**<sub>(Balanced Intervention)</sub>: **The more equitable the distribution of third party interventions across the domestic sides in a civil war, the longer the duration of the civil war.**

*Target of Militarized Dispute.* Another relatively direct way that third party states can influence the course of an intrastate conflict is through threatening or attacking the civil war state militarily. Regardless of motive, a militarized action by a third party should introduce added complexity to an ongoing civil war simply by contributing an additional actor to the conflict, thereby compounding the difficulty of reconciling the preferences of all of the actors involved in the civil war. Yet a military attack might also raise the costs of conflict to the parties involved to such a degree that seeking a resolution to the conflict becomes more advantageous. Thus, we find good reason to suspect that militarized behavior directed at a civil war state may either increase or decrease the duration of the conflict.

- H12a**<sub>(Target of Militarized Dispute)</sub>: **When the civil war state is the target of a militarized interstate conflict, the duration of the conflict should increase.**

- H12b**<sub>(Target of Militarized Dispute)</sub>: **When the civil war state is the target of a militarized interstate conflict, the duration of the conflict should decrease.**

*The Civil War State Environment.*

*Local Civil War.* Civil wars often have political, economic, and social repercussions beyond the state in which they occur. Despite the debate regarding whether civil wars can spread or diffuse (Gurr, 1993; Brown, 1996; Lake and Rothchild, 1998), it is clear from recent examples, particularly the conflicts in Rwanda and Liberia, that civil wars that are proximate geographically influence one another causally. We reason that proximate civil wars present the civil war state with a unique set of problems in that these conflicts are often accompanied by porous borders, conditions that are characterized by the movement of combatants, non-combatants, and arms across state boundaries (Regan, 1998; Davenport, Moore, and Poe, 1999). In turn, this breakdown in the territorial integrity of the state exacerbates the inability of the parties to the civil war to calculate their individual capacity to end the civil war in their favor, as the number of groups relevant to the end of the conflict multiplies. As such, the presence of a proximate civil war is likely to extend the duration of a civil war.

- H13**<sub>(Local Civil War)</sub>: **The presence of a civil war in a civil war state's geographic neighborhood increases the duration of the civil war in the civil war state.**

*Local Militarized Interstate Conflict.* The likely duration of internal conflict might also vary according to the regional political climate. In areas characterized by the presence of militarized interstate conflict, it is likely that intrastate conflicts will be more difficult to resolve, as the fallout from neighboring militarized conflicts in the form of refugee flows and potential rebel sanctuaries, much like the proximity of civil wars discussed above, exacerbates tensions in proximate states. These factors, also associated with proximate civil wars, will likely make resolution of any given civil war more difficult.

- H14**<sub>(Local Militarized Interstate Conflict)</sub>: **The greater the degree of militarized interstate conflict between states neighboring the civil war state, the longer the expected civil war duration.**

## Research Design

We use the COW (Singer and Small, 1994) data on international and civil wars to test our hypotheses. Specifically, we rely on a sample of 152 civil wars for the period 1820 to 1992.<sup>12</sup> Due to the fact that our statistical approach, event history analysis (discussed in detail below), requires that we estimate the probability of a given civil war ending on each day that the conflict continues, our unit of analysis is the *civil war day*, of which there are 174,156. This set of civil war days ultimately comprises 449 civil war spells, or time periods across which our covariates remain constant.

### *Data: Dependent Variable*

*Civil War Duration.* Our dependent variable is the duration of each civil war in calendar days. We consider all civil wars in the COW database to have lasted at least one day. Where possible, we resort to the start and end days reported by the COW for each of the 152 civil wars in our data set.<sup>13</sup> In several cases, only partial information for the start and end dates of individual civil wars, principally pertaining to the month and day, was reported in the data set.<sup>14</sup> We addressed this issue by invoking a decision rule whereby all cases of civil war in which missing days were reported commenced or terminated on the fifteenth of the specified month. In the three cases in which the COW set is missing the start month for a conflict, we assumed that the conflict commenced in the month of June.

### *Data: Independent Variables*

#### *The Internal Dimension: Characteristics of the Civil War State.*

*Prior Political Grievances (H1).* We rely on the Singer and Small (1994) data on civil wars for the period 1820–1992 to identify the frequency of prior civil wars for each civil war state in the data set in the year during which a given civil war commences. In turn, we normalize this figure by creating a proportion in which the frequency of prior civil wars for each civil war state is divided by the total frequency of years that the civil war state is a member of the COW interstate system.<sup>15</sup>

*Geographic Size (H2).* We rely on the “area of the state in square miles” from the *Cross-Polity Time-Series Archive* (CPTSA) (Banks, 1979:5, 1996). In those cases in which the state was recently added to the interstate system, and thereby not included in the CPTSA, we identify the equivalent measure of geographic size as recorded in the *Political Handbook of the World: 1995–1996* (Banks, Day, and Muller, 1996).

<sup>12</sup> According to Singer and Small (1994), “an internal war is classified as a major civil war if (a) military action was involved, (b) the national government at the time was actively involved, (c) effective resistance (as measured by the ratio of fatalities of the weaker to the stronger forces) occurred on both sides and (d) at least 1,000 battle deaths resulted during the civil war.” Our sample of 152 civil wars is available from the authors on request.

<sup>13</sup> Of course, relying on the COW dates does not resolve the issue of determining when civil wars begin and end. In fact, a cursory comparison of sources containing information on the civil wars (e.g., Clodfelter, 1992; Licklider, 1995; Regan, 1996, 2000b; Bercovitch and Jackson, 1997; Hartzell, 1999) indicates that there is considerable disagreement between scholars about the duration of these conflicts.

