How Civil Wars End: A Rational Choice Approach

T. David Mason; Patrick J. Fett

The Journal of Conflict Resolution, Vol. 40, No. 4. (Dec., 1996), pp. 546-568.

Stable URL:
http://links.jstor.org/sici?sici=0022-0027%28199612%2940%3A4%3C546%3AHCWEAR%3E2.0.CO%3B2-M

The Journal of Conflict Resolution is currently published by Sage Publications, Inc..

How Civil Wars End

A RATIONAL CHOICE APPROACH

T. DAVID MASON
PATRICK J. FETT
Department of Political Science
University of Memphis

What conditions determine whether a civil war ends in a negotiated settlement or a military victory? The authors address this question by developing an expected utility model of the choice between seeking an immediate settlement or continuing to fight in anticipation of eventual victory. The model implies that the likelihood of a settlement varies with estimates of the probability of winning, the time required to win, the rate at which the costs of conflict accrue, and the payoffs for victory versus settlement. Logistic regression results suggest that a settlement becomes less likely the larger the government's army and more likely the longer the civil war lasts. Payoff and cost variables had no effect on the likelihood of a settlement.

Civil wars have been the most frequent and deadly form of military conflict in the last half of this century. Of the 127 post-World War II conflicts listed in the Correlates of War (COW) (Singer and Small 1993), more than 72% were some form of civil war, accounting for 63.7% of the total battle deaths and 82.3% of the nation months of war between 1945 and 1992.[1] Although many scholars have devoted considerable attention to the settlement of interstate conflicts,[2] little scholarly effort has been devoted to studying the process by which civil wars are brought to an end. Given the frequency and destructiveness of civil conflicts, it behooves us to devote more effort to exploring the conditions that are conducive to negotiated settlements to intrastate wars. What conditions lead to a negotiated settlement as opposed to a decisive military victory by either the incumbent regime or the revolutionary opposition?

The lack of research on peaceful settlements of civil wars may be due in part to the impression that few civil wars ever end in a stable negotiated settlement and the belief

1. For the period from 1945 to 1992, the COW lists 80 cases where the rebels sought to overthrow the incumbent regime of an existing nation-state and 12 cases where a rebel army sought sovereign independence for a region within an existing nation-state. The figures on battle deaths and nation months of war are for all civil wars and extrasystemic wars (including anticolonial wars). Following Licklider's (1995) definitional conventions, we will refer to the former as *revolutions* and the latter as *separatist revolts*. We will use the term *civil war* to refer to both forms of internal war.

2. See, for instance, Iklé (1971), Wittman (1979), Cimbala and Waldman (1992), Pillar (1983), and Miall (1992).

JOURNAL OF CONFLICT RESOLUTION, Vol. 40 No. 4, December 1996 546-568

that negotiating a settlement to a civil war is fundamentally more difficult than mediating an interstate war. Roy Licklider (1993, 4) expressed the dilemma succinctly:

> Ending international war is hard enough, but at least there the opponents will presumably eventually retreat to their own territories. . . . But in civil wars the members of the two sides must live side by side and work together in a common government to make the country work. . . . How do groups of people who have been killing one another with considerable enthusiasm and success come together to form a common government?

Yet a number of civil wars has been resolved by negotiated settlement, ending the killing that seemed intractable and destined to continue to a blood-soaked conclusion in the distant future. It is worth considering, then, the conditions under which civil wars become susceptible to negotiated settlement. Licklider and a number of other scholars have examined cases of successful mediation and compared them to cases where negotiations failed, were never attempted, or, if concluded, failed to create a stable new order.[3] Licklider (1992, 1993, 1995), in particular, has specified a number of factors that seem to be related to the question of whether a negotiated settlement will be reached and sustained. This study represents an attempt to add to this body of work by presenting a rational choice model of the decision process by which parties involved in a civil war opt for a negotiated settlement rather than continue fighting. The model is derived from Wittman's (1979) model of how interstate wars end but includes in the decision calculus parameters that are unique to the choices facing participants in a civil war who, under whatever settlement terms are agreed to, will have to live together under a single government. From this model, we derive a number of hypotheses concerning the conditions that make civil wars more or less likely to be resolved by a negotiated settlement. We test these hypotheses using the COW (Singer and Small 1993) data on civil wars occurring between 1945 and 1992.

