# Institutionalizing Peace: Power Sharing and Post-Civil War Conflict Management

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This article examines how power-sharing institutions might best be designed to stabilize the transition to enduring peace among former adversaries following the negotiated settlement of civil wars. We identify four different forms of power sharing based on whether the intent of the policy is to share or divide power among rivals along its political, territorial, military, or economic dimension. Employing the statistical methodology of survival analysis to examine the 38 civil wars resolved via the process of negotiations between 1945 and 1998, we find that the more dimensions of power sharing among former combatants specified in a peace agreement the higher is the likelihood that peace will endure. We suggest that this relationship obtains because of the unique capacity of power-sharing institutions to foster a sense of security among former enemies and encourage conditions conducive to a self-enforcing peace.

n December 5, 2001, delegates to a United Nations conference on the future of Afghanistan signed the "Agreement on Provisional Arrangements in Afghanistan Pending the Re-establishment of Permanent Government Institutions." A central feature of this agreement is the requirement that power be shared among the competing societal groups in the transitional institutions of government. Both the mediators and opposing groups that served as the architects of the settlement agreed to establish an array of measures for the sharing of power in the belief that these institutions would foster a sense of security in the post-civil war environment that would make the return to armed conflict less likely.

Afghanistan joins a growing number of states that have agreed to employ power-sharing measures as part of the negotiated resolution to civil conflicts. Power-sharing institutions, which define how decisions are to be made within a divided society and the distribution of decisionmaking rights within a state, have been a central element of recent peace settlements negotiated in Bosnia, the Philippines, and Northern Ireland.<sup>2</sup> Why might including a range of power-sharing institutions in a negotiated settlement help to stabilize the peace? In addressing this question, most advocates of the use of power-sharing institutions have maintained that these institutions promote moderate and cooperative behavior among contending groups by fostering a positive-sum perception of political interactions. While an extensive set of country case studies exists seeking to substantiate the relationship between power-sharing institutions and peaceful intergroup relations (e.g., Lijphart 1977; Crocker and Hampson 1996), relatively few studies have addressed this issue through the use of a statistical methodology.<sup>3</sup> This article offers a statistical demonstration of the value of power-sharing

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<sup>1</sup>The agreement in Afghanistan does differ from other negotiated civil war settlements we have examined in one important respect—third-party actors have made it clear that, although they were parties to the conflict, neither the Taliban nor al Qaeda are to participate in the power-sharing institutions.

<sup>2</sup>Although Northern Ireland's peace agreement contains a number of power-sharing institutions, we do not include it among our cases because it fails to meet the Correlates of War criterion of 1,000 battle deaths per year that we use to classify conflicts as civil wars.

<sup>3</sup>For a statistical study that offers a more skeptical view of the use of power-sharing institutions to promote intergroup moderation, see Roeder (forthcoming).

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institutions through a focus on states that have resolved civil conflict through negotiated settlement.<sup>4</sup>

We employ survival analysis to examine the 38 civil wars that ended via negotiated settlement between the years 1945 and 1998 and find that the creation of an array of power-sharing institutions is positively associated with a durable peace. We suggest that this relationship obtains because developing wide-ranging power-sharing institutions effectively addresses security concerns associated with post-civil war conditions and assures contending groups that they are in a position to influence decision-making processes in the future.

#### Power Sharing and the Negotiated End to Civil War

Rules requiring power sharing among former adversaries are a common feature of negotiated settlements to civil wars. Of the 38 negotiated settlements considered in this study, the sole agreement that failed to mandate any form of power sharing was the short-lived 1989 Gbadolite Accord intended to resolve the war in Angola. What accounts for the frequency with which these provisions are included in a settlement? Unlike civil conflicts in which a single set of actors emerges as a victor on the battlefield, a negotiated resolution to war requires that the new rules of conflict management be mutually agreed upon. Agreement on these rules is complicated by the fact that it takes place in an environment rife with suspicion and concerns on the part of adversaries about what the actions of others will mean for their safety. Questions emerge over control of the state's political institutions, territory, military, and economic resources. Former combatants require assurances that no single group will be able to use the power of the state to secure what they failed to win on the battlefield, and perhaps threaten the very survival of rivals. Institutional choice in this environment is driven by the need to protect the interests of all signatories to the agreement. Power sharing serves as the mechanism that offers this protection by guaranteeing all groups a share of state power. By dividing and balancing power among rival groups, power-sharing institutions minimize the danger

<sup>4</sup>We examine only a subset of civil wars that have ended—those that have been resolved via the process of negotiations among the adversaries to the conflict. For this reason, our findings are not comparable to the work of scholars such as Licklider (1995) who, having examined all civil wars that have ended, conclude that settlements imposed by a conflict's victor prove more durable than negotiated agreements. The claim we advance here is that, in the context of a negotiated settlement to civil wars, the greater the dimensions of power sharing specified in an agreement, the higher is the likelihood that peace will endure.

of any one party becoming dominant and threatening the security of others.

In this section we review existing scholarly work concerning both the form and intended function of power sharing in deeply divided societies. We suggest significant modifications to these concepts to accommodate our focus on the unique challenges associated with the post-civil war environment.

#### Forms of Power Sharing

Power-sharing practices first came to the attention of the academic community as part of the consociational model developed by Arend Lijphart in his ground-breaking work *The Politics of Accommodation: Pluralism and Democracy in the Netherlands* (1968) and elaborated upon in his book *Democracy in Plural Societies* (1977). In these studies, Lijphart advanced the argument that pluralistic societies that made use of power-sharing rules and practices would be able to exercise power consensually. Similarly, Eric Nordlinger (1972) sought to demonstrate that power sharing could be used to regulate conflict in democracies with deeply divided societies.<sup>5</sup>

While both Lijphart and Nordlinger identify institutions that might prove capable of managing conflict in pluralistic societies, neither scholar considered the value of these mechanisms in efforts to stabilize the peace among states emerging from civil war via the process of negotiation. Yet many of the power-sharing institutions Lijphart and Nordlinger advocate have clear applications to this environment given that competing parties, failing to win the right to design new rules and institutions for the post-conflict society on the battlefield, must of necessity agree to share state power. Based on this logic, we have sought to extend these now classic works to a novel environment. Rather than considering how powersharing institutions might assist in securing democracy within diverse societies, we explore the question of how these institutions might best be designed to stabilize the transition to enduring peace following the bargained resolution of civil wars.

Most of the research investigating the relationship between power-sharing institutions and domestic peace has followed the lead of Lijphart (1977) and focused primarily on the distribution of *political power* across competing groups. These institutions are commonly defined as

<sup>5</sup>In contrast to the power-sharing mechanisms favored by Lijphart, Horowitz (1985, 1991) proposes the use of alternative institutions that encourage moderate behavior by both elites and their followers. As Sisk (1996) suggests, these institutions may be defined as a form of power sharing because they tend to foster the creation of broad coalitions representing diverse interests.

including a grand coalition; the mutual veto; a proportional electoral system and proportionality in the distribution of administrative appointments; and either territorial or corporate autonomy (see also Sisk 1996).