<sup>14</sup> Specifically, the COW data set is missing the terminal day for the following cases (with the COW civil war number in parentheses): France (636); Pakistan (893); and Sri Lanka (944). The COW data set is missing the start day for the following conflicts: France (636); Argentina (680); Guatemala (863); Burma (869); Iraq (941); India (942); Sri Lanka (944); Liberia (949); and Tajikistan (976). Additionally, France (636), Burma (869), and India (942) are missing start months. The COW civil war data contain terminal months for all 152 civil wars in our sample.

<sup>15</sup> The COW interstate membership list (1997.1) is available from: <http://pss.la.psu.edu/intsys.html>. In some cases, the COW interstate system membership list records start dates that conflict with the COW civil war dates, due to occupation by a second state, for example. In these cases, we rely on the first of these start dates in order to calculate the frequency of prior civil wars for a given civil war state.

*Political System Age (H3).* We rely on the Correlates of War (COW) interstate system membership list to identify the frequency of years that a civil war state has qualified as a state by the start year of a given civil war.<sup>16</sup>

*Frequency of Neighboring States (H4).* To begin, we rely on the interstate contiguity data set originally created by Siverson and Starr (1991) and updated by the authors.<sup>17</sup> These contiguity data include three categories of contiguity: *directly contiguous* (by land), *indirectly contiguous* (by water less than 200 miles), and *contiguous via a colony*. We consider two states to be contiguous if they satisfy either of the first two categories, directly or indirectly contiguous. We define a geographic neighborhood as those states that are contiguous to a civil war state during the year in which the civil war commences.

*Proximity to Major Power (H5).* We rely on the COW project to identify the set of major power states relevant to an ongoing civil war.<sup>18</sup> We use *EUGene* (Bennett and Stam, 1999) to compute the “greater circle” distance (in miles) between the capital of the civil war state and the capitals of each of the relevant major powers.<sup>19</sup> In turn, we select the minimum inter-capital distance between the civil war state and the set of major power states.<sup>20</sup>

#### *The Internal Dimension: Characteristics of the Civil War.*

*Separatist (H6).* We consider a civil war to have separatist properties when an opposition group advocates secession at any point during the conflict. For the 1820–44 period we rely on the data sources identified in the original COW compilation of civil wars (Small and Singer, 1982) to code this variable.<sup>21</sup> For the period 1945–92 we rely on the narratives and data contained in Bercovitch and Jackson (1997), Clodfelter (1992), and Licklider (1995). Operationally, we create a dichotomous variable coded a value of 1 when the goal of an opposition group in a civil war is separatist and 0 otherwise.

*Government Strength (H7).* Optimally, we prefer to use finely grained information about the resources available to the combatants throughout the course of the civil war, but these data are presently unavailable. However, the strategy followed by Mason, Fett, and Weingarten (1999) for assessing government power may provide some purchase on the relationship between the distribution of resources and the duration of the civil war. Specifically, we operationalize this variable by creating a proportion by dividing the size of the “pre-war regular armed forces (in thousands)” by the “pre-war total population (in thousands)” of the civil war state, the data for which are reported in Singer and Small, 1994.

<sup>16</sup> These data are available from: <http://pss.la.psu.edu/intsys.html>. In one case, the start date for the civil war coincided with the entrance of the state into the interstate system according to the COW (Angola [898]). In two cases, the start date for the civil war preceded the start date for the state's entrance into the interstate system according to the COW (Bosnia-Herzegovina [973] and Georgia [955]). We suspect that these disparities in dates are due to the fact that Bosnia-Herzegovina and Georgia emerged from federations (Yugoslavia and the USSR, respectively), while civil wars were technically under way. In these cases, we have assigned a value of 0 for the indicator measuring political system age.

<sup>17</sup> These data are available from the authors on request.

<sup>18</sup> By relevant we mean those states that qualify as major powers during the year in which a civil war begins. The list of major powers is available from: <http://pss.la.psu.edu/intsys.html>.

<sup>19</sup> *EUGene* relies on the distance formulation reported in Fitzpatrick and Modlin, 1986:xi. See Bennett and Stam, 1999:13, for a more detailed discussion of these data.

<sup>20</sup> In cases where the civil war state was directly adjacent to a major power, the “greater circle” distance is coded a value of 0.

<sup>21</sup> These data are available from the authors on request.



*Civil War Costs (H8).* Again, we operationalize the costs of the civil war as per the strategy adopted in Mason, Fett, and Weingarten, 1999. Specifically, we create a proportion by dividing the frequency of “battle related fatalities sustained by regular armed forces (in thousands)” by the duration of the conflict (in days). In turn, this value is then divided by the “pre-war total population (in thousands)” of the civil war state (Singer and Small, 1994), in order to obtain a rough estimate of how costly a civil war is on a per diem basis.

*The International Dimension: Third Party Intervention.*

*Intervention (Opposition) (H9).* Intervention supporting the opposition is operationalized by calculating the frequency of third party states supporting the opposition at each point in time, as reported in Singer and Small, 1994.

*Intervention (Government) (H10).* Intervention supporting the government is operationalized by calculating the frequency of third party states supporting the government at each point in time, as reported in Singer and Small, 1994.

*Balanced Intervention (H11).* The distribution of third party interventions is operationalized by determining the intervals during which there is simultaneous third party support for the government and the opposition sides (i.e., at least one third party supporting the government and one third party supporting the opposition) as reported in Singer and Small (1994). During these intervals this variable is scored a value of 1. In intervals when intervention on both sides of a civil war is absent this variable is coded a value of 0.