THE MODEL

A civil war involves armed conflict between an incumbent government (G) and a rebel organization (R). The goals of the rebellion may be to overthrow the existing government and replace it with a new regime (a revolution), or it may seek to partition the nation and create a new sovereign nation state out of some portion of the existing one (a separatist war). Once the conflict is underway, the possible outcomes are (1) victory for G, (2) victory for R, or (3) a negotiated settlement (S).

For G and R to agree to a negotiated settlement at some point in the conflict, t_S, rather than continue to pursue a military victory at some point in the future, it must be the case that, for *both* G and R at that point t_S, their subjective estimate of the expected utility of a negotiated settlement, U_S, is greater than their subjective estimate of the expected utility from continuing the conflict, U_C; that is, $E(U_S) > E(U_C)$ for both G and R.[4]

3. Licklider's (1993) edited book includes chapters on negotiated settlements to civil wars in Colombia, Sudan, Yemen, Zimbabwe, and Nigeria. Damrosch's (1993) edited book contains chapters on successful mediation of civil war in Cambodia as well as chapters on failed mediation in Iraq, Somalia, Liberia, and Yugoslavia.

4. Of course we recognize that the decision is not this simple. Works by Miall (1992), Stedman (1991, 1993), Licklider (1992, 1993, 1995), and others make it amply clear that the process of achieving a negotiated

The choice between ending the conflict through a negotiated settlement or continuing to fight in anticipation of eventual victory is a function of the difference in each party's expectations concerning the eventual outcome of the conflict if a negotiated settlement is not reached immediately. Both parties presume that if the conflict is allowed to continue, it will eventually terminate in victory for either G or R or some later negotiated settlement. In the meantime, both G and R will continue to absorb the costs of continued conflict, C_C, from the present time until that time in the future, t_V, when victory by one or the other is achieved. If G (or R) chooses to continue to fight, it must be the case that G (or R) expects to win eventually. G's (or R's) subjective estimate of the expected utility of continuing to fight rather than negotiating a settlement immediately can be expressed as follows:

$$E(U_C) = P_V(U_V) + (1 - P_V)(U_D) - \sum_{t_i=0}^{t_V} C_{ti}, \tag{1}$$

where $E(U_C)$ is G's (or R's) expected utility of continuing the conflict, P_V is that party's estimate of the probability that it will eventually achieve victory, U_V is the utility that party will receive from victory, $(1 - P_V)$ is the probability that the party will suffer defeat, U_D is the utility it will receive from defeat, and C_{ti} is the rate at which that party absorbs costs of continued conflict (including the destruction of human and material resources under its control as well as the opportunity costs incurred from expending these resources on war rather than on some other endeavor). The costs of continued conflict must be summed from the present until that time in the future, t_V, at which the party anticipates it will achieve victory. We assume that $U_V > U_S > U_D$ for both G and R.

The other side of the inequality in the decision to seek a settlement or continue to fight is the actor's expected utility from the settlement. Drawing on the logic of Wittman's (1979) model of how wars end, we can represent that utility as follows:

$$E(U_S) = U_S + \sum_{t_i=t_s}^{t_V} C_{ti} - \sum_{t_i=0}^{t_s} C_{ti}, \tag{2}$$

where $E(U_S)$ is the actor's expected utility from a negotiated settlement and U_S is the utility that the actor will receive from the terms of the settlement, which we can presume to be less than U_V (i.e., the payoff the player would expect from victory over its rival). However, although the total payoff from a settlement (U_S) is less than the payoff from victory (U_V), the player avoids absorbing the additional costs of conflict

settlement involves a number of hurdles, all of which must be cleared to achieve a settlement. For instance, both parties must first decide to enter negotiations, and there is no guarantee that negotiations will result in a settlement. Moreover the battlefield equation continues to change while negotiations are going on, thus changing the negotiating positions of the parties once they come to the table. Miall and others stress, rightly, that the terms of the settlement are subject to coalition politics within both the government and the rebel organization. However, it is our contention that it is best to begin with this simplified model of the fundamental choice—between settlement and continued war—and then refine it to account for these additional factors.

(C_{ti}), summed from the present until that point in the future, t_V, at which the player anticipates achieving victory. Instead, the player must absorb only those additional costs of conflict that will accrue between the present (t_0) and that point in the future when the settlement goes into effect (t_S; we assume that $t_S - t_0 < t_V - t_0$).

Combining equations (1) and (2) suggests that the manipulable variables that can affect a player's willingness to seek a negotiated settlement rather than continue to fight (presumably to eventual victory) are the probability of victory, the costs of continued conflict, the amount of time those costs will have to be absorbed until victory is achieved, and the terms of the settlement. We assume that U_V is constant for both G and R throughout the conflict. By analyzing the effect that variation in these parameters would have on the likelihood that both parties would prefer a settlement to continued conflict, we can derive some testable hypotheses that specify conditions under which a settlement becomes more or less likely.