The political arena, although important, is not the only sphere in which competing groups may agree to share power. This is particularly true in the context of states emerging from civil war, where other dimensions along which power is exercised may have equal or greater significance to parties seeking to protect their interests in an inherently unstable environment (Hartzell 1999). For example, given that groups emerging from a civil war have only recently ceased using armed force against one another, questions of who will exercise control over the instruments of coercion are likely to be central.<sup>6</sup> Concerns regarding access to economic resources and the identity of those controlling the levers of economic power may also be relevant to the stability of the peace, especially when particular groups have a history of being economically marginalized (Esman 1987). Although the existing power-sharing literature has at times tacitly acknowledged these other dimensions of power, for example by referring to practices such as the proportional allocation of military positions and governmental spending within diverse societies, we believe that it is important to make explicit these distinctions in light of the multidimensional nature of the security concerns parties have in the wake of civil wars.

In order to accommodate our broader understanding of the dimensions in which power is exercised, as well as the mechanisms available to distribute power among groups in the post-civil war environment, we define power-sharing institutions as those rules that, in addition to defining how decisions will be made by groups within the polity, allocate decision-making rights, including access to state resources, among collectivities competing for power. We categorize different forms of power sharing using a four-part typology based on whether the intent of the policy is to share or divide power along a political, territorial, military, or economic dimension. The political dimension details the distribution of political power among the parties to the settlement. We limit political forms of power sharing to electoral proportional representation, administrative proportional representation, and executive proportional representation. The territorial dimension defines the division of autonomy between levels of government on the basis of federalism or regional

autonomy arrangements. Rules regarding the distribution of the state's coercive power among the warring parties are to be found in the *military* dimension. Finally, the *economic* dimension defines the distribution among groups of economic resources controlled or mandated by the state.<sup>7</sup>

# Conflict Management Functions of Power Sharing

Earlier studies of power-sharing institutions have offered different claims concerning the capacity of political power-sharing institutions to manage conflict. Some scholars maintain that better conflict-management practices are the result of the broad-based governing coalitions that are created through power sharing. In this view, power-sharing institutions' guarantee of some form of representation at the political center and the opportunity to take part in decision making is what serves to mitigate conflict (Lijphart 1977; Sisk 1996). Other authors have placed less emphasis on the procedural aspects of power sharing. Rather, they conceive of these institutions as ones that manage conflict by establishing a stable balance of power among groups (Snyder and Jervis 1999). These claims regarding the functions of power-sharing institutions are not mutually exclusive. While the ability of power-sharing institutions to balance power among groups is initially likely to be the critical factor for stabilizing the peace, long-term stability seems to depend on groups having learned to transact with one another and perhaps having even developed new rules of conflict management on the basis of their interactions at the political center.

As we have noted previously, earlier studies have not typically considered the potentially significant effects that the accumulation of different mechanisms of power sharing might have on the long-term prospects for effective conflict management. Power sharing is often

<sup>7</sup>Our understanding of power sharing differs from the definition that appears in the traditional literature on this subject. We conceive of power-sharing institutions as those that balance power among groups by specifying not only how groups are to share power but also by dividing power in such a way as to make it exceedingly difficult for any group to threaten the lives and interests of others. Our use of this definition means that we code some cases as instances of civil war settlements employing power-sharing institutions that the traditional literature on power sharing might not have considered as such. For example, we code the agreement to end hostilities in Chechnya as having created power-sharing institutions along multiple dimensions, not because the agreements called for Russian and Chechen factions to create any common institutions, but because the agreements called for power to be divided among the formerly warring entities in ways that sought to protect the security of the parties involved.

<sup>&</sup>lt;sup>6</sup>Although there has been little attention to this issue in the literature on power sharing, security-sector reform following civil wars has emerged as an issue on national, regional, and international agendas. See, for example, the articles in the first issue of the *Journal of Conflict, Security, and Development* 2001.

characterized as a simple dichotomous variable which is either present or absent in a state's institutions without considering the different dimensions addressed in an agreement. An innovation of this study is to suggest that power sharing should instead be considered a continuous variable that ranges in value from zero to four with each increment representing an additional dimension of power sharing (political, territorial, military, and economic) specified in the rules governing the society. The greater the overall number of power-sharing dimensions specified, the more likely that peaceful relations among collectivities will endure. We offer two reasons this is likely to be the case for those states that have negotiated a resolution to their civil wars.

First, including multiple aspects of power sharing in an agreement should have a cumulative effect on the actors' sense of security, with the different dimensions having the potential to become mutually reinforcing. For example, mandates for political power sharing are more likely to be bolstered and durable if the military is beyond the control of any single faction that might be tempted to use the threat of coup to alter the balance of power that exists in the political dimension or to check efforts at genuine cooperation. Similarly, economic power sharing may enhance the prospects of previously disadvantaged groups to accumulate the resources necessary to become genuinely competitive in future electoral competitions.

The Chapultepec Accords negotiated to end El Salvador's civil war serve to illustrate this principle of potential complementarities among power-sharing institutions. One of the main goals sought by the rebel Farabundo Marti Liberation Front (FMLN) was institutional change that would provide the group, as well as other opposition parties, guarantees that they could safely participate in civilian political life. In addition to seeking electoral reforms and participation in the electoral authority, a key element of the accords for the rebel army was a reform of the state security forces to incorporate some FMLN troops and thus erode the alliance between the military and the landed oligarchy on which political power had previously rested (Spence et al. 1997). Once power-sharing institutions were devised that ensured the military would no longer operate at the behest of the economic elite the FMLN proved ready to sign the peace accords.

<sup>8</sup>The concern that a military coup could be used to negate a powersharing arrangement was articulated by an opposition party member in reaction to a recently negotiated settlement to Burundi's civil war. In his words, "It's a question of whether this army can be trusted, given its past. They know they are close to power and can at any moment launch one more coup d'état" (Lacey 2001, A10). A second reason that the inclusion of multiple dimensions of power sharing in a negotiated civil war settlement proves advantageous to the prospects of long-term peace is that it serves as a source of protection against the failure to implement any single power-sharing provision of the settlement. Signatories to an agreement are likely to recognize that in the often difficult and contentious process of transitioning from war to peace there is the potential that some provisions of a peace agreement will not be implemented. By specifying multiple dimensions of power sharing in the agreement the failure of any one aspect of power sharing may not necessarily result in groups becoming permanently marginalized or unable to provide for their own security.

The 1996 Philippines peace settlement signed by the government of the Philippines and the Moro National Liberation Front (MNLF) demonstrates the protection against implementation failure offered by including multiple power-sharing provisions. Although the peace accord provides an initial level of security for the MNLF through the creation of a Special Zone of Peace and Development (SZOPAD) to consist of 14 provinces and nine cities in Southern Mindanao, the accord also calls for a plebiscite to be held three years after the creation of the SZOPAD in order to determine the establishment of a new autonomous government and the specific area of autonomy. Perhaps because of the uncertainty introduced by the prospect of a plebiscite, the MNLF was not content to rely on territorial autonomy alone as a guarantee of its security. Thus, the settlement also calls for the integration of some 7,500 members of the MNLF's military wing into the national army and security forces and the provision to SZOPAD by the state of a series of resources meant to foster development in the region.