*Target of Militarized Dispute (H12).* We rely on the recently constructed *Dyadic Militarized Interstate Disputes (DYMID1.0) Dataset* (Maoz, 1999) to determine the intervals during which a civil war state is the target (i.e., on side B) of a militarized interstate dispute, as well as the frequency of aggressor states.<sup>22</sup>

*The International Dimension: Civil War State Environment.*

*Local Civil War (H13).* We use the aforementioned contiguity data to determine the set of states contiguous to each civil war state in the year that the civil war begins. Next, we rely on the Singer and Small (1994) data set on civil wars to determine the intervals during which any of the states neighboring a given civil war state are also engaged in a civil war, and record this frequency.

*Local Militarized Interstate Conflict (H14).* We use the aforementioned contiguity data to determine the set of states contiguous to each civil war state in the year that the civil war begins. Next, we rely on Maoz, 1999, to determine the intervals during which any of the states neighboring the civil war state are engaged in a militarized interstate dispute with states other than the civil war state, and record this frequency. The descriptive statistics for the set of covariates are reported in Table 1.<sup>23</sup>

<sup>22</sup> This includes all threats, displays, and uses of force by any states against the civil war state. See the definitions of these three categories of behavior within the militarized interstate dispute framework in Jones, Bremer, and Singer, 1996.

<sup>23</sup> To a certain degree, the use of time varying covariates complicates the presentation of the descriptive statistics. While it would make a certain amount of sense to describe each covariate as it corresponds to a typical civil war day, we opt instead to describe the characteristics of each covariate as it corresponds to the typical civil war. Thus all reported statistics are the result of taking the mean within each civil war, and then calculating the descriptive statistics based on that mean.

TABLE 1. Descriptive Statistics

<i>Variable</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Minimum</i>	<i>Maximum</i>
Prior Political Grievances	0.029	0.040	0	0.25
Geographic Size	824121	1426415	4015	8646000
Political System Age	45.145	40.272	1	176
Frequency of Neighboring States	4.355	3.044	1	23
Proximity to Major Power	2199	2163	0	7245
Separatist	0.276	0.449	0	1
Government Strength	0.006	0.006	0.00016	0.06121
Civil War Costs	0.029	0.157	7.26E-06	1.807
Intervention (Opposition)	0.081	0.357	0	2.936
Intervention (Government)	0.102	0.272	0	1.220
Balanced Intervention	0.024	0.130	0	0.867
Target of Militarized Dispute	0.139	0.405	0	3
Local Civil War	0.312	0.563	0	3.299
Local Militarized Interstate Conflict	0.412	0.862	0	5

Note: Statistics calculated for each civil war cross-section and then across the sample of 152 civil wars.

#### *Method: Event History Analysis*

To conduct our empirical analysis, we rely on a statistical approach referred to in the literature as event history, or survival, analysis (Allison, 1984; Box-Steffensmeier and Jones, 1997, 2000; Bennett, 1999). One of the primary advantages of survival models is their ability to account appropriately for right-censored observations.<sup>24</sup> Additionally, this class of models allows for the inclusion of time-varying covariates, or covariates that change in value during the course of an event. The capacity of these models to accommodate time-varying covariates results in a somewhat unorthodox data matrix, with multiple observations, or “spells,” per conflict, rather than more traditional units of analysis, such as the event or event-years. Within each of these spells the values of all of the covariates remain *constant*, and therefore the spells in our set may be of varying lengths.

Two subcategories of survival models might be appropriate for our analysis of civil war duration. One subcategory of survival models, parametric models, allows the researcher to test for duration dependence, or the possibility that the likelihood of an event occurring changes as time passes and the event fails to occur.<sup>25</sup> A second subcategory of survival models, semi-parametric models, principally associated with the Cox regression, has some significant advantages relative to parametric models (Box-Steffensmeier and Jones, 1997, 2000). Specifically, the Cox regression does not require the researcher to make assumptions about the distribution of survival times in a sample. Given that we have no a priori information about the distribution of survival times in our sample of 152 civil

<sup>24</sup> A right-censored observation is an observation in which, to use an example from this study, a civil war is still continuing after the end of the period for which we have available data (i.e., December 31, 1992).

<sup>25</sup> Parametric models are those in which “every aspect of the model is completely specified except for the values of certain parameters, which must be estimated” (Allison, 1984:22). The critical parameter that we cannot specify in advance is the relationship between time and the hazard rate. The most popular of the parametric models among political scientists appears to be the Weibull model. While this model does have the above noted advantage, it requires the assumption that the log of the hazard rate increases or decreases linearly with the log of time. The primary disadvantage of this assumption is that it does not allow the hazard rate to increase over certain time periods while decreasing over others (Allison, 1984:25). Although experience has shown that the coefficient estimates produced by the Weibull are not typically sensitive to misspecification of the hazard function, given the ready availability of an alternative method that does not require such information (i.e., the Cox model), we find the alternative attractive. We thank Christopher Zorn for reiterating this point in a private communication.

TABLE 2. Cox Regression Model of Civil War Duration

Variable	Coef.	Z	p > Z <sup>a</sup>	Outlier Removal		Hypothesis Number	Pred.	Est.
				> 1 <sup>b</sup>	> .5 <sup>b</sup>		Impact on Duration	Impact on Duration
Prior Political Grievances	−1.533	−0.63	0.530			1	+	ns
Geographic Size	0.000	−0.07	0.942		+	2	+	+
Political System Age	0.000	0.00	0.999			3	−	ns
Frequency of Neighboring States	0.056	1.38	0.169	++	++	4	+	−
Proximity to Major Power	0.000	1.08	0.281			5	−	ns
Separatist	−0.497	−2.10	0.036	++	+++	6	+	+
Government Strength	−19.336	−1.64	0.101			7	−	+
Civil War Costs	2.630	5.25	0.000	+++	+++	8	−	−
Intervention (Opposition)	−0.185	−0.75	0.451	++	++	9	−	+
Intervention (Government)	−0.779	−2.29	0.022	++	+++	10	−	+
Balanced Intervention	−1.944	−1.69	0.091	+++	+++	11	+	+
Target of Militarized Dispute	0.736	4.59	0.000	+++	+++	12a,b	+, −	−
Local Civil War	−0.493	−2.24	0.025	++	+++	13	+	+
Local Militarized Interstate Conflict	0.165	1.99	0.046	++	++	14	+	−
Civil Wars	152			148	143			
Civil War Endings	133			123	111			
Spells	449			433	406			
Time at Risk	174,156							
Log-Likelihood	−519.73							
Wald $\chi^2$ (df = 14)	92.64							
p of $\chi^2$	<.001							