THE PARAMETERS OF NEGOTIATED SETTLEMENTS

The decision model described earlier suggests that the likelihood that both the government and the rebels will agree to a settlement rather than continue to fight will vary depending on each party's estimate of its probability of victory, its expected payoffs from victory versus those from a settlement, the rate at which it absorbs costs of conflict, and its estimate of how long it will take to achieve victory. Any factors that (1) reduce both party's estimate of their chances of victory, (2) increase the rate at which both are absorbing costs, (3) extend both parties' estimate of the amount of time required to achieve victory, or (4) increase the utility from a settlement relative to the utility from victory will make them both more willing to agree to a negotiated settlement rather than continue to fight in the hope of achieving victory. We will specify each hypothesis and discuss the logic underlying it.

PROBABILITY OF VICTORY

The most important consideration to either party is its estimate of the probability that it will achieve victory. Zartman (1993), Wittman (1979), and others suggest that if P_V is very high for one party and very low for the other, the likelihood of a negotiated settlement is low. Any factor that gives either G or R a substantially greater probability of victory than its rival decreases the likelihood of a negotiated settlement because the dominant party will be less interested in a settlement if victory appears inevitable. The party that estimates its chances of victory to be very low would prefer a settlement to continued conflict because any concessions it could get in the settlement would be preferred to the defeat that appears imminent. However, its rival is likely to estimate its own chances of victory to be high and hence will have little incentive to make concessions that reduce its own payoff below what it estimates those of total victory to be.

This captures the logic of Zartman's "hurting stalemate" and Gurr's (1970) notion of the "balance of coercive capacity." Zartman (1989, chap. 6; 1993, 24) proposed that

a "mutually hurting stalemate" is a precondition to a negotiated settlement in *interstate* conflicts. A mutually hurting stalemate occurs when "the countervailing power of each side, though insufficient to make the other side lose, prevents it from winning" (Zartman 1993, 24). Our model suggests that a negotiated settlement is more likely the closer *both* parties' estimate of P_V is to 0.5. Conversely, a negotiated settlement is less likely the greater the imbalance in coercive capacity between G and R.

Unfortunately, COW does not include indicators of the balance of coercive capacity between G and R. It does contain a variable for the size of the government's army, which allows us to test the following negative version of the hurting stalemate proposition:

H1: The size of the government's army should be negatively related to the likelihood of a negotiated settlement.

The balance of coercive capacity overwhelmingly favors the government early in the rebellion. The larger the government's army is to be begin with, the greater its advantage and the more capable it will be of suppressing a nascent uprising before it has a chance to grow into a formidable challenge to the regime. In short, the larger the size of the government's army, the more likely it is to annihilate the rebel movement early in the rebellion, precluding the need to negotiate a settlement at some later date.

Rebel forces have the disadvantage of having to build their forces from scratch. They must do so in the shadow of the government's already established, trained, and equipped army. Rebel recruiting is inhibited, especially early in the rebellion, by the extreme risks facing potential recruits. The more troops the government has under its command, the more operations it can mount simultaneously and the longer it can sustain its efforts against any armed challenge. Therefore, the larger the armed forces of the government, the greater the risk to the individual recruit of being detected and punished for taking up arms against the regime (see Frohlich and Oppenheimer 1973, 1974; Mason 1996). In general, then, we would expect that the larger the government's army, the greater its estimate of P_V will be and the more likely it will reject rebel appeals for negotiations and instead seek a quick victory on the battlefield.

COSTS OF CONTINUED CONFLICT

A critical implication of equation (1) is that both parties must discount their estimate of the expected utility of victory by the costs they will have to absorb to achieve victory. Hence any variable that increases the rate at which the costs of conflict are being absorbed will make a party more likely to seek a settlement. Even if one of the parties estimates that it has a better than even chance of eventually prevailing, it may still be willing to negotiate a settlement if it estimates that, at the current rate at which it is absorbing the costs of conflict (C_{ti}), the accrued costs of achieving that victory could be so great that the victory would be pyrrhic; there are settlement terms that would leave that actor better off if adopted in the present. In other words, even if $P_V > (1 - P_V)$ for one of the parties, it may prefer a negotiated settlement now if the accrued costs

of continuing to fight on to victory exceed $P_V(U_V) - U_S$. This leads us to a second hypothesis:

H2: Casualty rate should be positively associated with the probability of a negotiated settlement.