# **Hypotheses**

The central hypothesis of this study (H1) is that the more extensive the power-sharing arrangements called for in a negotiated civil war settlement, the more likely it is that peace will endure in the long run. This hypothesis derives from the notion that the greater the number of dimensions of state power that any one group is prevented from dominating, the more secure other parties are likely to feel and as a result remain committed to the maintenance of peace.

<sup>9</sup>Research into the issue-of-peace-agreement implementation suggests that the failure to carry out a particular aspect of a peace agreement may occasionally occur even in those instances in which the peace itself proves durable (Hoddie and Hartzell 2002).

<sup>10</sup>We list the formally stated hypotheses in the Appendix.

Power sharing is not the only factor that has an influence on the stability of civil war settlements. We identify seven additional factors that we hypothesize may condition the durability of settlement stability. While these influences are diverse in form, they share in common an effect on the sense of security former combatants are likely to feel in the post-civil war environment. We suggest that those factors that enhance feelings of security among former adversaries reduce the likelihood of settlement failure; conversely, influences that reduce the sense of security among groups increase the potential for a return to war.<sup>11</sup>

The second hypothesis (H2) posits that negotiated settlements constructed by actors with previous experiences with the institutions of democracy are more likely to foster an enduring peace than settlements constructed by actors in which earlier regimes were authoritarian. <sup>12</sup> Antagonists familiar with democratic processes are more likely than those from authoritarian societies to trust that the institutions they have helped to create as part of a settlement can be counted on to manage conflict. This ability to work to accommodate opponents' interests should contribute to the long-run durability of the peace.

The third and fourth hypotheses, that wars of long duration increase the likelihood that parties will commit to an enduring peace (H3) while wars characterized by high casualty rates erode that commitment (H4), stem from similar considerations regarding the costs of war but generate different outcomes based on how they affect opponents' sense of security. We expect that the longer the period of civil conflict, the more likely parties to the war are to be convinced that they cannot prevail militarily based on their previous failures to decisively win on the battlefield. In this context, the expectations of former combatants should tend toward discounting the probability that a return to war would yield results that enhance the interests and security of their group as compared to efforts

at cooperation with wartime adversaries. The peace thus appears more likely to endure following lengthy wars. <sup>13</sup>

Although wars with high casualty rates are extremely costly, we do not expect them to result in settlements that prove stable in the long term. The reason for this is that wars with high human costs are likely to produce pronounced feelings of insecurity, very low levels of trust, and deep concern about the future. These concerns in aggregate are likely to mean that former adversaries will have limited enthusiasm for cooperating in the interest of managing future conflict. Participants in the settlement may also be more prone to interpret the behaviors of their former adversaries as hostile and thus be predisposed to a return to conflict.

Focusing on the security concerns adversaries face following a civil war, a number of scholars have suggested that civil war settlements are unlikely to prove stable unless the terms of the agreement are enforced by a third party (Touval 1982; Walter 1999; Walter and Snyder 1999). Third parties are called upon to "guarantee that groups will be protected, terms will be fulfilled, and promises will be kept" (Walter 1997, 340). Third party promises to intervene in order to provide for the safety of former combatants are meant to reassure these actors that their commitment to a negotiated settlement will not leave them vulnerable. Based on these claims, our fifth hypothesis (H5) is that settlements that call for third-party enforcement are more likely to produce a durable peace than those that make no provision for enforcement by thirdparty actors.

Our sixth hypothesis (H6) is that civil war settlements negotiated since the end of the Cold War are more likely to foster a durable peace than those negotiated during the Cold War. This hypothesis is premised on the expectation that factors at the level of the international system may exert some influence on adversaries' sense of security and thus on the likelihood that they will act to promote a stable peace. In particular, scholars have been interested in the effects the end of the Cold War might have had on this and other civil war outcomes (Crocker and Hampson 1996; Wallensteen and Sollenberg 1997). We expect that the end of the Cold War will enhance the prospects for stable settlements as intrastate rivals no longer have access to the arms and resources from the two superpowers that often allowed these conflicts to emerge or endure. The sense of security of all parties to the agreement should be enhanced by the recognition that there are fewer resources

<sup>&</sup>lt;sup>11</sup>We also include a number of these control variables as a means of addressing concerns that the relationship between our central explanatory and dependent variables is spurious. It is possible that both a willingness among former combatants to commit to power-sharing arrangements and the maintenance of peaceful interactions are conditioned by other factors. Many of our control variables are meant to address this issue of potential endogeneity by identifying those additional influences, such as conflict duration and casualty rates, that might serve simultaneously to encourage domestic adversaries to agree to power-sharing arrangements and condition the potential for the maintenance of peaceful interactions. The tests reported later in this article indicate that, even when including these control variables, power-sharing provisions prove to have an independent influence on the prospects for durable peace.

<sup>&</sup>lt;sup>12</sup>Countries such as Angola in which the civil conflict was linked to the war of decolonization that took place there were coded as having no previous experience with democracy.

<sup>&</sup>lt;sup>13</sup>This hypothesis parallels and complements Zartman's (1985) claim that civil conflicts are most likely to be "ripe for resolution" once the war has reached the point of a "mutually hurting stalemate" in which all parties have determined that they cannot achieve victory in the conflict despite the heavy costs already endured.

within the state to threaten the safety of any particular group or that would facilitate a return to war.

Many scholars suggest that the stakes in civil wars characterized by identity issues (i.e., conflicts involving ethnic, religious, racial, and linguistic interests) are less amenable to compromise than those civil conflicts centered on politico-economic issues. These analysts maintain that settlements of civil wars involving identity issues are less likely to prove stable than those designed to end politico-economic wars because the security concerns associated with identity wars are typically more intense than those stemming from the latter type of conflict and this limits the potential for cooperation (Gurr 1990; Licklider 1993; Kaufmann 1996–1997). <sup>14</sup> Building on this perspective, our seventh hypothesis (H7) is that negotiated settlements are more likely to foster an enduring peace when the issue at stake in the conflict is politico-economic rather than identity based.15

While the first seven hypotheses focus on how conditions at the time of the original settlement affect the duration of the peace, we are also interested in determining whether the passage of time has a second-order effect on how long the peace lasts following a negotiated settlement. We believe that there is an intuitive plausibility to the claim that a second-order effect exists, meaning negotiated settlements will exhibit negative duration dependence. Insecurity and tensions among adversaries should be particularly high during the months following negotiation of a settlement as parties test the terms of

<sup>14</sup>Kaufmann develops the claim that ethnic conflicts are less amenable to compromise in the following terms, "Civil wars are not all alike. Ethnic conflicts are disputes between communities which see themselves as having distinct heritages, over the power relationship between the communities, while ideological civil wars are contests between factions within the same community over how that community should be governed. The key difference is the flexibility of individual loyalties, which are quite fluid in ideological conflicts, but almost completely rigid in ethnic wars" (1996–1997, 267).