<sup>a</sup>Based on two-tailed significance levels.  
<sup>b</sup>Model estimated when all spells expected to change a coefficient by more than 0.5 or 1 standard deviation are removed from the sample. Key to revised statistical significance (two-tailed): + = p < .10 ++ = p < .05 +++ = p < .01.

wars, we resort to a semi-parametric model, the Cox regression, with time-varying covariates.<sup>26</sup>

Empirical Analysis

The results of the Cox regression are reported in Table 2. We report the linear beta in the table’s first column. To interpret the coefficients it is important to keep in mind that the dependent variable in the Cox model is the hazard rate. The hazard rate can be understood as the risk of failure (in this case, the end of a civil war) at time t, given that the civil war has already lasted until time t. Therefore, a positive linear coefficient is interpreted as an increased likelihood of a civil war ending, while a negative linear coefficient is interpreted as a decreased likelihood of a civil war ending.

Overall, the chi-square statistic reported in Table 2 suggests that our model fits the data reasonably well, although the model does predict slightly longer civil war duration than is achieved by many of the shorter civil wars in our sample.<sup>27</sup> Given the difficulty in determining with precision the termination points of civil

<sup>26</sup> We estimated our Cox regression with *Stata 6.0* running on *Windows98*® with the *stcox* command, the robust option, and time-varying covariates.  
<sup>27</sup> A plot illustrating this overprediction is available from the authors on request.

wars, we also conducted diagnostic tests to determine the impact of influential observations in our sample of 449 civil war spells. In order to assess the impact of influential observations, or outliers, on the stability of our estimated coefficients, we rely on an analog of the DFBETA statistic often used in regression analysis.<sup>28</sup> The DFBETA statistic affords us the ability to generate an estimate of how many standard errors the estimated coefficient for each variable would change were a given spell removed from the analysis. To assess the sensitivity of our results to the presence of outlying spells, we re-estimated our model two additional times, once with all spells with a DFBETA score of  $>1.0$  removed from the analysis, and again with all spells with a DFBETA score of  $>0.5$  removed from the analysis (see columns 4 and 5 in Table 2).<sup>29</sup>

Regardless of our choice of threshold for the removal of the most influential observations in our sample, the estimated coefficients that were statistically significant in the base model (reported in the first column) remain so. Furthermore, the coefficients corresponding to the variables *Geographic Size*, *Frequency of Neighbors*, and *Intervention (Opposition)* achieve statistical significance when the more influential cases are removed from the analysis. We believe that it is probably prudent to exercise some caution in interpreting the coefficients corresponding to these three variables. While the presence of outliers might be a product of measurement error, in which case it seems appropriate to drop the outlying cases, it is also possible that these outliers represent the actual distribution of cases, or that these cases are a function of some excluded variable, making their removal far more problematic.<sup>30</sup> For instance, only *one* civil war in our sample ends with a balanced intervention.<sup>31</sup> Clearly, this case represents an influential observation (i.e., spell) in our sample, since it brings the estimated coefficient associated with our measure of balanced intervention down from infinity into the realm of estimable coefficients. Thus, while from a theoretical perspective we expect that civil wars can end while there is a balanced intervention, we also expect that these occurrences will be rare, so dropping this highly influential case does not seem warranted.<sup>32</sup>

Turning to an assessment of our hypotheses, several items of interest are reported in Table 2. First, the variable *Prior Political Grievances* is statistically indistinguishable from zero. This finding suggests that there is little connection between civil war states with records of severe domestic political disagreements and the duration of subsequent civil wars. While we hypothesize that larger states should correspond to longer civil wars, the variable *Geographic Size* achieves statistical significance in the predicted direction, but only when we remove approximately 10% (406/449) of the more influential spells from our sample, a finding

<sup>28</sup> The DFBETA analog for the Cox regressions is based on the efficient score residuals ( $\Delta$ ). To calculate the DFBETA we multiplied the efficient score residuals by the variance covariance matrix  $[\Delta'V(\hat{\beta})]$  (Stata Press, 1999:391). The code necessary to perform this operation in *Stata 6.0* is available from the authors upon request.

<sup>29</sup> As with all cut-off points, the ones we employ to identify outliers are dictated by rules of thumb. We chose the cut-off of 1 because it is suggested in the literature (e.g., Bollen and Jackman, 1990:267). The second cut-off point of .5 was chosen because it removed the 10% (43/449) of spells that had the largest impact on our estimated coefficients. Since each spell that is deleted makes all of the remaining spells more influential, it seemed unwise to remove any more than 10% of our spells in our sample.

<sup>30</sup> While it is possible either that our model is missing some explanatory variable that would explain why these cases are outliers, or that our measure of civil war duration for these cases is exceptionally inaccurate, we do not know which of these is the correct diagnosis. Without studying the outliers and trying to figure out why our model does not explain their duration well, it seems unwise to simply delete these spells. In short, these spells could reflect the actual impact of these covariates. The list of outliers that we identified with these diagnostic procedures is available from the authors on request.

<sup>31</sup> This is the civil war in Chad (916).