The higher the casualty rate, the faster the costs of continued conflict will accrue and the greater will be the accumulated costs of an eventual victory for any estimate of the amount of time, t_V, required to achieve that victory. High casualty rates can even offset an imbalance in the coercive capacity of the G versus R. Recall that the joint condition for a negotiated settlement is $E(U_S) > E(U_C)$ for both G and R; this does not mean that P_V must equal 0.5 for both parties. One party can have a much higher estimate of its chances of victory than the other. However, if that party's estimate of the total costs of achieving victory are high enough, this can offset the otherwise high value of U_VP_V, so that for that actor, $E(U_S) > E(U_C)$. In short, a high casualty rate (one component of the costs of continued conflict) can make an immediate settlement preferable to anticipated victory in the future for the party that is expected to win eventually. If the party that is likely to win eventually is absorbing casualties at a much higher rate than its rival, it may still find an immediate negotiated settlement preferable to continued conflict because the payoff from that settlement may be greater than the payoff from victory minus the accrued costs of conflict, as measured partly by casualty rates.

Moreover, the higher a party's casualty rate, the lower will be its estimated probability of achieving victory (P_V), ceteris paribus. Neither party in a civil war has an infinite supply of resources to devote to the war. As the rate at which one party's resources are depleted increases, its ability to continue to wage war effectively declines and, therefore, its chances of achieving victory also decline, all else being equal. For these reasons, we would expect increases in the casualty rate to be associated with increases in the likelihood of the two parties in a civil war seeking a negotiated settlement rather than continuing to fight.

DURATION OF THE CONFLICT

The model implies that any variable that extends both parties' estimate of the amount of time needed to achieve victory will make those parties more amenable to a settlement in the present. For a given estimate of P_V for either actor, any factor that extends that actor's estimate of the amount of time required to achieve victory will increase that actor's willingness to accept a negotiated settlement rather than continue the conflict. Therefore, we propose the following hypothesis:

H3: The longer the duration of the conflict, the greater the probability of the participants seeking a negotiated settlement.

Participants in a civil war adjust their estimates of the likely outcome of the conflict as they obtain new information based on the progress of the war. Duration is one

indicator of the course of the war. The longer a war lasts, the more likely both participants are to estimate that it will continue for an even longer time. In other words, the longer the conflict has lasted, the greater will be both parties' estimate of the amount of additional time required to achieve victory. Therefore, no matter what their estimate of P_V might be, their estimate of the accrued costs of conflict will increase as their estimate of the amount of time required to achieve victory increases. This lowers their estimate of the net utility of victory (i.e., the benefits of victory minus the accumulated costs of achieving victory). The lower the net utility from victory, the more likely parties are to accept immediate settlement terms that would allow them to avoid those accumulated costs of achieving victory. Furthermore, the longer the estimated time required to achieve victory, the lower both actors' estimate of the present value of the eventual victory will be, because the utility of victory in the future has to be discounted over a longer time span. Finally, the longer a civil war has lasted, the lower both parties' estimate of P_V will be; the longer the war has lasted without either side being able to subdue its rival, the lower both parties' estimates of the probability of ever defeating their rival will be.

As with casualty rate, duration is a variable that can offset an imbalance of coercive capacity between G and R and thereby bring about the joint condition of $E(U_S) > E(U_C)$ for both G and R, even when one has an advantage in military capacity and therefore should have a greater likelihood of victory. Indeed, the effect of duration on the likelihood of a settlement is part of the classic guerrilla strategy: avoid losing for a long enough period of time so that the accumulated costs of conflict for the government undermine its level of popular support and its ability to wage war. At some point, the government will either collapse or come to the conclusion that it would be better off negotiating a settlement rather than continuing to fight in anticipation of a pyrrhic victory in the distant future.

THE ROLE OF THIRD PARTIES

Third parties can work either to enhance the likelihood of a negotiated settlement or prolong the conflict by preventing one side from falling to defeat on the battlefield. Holl (1993, 286) notes two bases for third-party intervention in civil wars. First, when war threatens to widen to other nations, those other nations may decide to intervene to prevent the spread. Second, when a third party has some former involvement with one of the belligerents—for instance, a former colonial power—that party may feel a moral imperative to intervene in the civil war.

Generally, third-party involvement may take one of two forms. First, outside parties may intervene militarily on one side or the other to prevent a battlefield defeat for that party or enhance that party's chances of achieving victory. Intervention of this variety may be direct (with the third party providing troops and equipment), or it may be indirect (with the third party simply subsidizing the war effort of the party on whose side it has intervened). In either case, intervention of this sort makes a negotiated settlement less likely.