<sup>15</sup>It is because we view security as the paramount concern driving cooperative or competitive behavior among former combatants that we do not include any variables reflecting the aggregate level of economic development of each country in our test. A further reason for discounting economic factors is the lack of reliable data regarding material conditions in states emerging from civil war. Doyle and Sambanis (2000) include some economic variables for states involved in civil conflicts, but none of the variables available in their data set that would most intuitively serve as measures of development—such as gross domestic product per capita or energy consumption per capita—have values for all 38 cases for the year in which the conflict reached a negotiated resolution. Including a development variable in the model would require us to drop a number of cases and would likely lead to a systematic bias to the sample available for our tests. For both these theoretical and practical reasons, we believe the most prudent course is to not include a measure of development in our model.

the agreement and closely monitor each other's behavior for compliance with the new rules of competition. If a negotiated settlement is able to survive this challenging period, the risks of conflict breaking out again should decline with time. This should prove to be the case for two reasons. First, as time passes without an outbreak of war, the insecurity groups feel may begin to attenuate and so should their inclination to resort to arms for the purposes of protection. Second, over time not only are the new institutions for conflict management likely to acquire staying power but groups may also come to institutionalize norms for the management of conflict.<sup>16</sup> Based on this reasoning, our final hypothesis (H8) is that settlements are most prone to fail in the months immediately following their negotiation and that the risk of war breaking out again will decline with the passage of time.

# **Research Design**

#### **Case Selection**

Our focus is on the domestic conflicts of the post-World War II era. We classified intrastate conflicts that broke out between 1945 and 1998 as civil wars if they met the criteria employed by Melvin Small and J. David Singer in the Correlates of War project: (1) The conflict produced at least 1,000 battle deaths per year; (2) the central government was one of the parties to the conflict; (3) there was effective resistance on the part of both the national government and its adversaries during the course of the conflict; and (4) the conflict occurred within a defined political unit (Small and Singer 1982). There were a total of 103 conflicts that met these criteria between 1945 and 1998.

We next coded these civil wars on the basis of the means by which they were resolved. Thirteen of the 103 wars were still ongoing at the end of 1998, and 49 ended in a victory for one side. Forty-one civil wars ended through negotiated settlement. A negotiated settlement was considered to have taken place if representatives of the opposing sides in a conflict held direct talks. Third-party actors might be participants in the negotiating process, but the antagonists themselves had to meet to discuss the issues and conditions they believed to be relevant to ending the war. <sup>17</sup> Based on these criteria, the final number of civil wars included in our data set is 38.

<sup>16</sup>Werner (1999) makes a similar point regarding the negotiated resolution of interstate wars.

<sup>17</sup>It is for this reason that three of the negotiated settlements were eliminated from the 41 negotiated agreements reached during the 1945–98 period. Thus, even though fighting has not resumed to date in the settlements negotiated to end the Korean War and the

The peace settlements included in this data set are highly diverse in both their form and level of specificity. Our negotiated settlement cases range from highly complex and detailed agreements, some of which were subjected to public referenda (e.g., Colombia) to those constructed on the basis of a verbal agreement among elites (e.g., Yemen). Some settlements are embodied in a single agreement (e.g., Croatia), while others are the products of multiple agreements reached over a period of one or more years (e.g., Guatemala and Nicaragua). It is because negotiated settlements are often constructed in this serial fashion that our cases range from fully codified agreements to those that resemble seemingly little more than cease-fire agreements that have evolved through a series of stages.

The diverse nature of the negotiated settlements reflects the fact that peace agreements generally move through three phases. During the first, or prenegotiation, phase the main issue at stake is how to get all the relevant parties to the negotiating table. Phase two of the settlement process consists of setting out a framework for resolving the substantive issues of the dispute. The final stage of settlement negotiation focuses on the implementation of the agreement, developing aspects of the framework, and increasing the level of specificity (Bell 1999).

In keeping with our coding rules, all of the cases we analyze are ones that have moved beyond the first phase of settlement negotiation to the second phase of the settlement process. Although no final resolution may have been reached on all the issues under discussion, the settlements had secured an end to the fighting. What we have sought to determine in this article is whether the institutions agreed to as part of the settlement process succeed in producing a stable peace.

### Operationalizing the Variables

**Dependent variable.** Our dependent variable is operationalized as the number of months that peace endured following the signing of a settlement through to December 31, 1999. <sup>18</sup> A settlement is considered to have failed if civil war reemerges in the state. With this opera-

two wars in Cyprus, the absence of civil war in these cases is not the product of a settlement directly agreed to by the adversaries themselves. Rather, third-party actors imposed a settlement.

<sup>18</sup>In the terminology of survival analysis, December 31, 1999 is the censor date for the statistical tests employed in this study. Because we consider all negotiated civil wars settlements signed between the years 1945 and 1998, the more recent agreements that remain intact (such as Papua New Guinea and Guinea-Bissau) are censored from the data set soon after they are signed.

tionalization of the dependent variable the 38 settlements are at risk of failure for a total of 3,604 months. <sup>19</sup> These negotiated peace agreements appear to be surprisingly robust. Only 15 of the 38 cases (40%) experienced a return to domestic warfare, and we estimate the mean survival time of a settlement to be 95 months.

Independent variables. As described above, the power-sharing indicator we include in this study varies in value from zero to four. It is a composite measure designed to reflect four separate categories of power sharing that may appear in a peace settlement: political, territorial, military, and economic. A settlement is ranked one unit higher for each category of power-sharing provision that it includes. The coding for the composite power-sharing variable is based on the texts of the settlements themselves. If the text itself was unavailable, we largely relied upon Keesing's Contemporary Archives and the annual *Yearbook of the Stockholm International Peace Research Institute*.

Our data speak to the fact that power-sharing arrangements are a relatively common feature of negotiated civil war settlements, suggesting their importance as a mechanism for protecting the interests of the parties who participated in peace negotiations. Eight of the agreements (21%) included one of our four identified power-sharing institutions or policies; 14 of the agreements (37%) contained two of these provisions; 10 of the agreements (26%) included three provisions; and five (13%) included provisions for all four of the power-sharing institutions and policies. If we consider settlements with power-sharing provisions in three or four of the categories to have these practices extensively incorporated and reinforced, 39% of the agreements shared this characteristic.

The seven other independent variables we employ in this study prove much more straightforward in terms of their coding. <sup>21</sup> Table 1 presents a list of the civil war settlements, the total number of dimensions of power sharing the agreements specify, as well as the values for the control variables included in the study.

<sup>&</sup>lt;sup>19</sup>The coding of the dependent variable for the case of India (1946–48) is unique. India's civil war settlement is coded as lasting .1 months. This value is necessary because the civil war settlement lasted less than one month and hazard models cannot accommodate cases that simultaneously enter the data set and fail.

<sup>&</sup>lt;sup>20</sup>Angola's Gbadolite Accord, which did not include any provisions for power sharing, accounts for the missing 3% from 100 when totaling all the percentages we describe.

<sup>&</sup>lt;sup>21</sup>We did not code an independent variable representing time. We instead examine the shape parameter, p, produced by the Weibull regression model.