<sup>32</sup> These caveats regarding outlying spells notwithstanding, we remain convinced that the assumption that influential spells pose *no* problems for inference is equally fraught with danger, particularly in small samples such as the one we analyze herein.

that, although squaring with our expectations, is one that we consider with caution. The statistical insignificance of the variable *Political System Age* indicates that the maturity of the civil war states, a property that we associated with the degree of political legitimacy, has no impact on the duration of the civil war.

The estimated relationship for the variable *Frequency of Neighboring States* is surprising, since its predicted direction is contrary to expectations of a positive relationship between the frequency of borders and the duration of civil wars. Despite our expectations, the estimated coefficient for *Frequency of Neighboring States* indicates that as the frequency of neighboring states increases, so too does the hazard rate, thereby signaling civil wars of shorter duration.

Even after removing influential spells, the statistical insignificance of the variable *Proximity to Major Power* indicates no support for the idea that the location of civil wars with respect to major power states influences their duration. Stated differently, one might infer from this estimated coefficient that major power states have been no more effective at influencing the duration of civil wars that are proximate relative to those civil wars that are distant. However, our analysis clearly indicates that the type of civil war—whether the opposition group declares separatist goals—exerts a significant impact on the duration of civil wars. Specifically, the negatively signed coefficient for the variable *Separatist* suggests that when opposition groups seek secession, the hazard of a civil war ending decreases and its duration increases.

We are less successful in predicting the impact of government strength on the duration of civil wars. Indeed, while we predict a positive relationship between the variable *Government Strength* and the hazard of a civil war ending at a given time, the estimated effect is negatively signed. Essentially, the estimated effect of the variable *Government Strength* on the hazard rate indicates that across this set of civil wars, governments with larger per capita military forces are less able to prosecute a civil war effectively (i.e., end the conflict sooner) than are those civil war states with smaller per capita armies, a relationship that, on its face, seems counterintuitive. However, we are somewhat wary about the validity of this estimated relationship, since it is *not* time-varying and is *not* measured relative to the strength of rebel groups engaging government forces within the context of each civil war.

Turning to the impact of the costs of civil wars, the variable *Civil War Costs* is positively signed, suggesting that as the battle deaths per capita resulting from a civil war increase, the hazard of civil wars ending increases thereby shortening the duration of these conflicts. We locate negatively signed linear coefficients corresponding to the variables *Intervention (Opposition)* and *Intervention (Government)*, respectively. On its face, the findings for these two variables are opposite our theoretical and intuitive expectations. Specifically, the two negatively signed coefficients suggest that as support for either of the domestic combatants increases, the hazard rate decreases, corresponding to a lengthening of the duration of civil wars.

What explains these unanticipated negative relationships? Our reasoning is that we should expect a causal relationship between the two variables measuring intervention on opposite sides of a conflict and the variable *Balanced Intervention*. In short, we suspect that when third party states commit resources to one side in a conflict, other third parties are stimulated to counterbalance these contributions by committing resources to the opposite side in the conflict. It seems likely that our measures of intervention on the side of either the government or the opposition are missing a significant number of these balanced interventions, thus producing the observed sign for our intervention variables. In turn, the linear coefficient corresponding to the variable *Balanced Intervention* is negatively signed, suggesting that when the distribution of third party contributions to a civil war is equal, then the hazard for civil war decreases, and the duration



increases (i.e., a condition of stalemate emerges). Thus, the estimated coefficient for the variable *Balanced Intervention* matches up with our expectations.

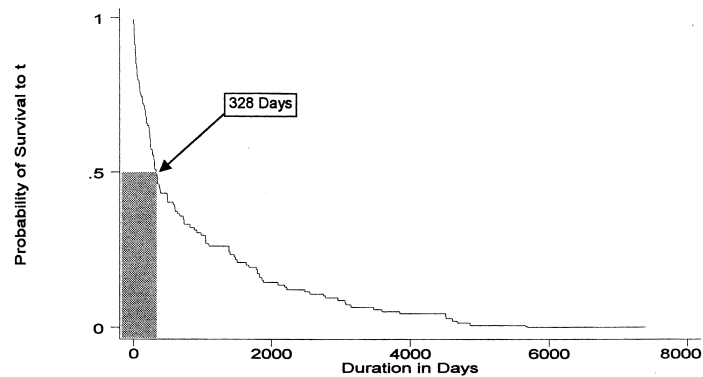
Finally, we turn to the variables assessing the impact of the stability and militarization of a civil war state's international environment on the duration of the civil war. Specifically, the variable *Target of Militarized Dispute* indicates that when this condition holds, the civil war is likely to be of a shorter duration, a dynamic that is perhaps analogous to the recent NATO bombing of Yugoslavia and the Serbian decision to capitulate. The statistically significant and negatively signed coefficient for the variable *Local Civil War* suggests, as we anticipated, that proximate civil wars have a positive effect on the duration of a given civil war. However, the same general, positive connection between proximate intrastate conflict and civil war duration does not obtain when we consider the presence of proximate interstate conflict, as indicated by the linear coefficient corresponding to the variable *Local Militarized Conflict*. Specifically, the presence of local militarized interstate disputes appears to decrease the duration of civil wars. Perhaps one explanation for this relationship is that when the states neighboring the civil war state are engaged in militarized conflict, the costs for involving themselves in a civil war increase, the complexity of the civil war decreases, and the civil war is likely to be resolved more quickly.

While the estimated coefficients reported in Table 2 are relatively easy to interpret with regard to the hazard of civil war endings, we find graphic presentations of survival distributions helpful in assessing the substantive impact of several of the covariates on the hazard that an average civil war will end.<sup>33</sup> In Figure 1a we present the survival distribution for a *typical* civil war in our sample when all continuous covariates reported in Table 2 are set at their respective means and all dichotomous and count variables are evaluated at zero. With respect to interpretation of the line plotted in Figure 1a, each point on the line indicates the proportion of civil wars (the y-axis) that are expected to survive through a given point in time (the x-axis). In this case, the plotted line corresponds to the *median duration* for a typical civil war. Stated differently, given a set of typical civil wars, we would expect half to terminate by the end of the first year (approximately 328 days).