The other form that third-party intervention can take is mediation. Here, third-party intervention is intended to facilitate a negotiated settlement to end the civil war short

of victory for either side. Mediation efforts can take any number of forms, from mediating the negotiations to policing a truce. Ultimately, they involve some package of incentives to both sides that are intended to make the payoff from a settlement preferable to continued conflict. Walters (1995) presented evidence suggesting that no settlement is likely to be reached or to hold without third-party intervention to police the settlement.

As noted earlier, for a negotiated settlement to be reached, all parties to the conflict must agree to lay down their arms and accept the terms of the settlement. Any variable that increases the amount of time required to achieve a negotiated settlement or decreases the likelihood of consensus among the parties on a settlement decreases the probability of the conflict being resolved by a negotiated settlement. COW data do not allow us to test hypotheses concerning internal politics of the government and the rebels. However, we can test the following hypothesis:

H4: If other nations intervene militarily on one side or the other in a civil war, the likelihood of a negotiated settlement should decrease.

We expect this negative effect of intervention on the probability of a settlement for several reasons. First, if outside actors have intervened on the side of either of the participants (and not as a neutral mediator or peacekeeper), then they also can exercise a de facto veto over a negotiated settlement by refusing to accept its terms and lay down their arms. The likelihood of a negotiated settlement decreases when the number of parties who must agree to the settlement increases, because any one participant in the military conflict can unilaterally veto a settlement simply by refusing to cease fighting, thereby forcing the other parties to continue fighting as well.

Second, all else being equal, the more parties that are involved in the conflict, the longer it will take to reach a settlement and, therefore, the greater will be the additional costs of conflict parties have to absorb before the settlement is reached (C_C summed from t_0 to t_S). As these costs mount, the net payoff of the settlement (i.e., the utility of the settlement minus the costs absorbed from the present, t_0, until the settlement is reached at t_S) decreases relative to the net payoff from eventual victory (i.e., the utility of the victory minus the accumulated costs of conflict from the present, t_0, until victory is achieved at t_V). Therefore, any factor that increases the amount of time required to reach a settlement also decreases the likelihood of a settlement ever being reached. Intervention should extend the time required to achieve a settlement by increasing the number of participants whose consent is required.

Third, outside intervention increases the resource base of the civil war participant (G or R), who is supported by the intervener. Therefore, the beneficiary of the intervention (G or R) is likely to experience an increase in its probability of achieving victory (P_V). Moreover, the party that benefits from the intervention will be more willing to fight for a longer time to achieve victory because the intervening power is, in effect, subsidizing that party's capacity to absorb the costs of additional conflict. For these reasons, the party in the conflict that is the beneficiary of outside intervention is likely to become less willing to agree to any given negotiated settlement, preferring instead to take its chances on achieving victory.

THE STAKES OF THE CONFLICT

The expected utility model implies that any factor that increases the utility of a settlement (U_S) or decreases the utility of a victory (U_V) makes a settlement more appealing. The reason most often cited for why civil wars are more difficult to settle than interstate conflicts is the alleged indivisibility of the stakes in a civil war. An often-quoted passage from Fred Iklé (1971, 95) summarizes this perception:

> In conflicts that are predominantly civil wars . . . outcomes intermediary between victory and defeat are difficult to construct. If partition is not a feasible outcome because the belligerents are not geographically separable, one side has to get all, or nearly so, since there cannot be two governments ruling over one country, and since the passions aroused and the political cleavages opened render a sharing of power unworkable.

Conversely, to the extent that the stakes in a civil war are more nearly divisible (in some sense), a negotiated settlement becomes more likely.

As Iklé and others suggest, it is difficult to conceive of a settlement to a civil war, the terms of which would grant both sides gains and protections sufficient for them to prefer the settlement to continued fighting with some chance of eventual victory. Paul Pillar (1983, 24) summarized the question of the indivisibility of stakes in a civil war as follows:

> The likelihood that the two sides in any dispute can negotiate a settlement depends greatly on whether compromise agreements are available. If the stakes are chiefly indivisible, so that neither side can get most of what it wants without depriving the other of most of what it wants, negotiations are less apt to be successful. Stakes are usually less divisible in civil wars than in other types of war; the issue is whether one side or the other shall control the country. . . . Each side in a civil war is a traitor in the eyes of the other and can never expect the enemy to let it live in peace. The struggle for power becomes a struggle for survival as the options narrow to the single one of a fight to the finish. As a result, few civil wars end through negotiation unless they become highly internationalized.