TABLE 1 Negotiated Civil War Settlements 1945–1998

(h, 1975–89)     0     0     0     1     2.23     -1.89     0       (h, 1985–94)     1     1     0     2     1     1     1.22     -1.89     0       asign, 1988–94     0     1     1     0     2     1     1     1.22     1.13	Case	Political Power- Sharing	Military Power- Sharing	Territorial Power- Sharing	Economic Power- Sharing	Power- Sharing Institutions	Previous Regime Type	Conflict Issue	Conflict Duration	Conflict Intensity	Third Party Enforcer	International System Structure
1	Angola, 1975–89	0	0 0		0	0	-	-	2.23	-1.89	0	0
1	Angola, 1989–91	1	П	0	0	2	1	П	1.32	1.26	1	1
0     1     1     0     2     1     1.72       1     1     0     3     1     1     1.63       1     1     0     0     0     241     1     1.63       1     1     0     0     0     1     1.34     1     1.86       1     1     0     0     0     0     1     1.34     1     1.34     1     1.34     1     1.34     1     1.34     1     1.34     1     1.34     1     1.34     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1.48     1     1     1.18     1     1     1     1     1	Angola, 1992–94	1	1	1	0	3	1	1	1.2	1.1	1	1
1   1   1   0   3   1   1   1.63     1   1   0   0   0   2   1   1   1.86     1   1   0   0   0   1   1   1.38     1   1   1   1   1   1.36   1   1.36     1   0   0   0   0   1   1.38   1   1.38     1   0   0   0   0   1   0   2.04   1   1.48   1   1.48   1   1.48   1   1.48   1   1.49   1   1   1.49   1   1		0	1	1	0	2	1	1	1.72	-1.06	0	1
1     1     0     0     2     1     78       1     0     0     0     1     1     78       1     1     0     0     1     1     78       1     1     1     1     1     1.86        1     0     0     0     1     1     1.36        1     0     0     0     0     1     1     1.86       1.36  <	Bosnia, 1992-95	1	П	1	0	3	1	1	1.63	1.82	1	1
1     0     0     0     1     1     78       1     1     0     0     0     1     1     1.86     -       1     1     1     1     4     1     1.86     -       1     1     0     0     0     1     1.33     -     1.36       1     0     0     0     0     1     2     1     4.88     -     1.35     -     1.48     -	Cambodia, 1970–91	1	1	0	0	2	1	0	2.41	1.82	1	1
1     1     1     0     0     2     1     1.86      1.3      1.3      1.3      1.3      1.3      1.3      1.3      1.3      1.3      1.3      1.3      1.3      1.48	Chad, 1979–79	1	0	0	0	1	1	1	.78	.51	1	0
1     1     1     4     1     1.3       1     0     0     1     2     2     0     2.04       1     0     0     0     1     2     2     0     2.04       1     0     0     0     0     1     3     1     3     1     48	Chad, 1989–96	1	П	0	0	2	1	1	1.86	-2.5	0	1
1     0     0     1     2     2     0     2.04       1     0     0     0     1     2     1     .85       1     0     0     0     1     2     1     .85       0     1     0     1     0     1     .48       1     1     0     1     0     .6     .85       1     1     0     1     0     .6     .148        0     1     0     1     0     1.49  <	Chechnya, 1994–96	П	П	1	1	4	П	П	1.3	1.38	0	1
1     0     0     0     1     2     1     .85       1     0     0     0     1     .48     -       0     1     0     1     .48     -       1     1     0     1     .6     .6       1     1     0     1     .6     .7       0     1     0     2     1     0     .149       1     0     1     0     .2     .1     0     .149       1     0     1     0     .2     1     0     .149       1     0     1     0     0     .2     .2     .1     .2	Colombia, 1948–57	1	0	0	1	2	2	0	2.04	.95	0	0
1   0   0   0   1   2   1   .48     0   1   0   0   .6   .6   .6     1   1   0   1   0   .6   .6     1   1   0   1   0   .6   .18     1   0   1   0   1   .7   .1     1   0   1   0   .132   .7   .7     1   0   1   0   .2   .1   0   .7   .7     1   0   1   0   0   .2   1   .7   .7     1   0   1   0   0   .7   .7   .7   .7     1   0   0   0   0   .7   .7   .7   .7     1   0   0   0   0   .7   .7   .4   .6     1   0   0   0   0   0   .7   .7   .4   .7   .7     1   0   0   0	Croatia, 1991–92	1	0	0	0	1	2	1	.85	.36	1	1
0     1     0     0     1     0     .6       1     1     0     1     3     1     0     2.18       1     1     0     1     0     1.49     -     -       1     0     1     0     2     1     0     1.49     -       1     0     1     0     2     1     0     1.32     -       1     0     0     1     0	Croatia, 1995–95	1	0	0	0	1	2	1	.48	-1.1	1	1
1   1   0   1   3   1   0   2.18     0   1   0   2   1   0   1.49   -     1   0   1   0   2   1   0   1.49   -     1   0   1   0   2   1   0   1.32   -     1   0   0   1   0   2   1   0   7.49     1   0   0   0   0   2   1   1   1.5     1   0   0   0   0   0   0   7.2   1   1.5     1   0   0   0   0   0   0   0   2.2   1   1.63     1   0   0   0   0   0   0   0   1.44   1   1.44     0   0   0   0   0   0   0   1   1   1.44     0   0   0   0   0   0   1   1   1   1   1   1 <td>Dom. Rep., 1965-65</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>9:</td> <td>28</td> <td>1</td> <td>0</td>	Dom. Rep., 1965-65	0	1	0	0	1	1	0	9:	28	1	0
0     1     1     0     2     1     0     1.49       1     0     1     0     2     1     0     1.32       1     0     1     0     2     1     0     1.32       1     0     1     1     2     1     0     2.61       1     0     1     0     2     1     1     1.5       1     0     1     1     1     1     1.5       1     0     0     0     0     0     2     1     1     1.6       1     0     0     0     0     0     0     0     2     1     1.6     2       1     0     0     0     0     0     1     1     1.4     1     1.4       0     0     0     0     0     0     1     1     1     1     1     1     1     1     1     1     1 <td>El Salvador, 1979–92</td> <td>1</td> <td>П</td> <td>0</td> <td>1</td> <td>3</td> <td>1</td> <td>0</td> <td>2.18</td> <td>69.—</td> <td>1</td> <td>1</td>	El Salvador, 1979–92	1	П	0	1	3	1	0	2.18	69.—	1	1
1     0     1     0     1.32       0     0     1     0     2     1     0     1.32       1     0     0     1     2     1     0     2.61       1     0     1     0     2     2     0     7       1     0     1     1     1     1     1.5       1     0     0     0     1     1     1     1.5       1     0     0     0     1     1     1     0     2.2     1     0     2.2       1     1     0     0     0     0     0     0     1     1     1.63       1     0     0     0     0     0     1	Georgia (SO), 1989–92	0	1	1	0	2	1	0	1.49	-2.33	1	1
0     0     1     1     2     1     0     2.61       1     1     0     0     2     2     0     .7       1     1     0     0     2     1     1     1.5       1     0     1     1     3     1     1     1.5       1     0     0     0     0     1     0     2.2     1     2.2       1     1     0     0     0     0     0     0     2.2     1     1.63       1     0     0     0     0     0     1     1     1.4       0     0     0     0     0     1     1     1     1.4       0     0     0     0     1     1     1     1.4       0     0     0     0     1     1     1     1     1       1     0     1     1     2     1     2     1 <td>Georgia (Ab), 1992–94</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>2</td> <td>1</td> <td>0</td> <td>1.32</td> <td>-1.94</td> <td>1</td> <td>1</td>	Georgia (Ab), 1992–94	1	0	1	0	2	1	0	1.32	-1.94	1	1
1   1   0   0   2   2   0   .7     1   0   1   0   2   1   1.5     1   0   1   0   1   1   1.5     1   0   0   0   1   1   0   2.2     1   0   0   0   1   0   2.2   1   6     1   1   0   0   0   1   1   1.63     1   0   0   0   0   1   1   1.4     0   0   0   0   1   1   1   1.4     0   0   0   0   1   1   1   1   1.4     0   0   0   0   1   1   1   1   1   1.4     0   0   0   1   1   1   1   1   1   1   1   1     1   1   1   1   1   1   1   1   1   1   1   1	Guatemala, 1963–96	0	0	1	1	2	1	0	2.61	-1.06	0	1
1   0   1   0   1.5     1   0   1   1   3   1   1   1.5     1   0   0   0   1   1   1   2.01     1   0   0   0   2   1   0   2.24     1   0   0   0   1   1   1.63     1   0   0   0   1   1   1.4     0   0   0   0   1   1   1.4     0   0   1   1   1   2   1   1.4     1   0   1   1   2   1   1.4   1   2     1   1   1   3   2   1   85     1   1   1   4   1   0   1.97	Guinea Bissau, 1998–98	1	1	0	0	2	2	0		-1.61	1	1
1   0   1   1   3   1   1   2.01     1   0   0   0   1   1   0   2.2     1   1   0   0   2   1   1   2.24     1   0   0   0   1   1   1.63     1   0   0   0   1   1   1.4     0   0   1   1   1   1   2     1   0   1   1   2   1   1.4     0   0   1   1   1   2     1   1   1   3   2   1   85     1   1   1   4   1   0   1.97	India, 1946–49	1	0	1	0	2	1	1	1.5	3.23	0	0
1   0   0   0   1   1   0   2.2     1   0   0   1   2   2   1   .6     1   1   0   0   0   1   1   1.63     1   0   0   0   1   1   1   1.4     0   0   0   0   1   1   1   1   1.4     1   0   1   1   2   1   1   1   2     1   0   1   1   3   2   1   .85     1   1   1   4   1   0   1.97	Iraq, 1961–70	1	0	1	1	3	1	1	2.01	.03	0	0
1 0 0 1 2 2 1 .6   1 1 0 0 2 1 1 .224   1 0 0 0 1 1 1 1.63   1 0 0 0 1 1 1 1.4   0 0 1 1 2 1 1 2   1 0 1 1 3 2 1 .85   1 1 1 4 1 0 1.97	Laos, 1959–73	1	0	0	0	1	1	0	2.2	-1.66	0	0
1 1 0 0 2 1 1 2.24   1 0 0 0 1 1 1.63   1 0 0 0 1 1 1.4   0 0 1 1 2 1 1 2   1 0 1 1 3 2 1 .85   1 1 1 0 3 1 0 2.1   1 1 1 1 4 1 0 1.97	Lebanon, 1958–58	1	0	0	1	2	2	1	9:	69.—	1	0
1 0 0 0 1 1 163   1 0 0 0 1 1 1.4   0 0 1 1 2 1 1 2   1 0 1 1 3 2 1 .85   1 1 1 0 3 1 0 2.1   1 1 1 1 4 1 0 1.97	Lebanon, 1975–89	1	1	0	0	2	1	1	2.24	07	1	0
1 0 0 0 1 1 1 1.4   0 0 1 1 2 1 1 2   1 0 1 1 3 2 1 .85   1 1 1 0 3 1 0 2.1   1 1 1 1 4 1 0 1.97	Liberia, 1989–93	1	0	0	0	1	1	1	1.63	1.27	1	1
0 0 1 1 2 1 1 2   1 0 1 1 3 2 1 .85    1 1 1 0 3 1 0 2.1   1 1 1 1 4 1 0 1.97	Liberia, 1994–96	1	0	0	0	1	1	1	1.4	7:	1	1
1 0 1 1 3 2 1 .85   1 1 1 0 3 1 0 2.1   1 1 1 1 4 1 0 1.97	Malaysia, 1948–56	0	0	1	1	2	1	1	2	-2.05	0	0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Moldova, 1992–92	1	0	1	1	3	2	1	.85	-1.95	1	1
$1 \qquad 1 \qquad 1 \qquad 1 \qquad 4 \qquad 1 \qquad 0 \qquad 1.97 \qquad .$	Mozambique, 1982–92	1	1	1	0	3	1	0	2.1	02	1	1
	Nicaragua, 1981–89	1	1	1	1	4	1	0	1.97	-1.13	1	0