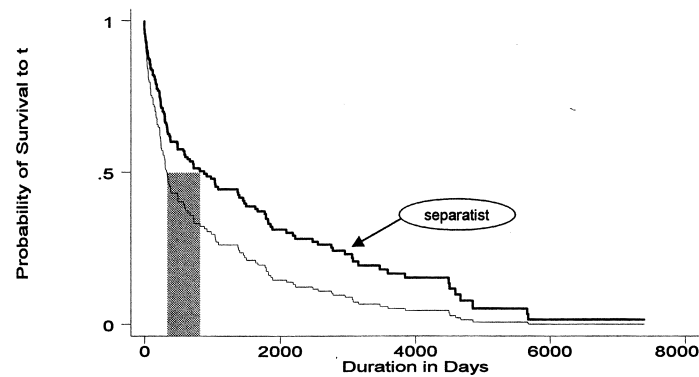
Given the baseline probability of survival illustrated in Figure 1a, and its corresponding approximate length in calendar days, we can now consider the substantive impact of the covariates on the duration of civil wars. To do so, we plot the expected survival probabilities for seven of the statistically significant covariates from our Cox regression that we report in Table 2. In Figure 1b, we illustrate the estimated impact of the presence of separatist demands on the predicted duration of civil wars. When separatist demands are made by opposition groups, the estimates provided by the Cox model indicate that in a typical set of civil wars the median end point increases by about 531 days, an increase of approximately 162%. Thus, given the presence of separatist demands, we would expect an otherwise typical civil war to endure about one and one half years longer than nonseparatist conflicts.

In Figure 1c, we report the survival probabilities corresponding to  $\pm 1$  standard deviation values of the variable *Government Strength*, along with the baseline survival probability. The clustering of these three lines suggests that, while we have failed to anticipate correctly the relationship between this variable and the dependent variable, its substantive impact on the civil war hazard is quite small. These rather picayune changes above and below the median survival probability are reflected by the narrow bands of gray shading corresponding to movements away from the baseline survival probability in Figure 1a. Indeed, a one standard

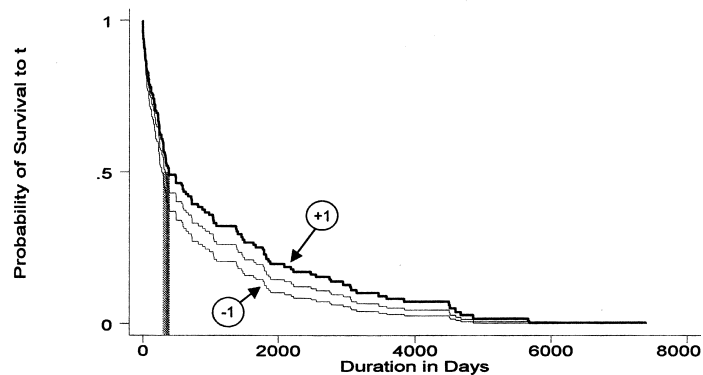
<sup>33</sup> The survival function is one minus the cumulative distribution function of the duration.



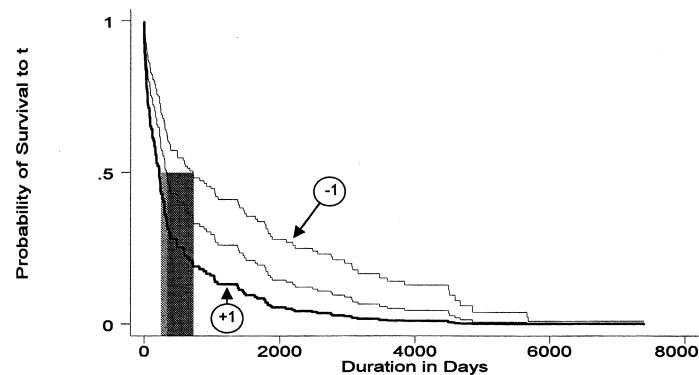
(a) Typical Civil War Survival



(b) Separatist

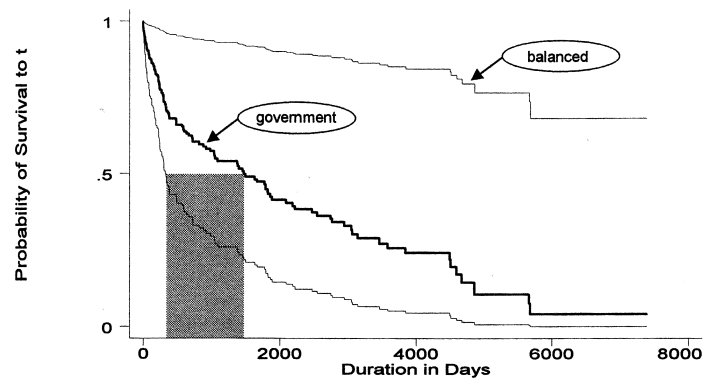


(c) Government Strength ( $\pm 1$  Std. Dev.)