Among the issues that often appear to be indivisible are "identity issues" such as ethnicity (Licklider 1993, 15). In an ethnically fragmented society, no settlement can resolve the deeply held and culturally grounded beliefs that are the source of ethnic identity and, therefore, ethnic conflict. Hence ethnic conflicts are subject to settlement only by formulae that guarantee or at least enhance the autonomy and security of the contending ethnic groups in a society. Such settlement formulae can take the form of federal or consociational arrangements, or they can involve formal partition. The extreme solution of partition removes the problem of former combatants having to live under a single government. Therefore, we should expect separatist revolts to be more subject to negotiated settlement than revolutions.

COW data do not contain variables that would allow the direct measurement of the value of a settlement or a victory. However, COW does allow us to distinguish among types of internal wars—revolutions or separatist wars, ethnic conflicts, or conflicts that are not ethnically based—that differ from each other in terms of the goals of the rebels and, therefore, the utility of victory and settlement, respectively. Logically, there are four possible combinations of these two stakes variables: (1) ethnic revolutions (in

which the rebels are distinguished from the government on the basis of ethnicity, and the goal of the rebels is to overthrow the existing government and seize power themselves), (2) ethnic separatist revolts (in which the rebels are distinguished from the government on the basis of ethnicity, and their goal is not to seize power but to gain independence by partitioning the nation into two sovereign states), (3) nonethnic revolutions (in which the rebels are not ethnically distinct from the government, and their goal is to overthrow the government and seize power themselves), and (4) nonethnic separatist revolts. Empirically, the last category is an empty set: there are no nonethnic separatist revolts in the COW data.

We can presume that the payoffs are different for these different war types, even if we cannot say that they are greater for one type than for another. Drawing on Licklider's (1993), Pillar's (1983), Zartman's (1993), and Iklé's (1971) propositions concerning the indivisibility of the stakes in a civil war and the difficulty of settling conflicts that are based on "identity" issues (i.e., ethnicity), we propose the following hypothesis:

> H5: The likelihood of a settlement should be greater for a separatist conflict than for a revolution.

We would expect this because the stakes in a separatist revolt are more nearly divisible. What makes a revolution so difficult to resolve by a negotiated settlement is that both G and R seek the same goal—that is, control over the institutions of government—and that is not an easily divisible goal. There can be only one government. A separatist revolt, on the other hand, does not require the annihilation of the rebels for the government to continue to exist. Nor does it require the annihilation of the incumbent government for the rebels to be satisfied. Partition, federalism, or some other consociational arrangement can represent a settlement framework that preserves the autonomy and security of the two contending parties. Therefore, we propose the additional hypothesis:

> H6: The likelihood of a negotiated settlement should be lower for revolutions that are ethnically based and greater for those that are not.

Following Licklider (1995), we would expect that ethnically based revolutions are more difficult to resolve. The issues at stake are more nearly indivisible because they are defined by ethnic identity. On the other hand, we would expect that separatist wars are more likely to be resolved by a negotiated settlement because the stakes—that is, territory—are more nearly divisible. Revolutions—in which the rebels' goal is the overthrow of the incumbent government—are more nearly zero-sum in terms of their payoffs and therefore should be more difficult to settle than separatist conflicts that would leave both leadership groups intact as governing bodies. Nonethnic revolutions should be less difficult to settle than ethnic revolutions because the issues that divide the participants in an ethnic revolution will not disappear with a power-sharing arrangement or a redistribution of economic resources. We turn now to the testing of these hypotheses with the COW data.

DATA ANALYSIS

The data used to test the implications of this model are from the *Correlates of War Project: International and Civil War Data, 1816-1992* data sets (Singer and Small 1993).[5] From the COW civil war data file, we selected civil wars that occurred after 1945, and from the COW interstate war file, we selected those extrasystemic wars that occurred after 1945 and were not anticolonial revolts.[6] This second set of conflicts consists of separatist revolts by regional minorities in a number of Third World nations. Combining the COW civil wars and the COW separatist revolts results in a set of 83 civil conflicts in which a rebel group took up arms either to overthrow the incumbent regime or secede from the existing nation-state.[7] Because this analysis concerns factors that affect the outcome of a civil war, we eliminated from the analysis those conflicts that were still underway. We combined some conflicts into a single record on the grounds that they are treated as a single conflict in most of the case study literature.[8]

5. The data were provided by the Interuniversity Consortium for Political and Social Research (ICPSR). Neither the ICPSR, the original collectors of the data (J. David Singer and Melvin Small), nor the relevant funding agencies are responsible for the analysis presented here or for any of the inferences and conclusions drawn from the analysis. Those remain the sole responsibility of the authors of this study.