TABLE 1 Negotiated Civil War Settlements 1945–1998 (continued)

Case	Political Power- Sharing	Political Military Power- Power- Sharing Sharing	Political Military Territorial Power- Power- Power- Sharing Sharing Sharing	Economic Power- Sharing	Power- Sharing Institutions	Previous Regime Type	Conflict Issue	Conflict Duration	Conflict Intensity	Third Party Enforcer	International System Structure
Papua New G., 1989–98	0	0	1	0	1	2	0	2.03	-1.77	1	1
Philippines, 1972–96	1	1	1	1	4	1	1	2.45	85	0	1
Rwanda, 1990–93	1	1	0		3	П	1	1.54	-1.84	1	1
Sierra Leone, 1992–96	1	1	0	1	3	1	0	1.74	-1.36	0	1
South Africa, 1983–91	1	1	1		4	П	1	2	-1.84	0	1
Sudan, 1963–72	0	1	1	1	3	1	1	2	1.61	П	0
Tajikistan, 1992–97	1	1	0	0	2	П	1	1.79	21	1	1
Yemen (AR), 1962–70	1	1	1	1	4	П	0	1.95	-1.77	0	0
Zimbabwe, 1972–79	1	1	0	П	3	1	1	1.92	-1.93	1	0

Note: Both the coding rules and complete data set are available at http://www-polisci.tamu.edu/Hoddie/Index.htm. Compared to the data set employed by Walter (1997), we identify a higher number of civil wars that were resolved via the process of negotiations. There are two reasons for these differences. First, we consider settlements that concluded between 1945 and 1998 while Walter's data set considers settlements only up to 1990. Second, we include all instances of negotiation between warring faction while Walter employs a more stringent criterion for identifying negotiations by including only those instances in which "issues relevant to resolving the war were discussed" (Walter 1997, 344).

#### Methodology

In order to consider the effect of extensive power-sharing arrangements on the long-term duration of the peace following a civil war settlement, we employ the event-history methodology of Weibull regression. There are a number of reasons for adopting this approach. First, the Weibull regression model was specifically designed to consider factors that might increase or decrease the length of time before a particular event occurs. In this test our dependent variable is an event—the failure of an agreement. In this sense, such a methodology is ideally suited to our purposes.

Second, the assumption of the Weibull regression model that the dependent variable exhibits time dependence is consistent with our hypothesis regarding the probable timing of settlement failures.<sup>22</sup> We posit in our final hypothesis that agreements are less likely to fail, and war is less likely to recur, with the passage of time. The extended period considered in this study allows us to examine the issue of whether the dependent variable exhibits time dependence in the long term. The value of the shape parameter (p) provides an indication of the form of time dependence. Values greater than one suggest positive duration dependence. In other words, the event becomes more likely over time. Values less than one indicate negative duration dependence, meaning that the event becomes less likely the more extended the period.