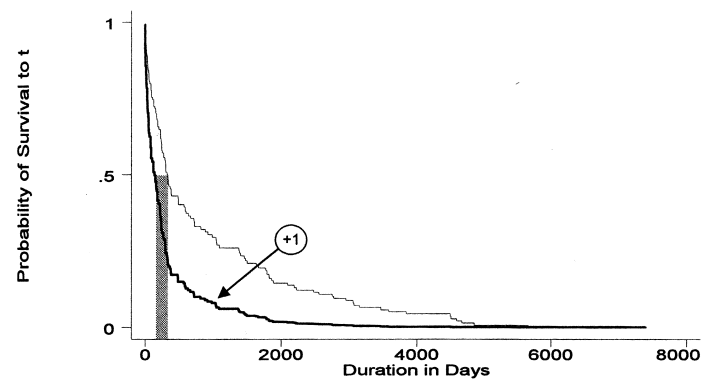


(d) Civil War Costs ( $\pm 1$  Std. Dev.)

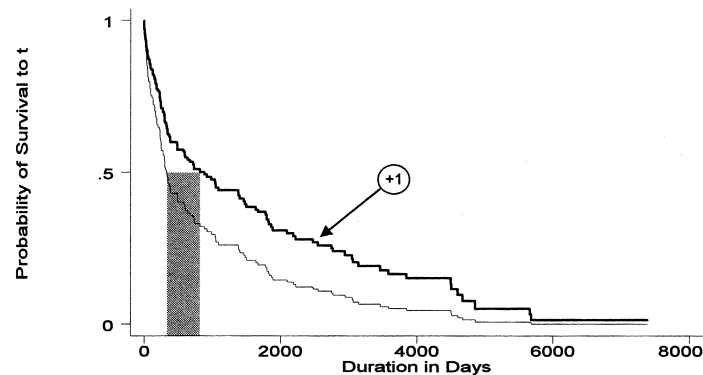
FIG. 1. 1a–h. Estimated Survival Probabilities. (Figure continues on facing page.)



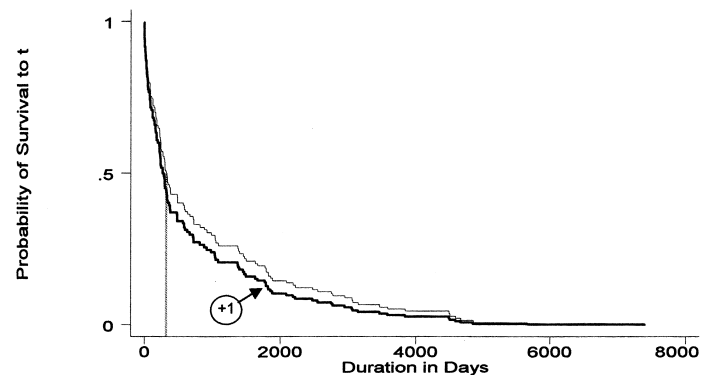
**(e) Balanced Intervention & Intervention (Government)**



**(f) Target of Militarized Dispute (+1 Std. Dev.)**



**(g) Local Civil Wars (+1 Std. Dev.)**



**(h) Local Militarized Interstate Conflict (+1 Std. Dev.)**

FIG. 1. *Continued.*

deviation increase in government strength corresponds to an increase in the median survival of 57 days, a 17% change, while a one standard deviation decrease in government strength results in a reduction in the median duration of 44 days, a 13% change.

Turning to the illustration of the relationship between the costs of civil wars and the duration of these conflicts, we plot the  $\pm 1$  standard deviation increase and decrease in the value of the variable *Civil War Costs* on the survival probability in Figure 1d. At a glance, the gray shading indicates the presence of an asymmetric impact exerted by the civil war costs on the median duration, with an increase of one standard deviation in the value of this variable corresponding to a decrease of approximately 99 days, or a 30% reduction in the expected duration. Conversely, a decrease of one standard deviation in the value of the variable results in an increase in the median duration of civil wars by about nearly a year (371 days), or a 113% increase in duration.

In Figure 1e we plot the impact of two variables estimating the impact of third party states on civil war duration, *Intervention (Government)* and *Balanced Intervention*. The figure illustrates the rather striking impact that these two variables exert on the predicted median duration. Specifically, when third party states intervene on the side of the government, the expected median end point corresponds to an increase of about 1,140 days over the baseline duration, a 347% change in duration. A review of Figure 1e indicates that while the plot of the survival probabilities for intervention on the side of the government reaches the median, or 0.5, point on the y-axis, this does *not* occur for the plot reflecting the impact of balanced interventions on civil war duration. Indeed, as we noted above, only one of the 152 civil wars in our sample terminates with a balanced intervention. Given the discussion in the literature (e.g., Pillar 1983), we do not find this entirely surprising, as third parties may exit a conflict when they detect that the side they are supporting is likely to be defeated. Alternatively, there may be reasons exogenous to the civil war that dictate a third party's departure and, in turn, this departure hastens the defeat of one of the parties. Regardless, the information contained in Figure 1e suggests that balanced interventions create stalemates that can have a tremendous positive impact on the duration of a civil war. Our findings regarding the impact of third parties on the duration of civil wars jibe quite nicely with the recent empirical analyses reported in Elbadawi and Sambanis, 2000, and Regan, 2000a, in which the authors find that external interventions result in civil wars of longer duration.

Finally, in Figures 1f–h we plot the estimated impact of the three environmental variables, *Target of Militarized Dispute*, *Local Civil War*, and *Local Militarized Interstate Conflict*, respectively, on the survival probability of civil wars. When a civil war state is the target of a militarized dispute (see Figure 1f), the expected duration decreases by a little greater than one half of a calendar year (190 days), a modest reduction constituting about a 58% decrease in the median survival probability. In Figure 1g, the presence of local civil wars results in an increase of about one and one half years (522 days), or a 160% increase in the median duration. Finally, the plots in Figure 1h indicate that in situations where the civil war state is proximate to militarized conflict between states, the expected duration decreases by 47 days from the baseline, a rather modest 14% change.