6. We did not include anticolonial revolts because the target of those revolts is the government of the colonial power, not an indigenous regime. As such, they more nearly approximate interstate wars than civil wars.

7. Records in the COW files consist of country conflict records: there is one record for each nation involved in each conflict. This means that in several cases there were multiple records for each conflict, such as those cases in which other nations intervened in the conflict. Because this model focuses on conflict as the unit of analysis, we modified the data set by combining into one record those conflicts for which there were multiple records. Typically this involved simply adding the battle deaths of the intervening nation to the battle deaths for the nation in which the conflict occurred, resulting in a single total for all battle deaths suffered by all participants in the conflict.

8. For Colombia, two cases (COW war numbers 796 and 802) were combined into a single civil war on the grounds that the earlier event was arguably the prelude if not the beginning of "la violencia" (see Hartlyn 1993). The "duration" score was changed from 160 to 178 on grounds that the 1948 violence began on 9 April 1948, and COW dates the 1949 violence as beginning on 15 September 1949, resulting in 18 months in which the civil war was underway, but battle deaths did not reach the COW minimum of 1,000. The battle deaths from the two conflicts were combined. This Colombia case was coded as a "settlement" on the basis of Hartlyn (1993).

The two separate conflicts that COW lists for Laos (841, 850) were combined into one conflict on the grounds that most sources treat them as one protracted conflict. Using the beginning date from the earlier of the two and the end date of the latter of the two results in a duration score of 149 months. Battle deaths from the two conflicts were combined, including U.S. and DRVN (Democratic Republic of Viet Nam) and 18,000 civilian deaths, from Sivard (1989).

For Guatemala, three separate conflicts in COW (863, 877, 900) were combined into a single conflict on the grounds that most students of this conflict view it as one protracted conflict. This resulted in a duration score of 314 months, using the beginning date of the earliest of the three conflicts and 31 December 1992 as the end date; it is an ongoing conflict. Because it is ongoing, it was later eliminated from the testing of the model because we used only those conflicts that had been resolved either by settlement or victory.

Angola was coded as settled on the grounds that a settlement was reached and elections were held, despite the fact that UNITA rebels took up arms after failing to win the elections. Cambodia (908) was coded as "settled less than 5 years ago," and we treated it as a conflict that resulted in a settlement. The two conflicts in Nigeria (917 and 939) were combined into one, using the end date from conflict 939 and the start date from 917, resulting in a duration score of 39 months. For Liberia, conflicts 949 and 979 were combined into a single conflict that was coded as "ongoing." Therefore, it was not used in our analysis. The beginning date for 949 and the end date for 979 were used, resulting in a duration score of 25 months.

From among the COW extrasystemic wars that were not anticolonial revolts, the Ogaden war was eliminated on the grounds that it was more of an interstate war between Ethiopia and Somalia. Likewise,

TABLE 1
Logistic Regression Models for Settlement or Nonsettlement of Civil Wars

	Model A	*Model B*	*Model C*
Duration	0.020**	0.020***	0.023***
	(0.008)	(0.008)	(0.008)
Size of government army	–0.037	–0.055*	–0.046*
	(0.030)	(0.029)	(0.025)
Battle death rate	0.000	–0.001	
	(0.001)	(0.001)	
Ethnic or nonethnic	0.574		
	(1.053)		
Revolution or separatist war	2.000		
	(2.234)		
Intervention	0.394		
	(1.034)		
Constant	–2.39	0.095	–1.33**
	(2.81)	(1.02)	(0.67)
χ^2	32.52***	31.49***	27.55***
–2 log likelihood	28.70	29.72	33.66
Percentage of cases correctly predicted (baseline model: 77.2%)	87.72	87.72	87.72
N	57	57	57

Classification Table for Outcome

		Predicted		
		No Settlement	*Settlement*	*Percentage Correct*
Observed				
	No Settlement	41	3	93.18
	Settlement	4	9	69.23
	Overall			87.2

NOTE: The classification table was the same for models A, B, and C.
*$p < .10$; **$p < .05$; ***$p < .01$.