Third, employing the Weibull regression model is a significant improvement over earlier studies considering civil war settlement stability. These previous studies have tended to define their dependent variable dichotomously—peace settlements that lasted more than five years were categorized as a success, those that proved less durable were classified a failure.<sup>23</sup> Employing an event-history methodology allows us to consider a much more precise degree of variation in the dependent variable than would have been possible using an alternative methodology.

Finally, the hazard-rate statistic generated by this test provides an easily interpretable measure of the influence of a variable on the event of interest. The hazard rate is defined as the exponent of the coefficient. Its deviation from the value of one indicates the percent increase or decrease in the likelihood of the incident occurring (Bueno

de Mesquita and Siverson 1995, 851). Variables with hazard rates below the baseline value of one tend to decrease the potential of the event happening; variables with hazard rates higher than one increase the risk of the event occurring.

#### Results

We present the findings of our initial test in the second and third columns of Table 2.24 The Weibull regression model identifies two factors that decrease the likelihood of a return to civil war following the signing of a peace agreement: (1) the inclusion of higher numbers of power-sharing provisions as part of the settlement and (2) the presence of a third-party enforcer. The hazard-rate statistic indicates that each additional category of powersharing provisions included in a settlement reduces the probability of its failure by 53%.<sup>25</sup> Figure 1 provides an illustration of the higher rates of survival for those agreements that employ extensive power-sharing provisions. It compares the eight agreements that include only one dimension of power sharing to those five settlements that mandate the sharing of power along all four dimensions we have identified. Civil war peace settlements with power sharing in all four dimensions have consistently higher survival rates over time than those with only a single power-sharing provision.<sup>26</sup>

This test also finds that the presence of a third-party enforcer decreases the likelihood of settlement failure. The hazard-rate statistic indicates that the presence of a third-party enforcer reduces the risk of settlement failure by 83%. The two indicators we identify as hastening

<sup>&</sup>lt;sup>22</sup>Box-Steffensmeier and Jones note that Weibull regression is often used for event-history tests that assume time dependence. In their words, "Because the shape parameter is estimated, one can use the Weibull specification to test hypotheses about different "shapes" of the hazard function" (1997, 1429).

<sup>&</sup>lt;sup>23</sup>See, for example, Licklider 1995, Walter 1997, and Hartzell 1999.

<sup>&</sup>lt;sup>24</sup>All results were generated using the Stata statistical package.

<sup>&</sup>lt;sup>25</sup>This probability is calculated based on the hazard rate value of .47 for the power-sharing variable in this test. This value deviates .53 from the baseline of one, indicating that the inclusion of power-sharing provisions in any of the four categories reduces the likelihood of settlement failure by 53%.

<sup>&</sup>lt;sup>26</sup>In order to consider the individual effects of each dimension of power sharing on the durability of post-civil war peace, we also tested an alternatively specified model in which each separate dimension was represented by a dichotomous variable. None of the power-sharing dimensions in isolation proved to have a statistically significant impact on the long-term durability of a peace agreement. This suggests that power-sharing institutions are most likely to produce a long-lasting peace when employed in conjunction with one another. We note, however, that there is some evidence to suggest that the individual power-sharing institutions of military and territorial power sharing have independent effects in the short term (i.e., five years or less; Hoddie and Hartzell, forthcoming). The findings reported here suggest that these individual effects attenuate over time and the influence of different forms of power-sharing in aggregate proves an important determinant of the potential for durable peace.

TABLE 2 Predicting the Stability of Negotiated Civil War Settlements

		Regression Estimates	-	tional Hazards Estimates
Variable	Coefficient	Hazard Rate	Coefficient	Hazard Rate
Power-sharing	76**	.47	79**	.45
Institutions	(.37)	(.17)	(.38)	(.17)
Previous Regime	6	.55	<b>7</b> 1	.49
Type	(.72)	(.39)	(.74)	(.36)
Conflict Duration	73	.48	<b></b> 74	.48
	(.59)	(.29)	(.62)	(.3)
Conflict Intensity	.81**	2.24	.79**	2.19
	(.24)	(.54)	(.27)	.58
Third Party	-1.77**	.17	-1.86*	.16
Enforcer	(.7)	(.12)	(.78)	(.12)
International System	.06	1.06	26	.77
Structure	(.58)	(.62)	(.65)	(.5)
Conflict Issue	1.63*	5.13	1.55	4.7
	(.79)	(4.07)	(.82)	(3.85)
Constant	-1.16			
	(1.9)			
p	1.18			
	(.25)			
N	38		38	
Months at risk	3604		3604	
$\chi^2$	20.25		18.46	
$\text{Prob} > \chi^2$	.005		.01	
Log-likelihood	-37.53		-36.18	

Note: All tests are two-tailed. Values in parentheses are standard errors.

the potential for settlement failure are the variable reflecting different levels of conflict intensity (operationalized as an additional one thousand battle deaths per month employing a log transformation) and the variable representing the issue of dispute underlying the conflict.<sup>27</sup> We find that one unit's greater intensity in the level of violence increases the likelihood of settlement failure by

<sup>27</sup>The other variable with a hazard rate above the baseline value of one is the indicator for international system structure. Although the variable does not prove statistically significant, this result is contrary to our hypothesis that settlements negotiated since the end of the Cold War are more likely to prove enduring. One explanation we can offer for this unexpected outcome is that with the end of the Cold War the international system has experienced an increase in the volume of arms flowing across international borders. This has perhaps heightened the security concerns of actors regarding the capacity of potential adversaries to obtain weaponry and restart hostilities. In this sense, the end of the Cold War may have undermined the sense of security we view as the crucial prerequisite to durable peace (Hartzell, Hoddie, and Rothchild 2001).

124%; conflicts in which parties are divided along ethnic lines have a 413% greater risk of a return to war.<sup>28</sup>

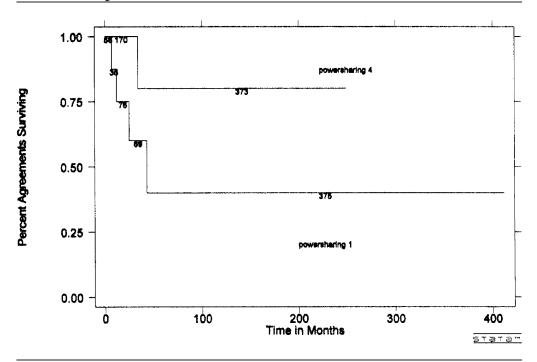
In this test the result for the parameter value (p) does not offer support for our final hypothesis that peace agreement failures exhibit negative duration dependence. The indicator fails to attain statistical significance. Yet, given that an inspection of the dependent variable for this study demonstrates that peace-agreement failures tend to

<sup>\*\*</sup>p < .01.

<sup>\*</sup>p < .05.