What are the implications of these findings for our general inquiry? While it is clear that we do not estimate a statistical model incorporating every factor associated with civil war duration, we believe that we do a fair job of representing the internal and international dimensions of civil war duration.<sup>34</sup> As such, we

<sup>34</sup> In part, this limitation is due to our decision to evaluate a broad sample of civil wars (i.e., the period 1820–1992), one that precludes analysis of several covariates, principally those associated with foreign trade and the characteristics of domestic economic systems.

find that in many instances the international aspects of civil wars are at least as important as those associated with the domestic environment when predicting the length of civil wars. Moreover, we find that interventions by third party states, particularly their distribution across the civil war combatants, are of tremendous importance to the civil war process.

### Conclusions

In this paper we assess some of the basic attributes of what we refer to as the world politics of civil war duration, with a special interest in assessing the impact of third party states on the duration of civil wars. To do so, we turn to a literature conceptualizing interstate relations as “security webs” (Rosh, 1988), “politically relevant international environments” (Maoz, 1996, 1997), and “geographic neighborhoods” (Enterline, 1998). Drawing on these ideas, as well as the more general research program advocating the spatial, contextual nature of international relations advanced in Gleditsch and Ward, 2000, we consider civil war states to be embedded in the interstate system, rather than conflicts that transpire in isolation.

While publics and policymakers often decry the death and destruction that accompany civil wars, the civil war literature suggests that, regardless of whether third party interventions are benevolent or malevolent, their actions are strategic. Therefore, while some third parties might prefer to end civil wars rapidly for humanitarian reasons, other third parties might prefer to prolong the duration of civil wars with an eye toward plundering the natural resources of the civil war state, or draining the resources of a rival third party, for example. While the literature suggests that it is likely not the case that third party states are generally responsible for instigating civil wars, it is clear to us that third parties are central to the civil wars as conflict processes. In addition to the idea that civil wars are intertwined with interstate dynamics, we also underscore the notion that these conflicts are not discrete events. Rather, they are processes that occur across space and time, often involving multiple actors internal and external to the civil war state.

Despite the importance of the international dimensions in shaping the outcomes of these conflicts, there have been few attempts to cast a general model that integrates these dimensions in such a way that both the interdependent and process attributes of civil wars are captured. We make an initial effort along these lines in this paper. To do so, we formulate a set of hypotheses associating four dimensions of civil wars to the duration of civil wars: the characteristics of the civil war state, the characteristics of the civil war, the behavior of third parties, and the characteristics of the civil war state’s local interstate environment. To test whether these hypotheses are supported empirically, we carry out an event history analysis on a sample of 152 civil wars collected by the COW project for the period 1820–1992.

We find that while some of the standard factors associated with the civil war state and the characteristics of the war, such as whether the conflict is one marked by separatist demands or whether the conflict is costly in terms of per capita deaths, have significant substantive effects on civil war duration, the variables representing the international dimensions of civil wars, particularly third party interventions, also make substantial contributions to our statistical model. Furthermore, we find strong statistical evidence suggesting that the impact of third parties on the duration of civil wars is a function of the interdependent nature of these interventions. That is, how third party interventions are distributed—equitably or inequitably—across the set of civil war combatants has a striking substantive impact on the duration of these conflicts. Our findings correspond with our intuitive understanding of one aspect of these conflicts: an equitable distribution of third party interventions corresponds to a greater like-



lihood that a stalemate will emerge and the civil war will endure for a significantly longer period of time.

This relationship between the distribution of third parties and civil war duration would appear to be borne out in recent civil wars. In Kosovo, NATO members sought to deter Russia from supporting its long-time ally, the Serbians, for fear that third party support for both the Kosovars and Serbians would increase the duration of the conflict by creating a balanced intervention, thereby decreasing the likelihood that the Serbians would capitulate sooner rather than later. As it turned out, Russia, though reluctant, refrained from intervening overtly on the side of the Serbians, and NATO forces were able to stop the Serbian offensive in Kosovo fairly rapidly.

Conversely, in what has been referred to as Africa's "First World War" (Fisher and Onishi, 2000), the recently established regime of Congolese President Laurant Kabila was collapsing under the assault of its former allies, Rwanda and Uganda, until the beleaguered leader was able to convince Angola, Namibia, and Zimbabwe to intervene on his behalf with military force. Therefore, a civil war that at one point contained an inequitable distribution of third party interventions—a distribution that foreshadowed the likely demise of Kabila's regime—was transformed into a stalemate by the intervention of these additional third party states. By our analysis, this scenario involving third parties is one that promises a long civil war with attendant levels of death and destruction.

Policymakers in some Western democracies have suggested that it is the moral obligation of third party states to intervene in civil wars in order to bring a halt to the human suffering and physical destruction associated with civil wars (Holbrooke, 1998). While we do not disagree with this policy imperative, the analysis reported in this paper indicates that, regardless of intentions, the impact of third party interventions into ongoing civil wars is in part contingent upon the behavior of other third party actors. And so, the critical aspect of intervention is not simply intervening per se, but coordinating interventions among third parties, a process that may involve raising the costs to other third parties for creating the conditions whereby third party interventions are balanced across the domestic combatants in a civil war. Furthermore, in addition to the role of third parties, it is evident that civil wars are embedded in an interstate environment that influences the course of these conflicts, albeit to a lesser degree than third party intervention.

Ultimately, the analysis we present above leads us to the conclusion that when devising policies intended to generate specific outcomes in civil wars, it is critical to consider, as argued by Bueno de Mesquita (1981) in his study of interstate war and more recently in Gleditsch and Ward, 2000, the *strategic and interdependent* interests and behavior of third parties and potential third parties, as well as the geopolitical environment within which civil wars are embedded. More broadly, it is evident to us that the analysis of civil wars, long the purview of an industrious and insightful literature in the field of comparative politics, is an important research problem for the subfield of world politics scholars, as well.

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