<sup>&</sup>lt;sup>28</sup>We paid particular attention to the influence that including India's peace settlement in the data set had on the findings given the unique coding of the dependent variable for this case (see footnote 18). To consider the independent effects of this case, we performed the Weibull regression excluding only the Indian settlement. In this new test, the same variables identified in the original test remained statistically significant, although this only proves true of the power-sharing and conflict-issue variables when employing a one-tailed test. The hazard rates generated by this test for the statistically significant indicators are listed here in parentheses: power sharing (.49), third party enforcer (.19), conflict intensity (2.1), and conflict issue (4.61).

FIGURE 1 Power-Sharing Provisions and the Durability of Peace. Kaplan-Meier Survival Estimates



*Note:* Values within the graph reflect the number of months that the agreements in aggregate endured before a return to war or being censored from the data set. Analysis of similar graphs indicates that peace settlements with either two or three power-sharing dimensions are consistently more durable than those with only one power-sharing requirement. However it should be noted that there are some periods when those settlements with only two power-sharing provisions prove more durable than those with power-sharing requirements along three dimensions.

occur soon after their signing, it seems misguided to fully reject this hypothesis solely on the basis of this statistic.<sup>29</sup> This position is consistent with previous analyses of the Weibull model in which the inability to establish evidence of negative duration dependence is attributed to factors other than the absence of the phenomenon itself.<sup>30</sup>

Overall, these results demonstrate the importance of addressing the concerns former combatants have about holding a position of influence in a post-civil war government. Extensive use of power-sharing institutions and the presence of a third-party enforcer unambiguously demonstrate to citizens that the newly structured state

will not marginalize any competing interests. It is these mechanisms that provide the reassurances necessary for the new state to endure. Conversely, states that have experienced on average the highest monthly casualty rates and are polarized along ethnic lines are the ones most likely to have the greatest safety concerns in the post-war environment. As a result, it is in these environments that settlements have the highest potential for failure across time.

#### The Issue of Model Specification

We employed Weibull regression, rather than alternative event-history models, based on the assumption that newer settlements are more susceptible to failure than those that have been established for a longer period of time. Yet it could be plausibly argued that Weibull regression is the wrong choice for the data we are considering. This is particularly a concern given the failure of the initial test to demonstrate that the phenomena of peace agreement failures are time dependent.

In order to consider the possibility that an alternative means of defining the hazard function would influence

<sup>&</sup>lt;sup>29</sup>Among the agreements that have failed, only three lasted for more than 100 months: these are the settlements to the civil wars in Colombia, Lebanon, and the Sudan. When these three peace settlements are excluded from the analysis, the average survival time among the peace settlements that fail is only 22 months.

<sup>&</sup>lt;sup>30</sup>Citing the work of Allison (1984), Enterline and Balch-Lindsay note that "... any finding of positive duration dependence can be considered solid evidence that such an effect exists, while findings of negative duration dependence (or the absence of duration dependence altogether) may be caused by unobserved heterogeneity in the data" (2001, 24).

the findings we tested our original set of variables using the alternative survival-analysis methodology of the Cox proportional hazards model. In contrast to Weibull regression, the Cox model does not assume that the event of interest is a function of time.<sup>31</sup> We present the results of this test in the final two columns of Table 2.

What is striking about the reported Cox proportional-hazards-model results is that, with the exception of the conflict-issue variable, all the indicators identified as statistically significant in the original Weibull test retain values approximately similar to those initially reported despite the alternative specification of the hazard function. This result suggests that the original findings regarding the relationship between power sharing and the durability of negotiated civil war settlements cannot be solely attributed to our use of the Weibull regression model. The strike is that the original findings regarding the relationship between power sharing and the durability of negotiated civil war settlements cannot be solely attributed to our use of the Weibull regression model.

#### **Conclusion**

This study highlights the importance of taking into consideration the security concerns antagonists have in the post-civil war environment. Although not all of the security-related variables we considered prove statistically significant, the direction of the coefficients for these indicators tend to support the theorized relationship between the antagonists' sense of security and the likelihood of returning to war.<sup>34</sup> This suggests the importance of mak-

<sup>31</sup>In the words of Box-Steffensmeier and Jones, the Cox model allows for estimating the effects of independent variables on duration time "without having to assume a specific parametric form for the distribution of time until an event occurs" (1997, 1432).

<sup>32</sup>The fact that the conflict-issue variable failed to attain statistical significance when employing the alternative model specification suggests that this finding is the least robust among the results originally reported. The mixed results other studies of peace settlements have obtained when employing conflict issue as a control variable adds to our uncertainty regarding the importance of this indicator to the durability of negotiated civil war settlements. Licklider (1995) finds that this variable does affect the longevity of peace following civil war, while both Fortna (2002) and Dubey (2002) determine that identity issues are irrelevant to the prospects for future stability.

<sup>33</sup>While not attaining statistical significance, it is notable that the variable representing the international system structure is in the expected direction when employing the Cox model. In other words, and contrary to the findings reported for the Weibull test, the Cox model's results indicate that settlements reached in the post-Cold War period are likely to prove more durable in comparison to those signed during the period of superpower competition. In contrast to the other variables included in the Weibull and Cox model tests, the inconsistent results for the international system structure indicator suggest that it is particularly influenced by the different specifications of the hazard function.

<sup>34</sup>As noted in footnote 27, the sole exception to this pattern is the coefficient reported for the international system structure variable in the test of the Weibull model.

ing security-related issues the focus of the agenda when negotiating civil war settlements.

Our results suggest that the most effective means of addressing these common security concerns is for parties to agree to create multifaceted power-sharing arrangements. The more extensive the network of power-sharing institutions contending parties agree to create, the less likely they are to return to the use of armed violence to settle disputes. Because the security concerns produced by civil war are diverse, the power-sharing institutions designed to address safety concerns should be multidimensional rather than focused solely on political decisionmaking. Security concerns are addressed more effectively and peace has a greater probability of proving durable if power sharing is also required among former antagonists in terms of the territorial, military, and economic dimensions of state power. The accumulation of powersharing institutions proves important because it has the dual benefits of creating complements between the diverse mechanisms we have identified as well as guarding against implementation failure in any particular dimension.

Finally, this research suggests that, in cases like Afghanistan, the international community can play an important role in structuring stability. Mediators at the negotiating table should support rival parties in their attempts to structure power-sharing institutions and encourage them to create a diverse array of mechanisms of this nature. These efforts to produce extensive power-sharing institutions through the process of brokered negotiation have the greatest potential for establishing a self-enforcing peace in the long term.

## Appendix Hypotheses

H1: The more extensive the power-sharing arrangements called for in a negotiated civil war settlement, the more likely it is that the peace will endure in the long run.

H2: Negotiated settlements constructed by actors with previous experience with democracy are more likely to produce an enduring peace than settlements constructed by actors whose previous regime type was authoritarian.

H3: Wars of long duration should increase the likelihood that parties will commit to an enduring peace.

H4: Settlements of civil wars characterized by high casualty rates are unlikely to yield a durable peace.

H5: Settlements that call for third-party enforcement are more likely to produce a durable peace than those that make no provision for enforcement by third-party actors.

H6: Civil war settlements negotiated since the end of the Cold War are more likely to foster a durable peace than those negotiated during the Cold War.

H7: Negotiated settlements are more likely to produce an enduring peace when the issue at stake in the conflict is politico-economic rather than identity based.

H8: The risk of war breaking out again following the negotiated settlement of a civil war should decline with the passage of time.

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