Other cases were modified on certain variables to bring them into line with their treatment in the relevant case study literature.[9] After these modifications, a data set of 57 civil wars remains; a list of the conflicts appears in the appendix.

the first Kashmir war was eliminated on the grounds that it was more of a conflict between Pakistan and India. COW's two Kurdish conflicts (443 and 437) were combined into a single conflict on the grounds that most sources treat them as a single conflict, resulting in a duration score of 163 months. The Tigre conflict was combined with Eritrea on the grounds that the two conflicts were coterminous and targeted against the same regime (Ethiopia) and because the two rebel groups cooperated extensively in their operations against the government. Four cases were coded in the COW data as having a government army size of 0. We substituted the appropriate figures from Sivard (1991).

9. Six of the cases had a score of 0 for duration because the high number of battle deaths occurred in a very brief period that amounted to less than a month. These cases were recoded to 1 month because duration was later used to calculate rates. These cases (with their COW war number) are the following: (1) Colombia, 1948 (796); (2) Bolivia, 1952 (811); (3) Iraq, 1959 (832); (4) Uganda, 1966 (862); (5) Jordan, 1970 (874); and (6) Burundi, 1988 (946). All records that constituted records for other nations in the same conflict were

For each conflict, we coded the dependent variable as 1 if there was a negotiated settlement to the conflict and as 0 otherwise. This variable was constructed using the data in the appendix to Licklider (1995). When we had doubts as to how to code the outcome, we consulted Miall (1992), Pillar (1983), and Brogan (1990). We transformed Licklider's measure into a dichotomous variable to reflect our interest in the factors that determine whether a civil war will be concluded by a negotiated settlement as opposed to a military victory by one side or the other.

We constructed a logistic regression model with six independent variables to test the six hypotheses stated in the previous section. The regression results further allow us to predict the probability that a given civil conflict will result in a negotiated settlement as opposed to a military victory by one side or the other. From the model presented earlier, the expectation is that each of the following six variables will have a statistically significant effect on the probability of a negotiated settlement: (1) outside intervention, (2) whether there was an ethnic or religious component to the conflict,[10] (3) the type of war (whether the war was a separatist war or a revolution), (4) the rate of battle deaths, (5) the duration of the conflict, and (6) the size of the government's army. The test of the six hypotheses and the predictive value of the model (model A) can be found in the first column of Table 1.

Table 1 reveals that model A does quite well at predicting the outcome of civil conflicts, although most of the individual hypotheses are not supported. The vast majority of all conflicts were predicted correctly by the six-variable model. Table 1 offers a baseline model against which to measure the predictive power of our results. The baseline model assumes that, knowing only 44 of the 57 cases in the data set were not settlements, we would be correct 77.2% of the time by always predicting no settlement. Our more sophisticated model A, on the other hand, predicts 87.2% of the cases correctly. This represents a 13% increase in predictive power over the baseline. Perhaps more important, the model correctly predicts 9 of the 13 negotiated settlements.

Surprisingly, when examining the individual coefficients, only the duration of the war is statistically significant. This sole standout exists despite the fact that there is no apparent multicolinearity.[11] The overall results, however, suggest that one or more of

---

eliminated, with the battle deaths suffered by those intervening nations being added to the battle death total for the nation in which the civil war occurred. The result was one record per conflict, with a battle death total that included battle deaths for all nation-states that became involved in the conflict at any point in time. The COW variable *intervene* was coded to indicate whether there was no intervention, intervention on the side of the government, intervention on the side of the rebels, intervention on the side of both, or intervention on the side of neither. Later we recoded it as a dummy variable for our analysis. For China (784), the beginning date was changed to 15 April 1927 and the end date to 1 October 1949, resulting in a duration value of 150 months. Most scholars would agree that the civil war in China began long before COW's 1945 date. The 1927 date we chose marks the collapse of the first united front between the KMT and the CCP. The battle deaths figure was changed to 1.5 million, using figures from Sivard (1989), who cites figures for two episodes of conflict between the government and the communists. COW treats Vietnam as a civil war from 1960 to 1965 and an interstate war from 1965 to 1975. On the grounds that this was the same conflict throughout, we recoded the end date to 1975, extending the duration score accordingly and adding in the battle deaths that were absorbed by all parties in that conflict over the 1965 to 1975 period.

10. The measure of whether there was an ethnic or religious aspect to the war is a dichotomous indicator that we constructed primarily using Brogan (1990), Gurr (1993), and Gurr and Harff (1994).

11. Using the traditional test for multicolinearity, that is, a series of bivariate correlations among the independent variables, we find multicolinearity to be an unlikely problem here. Only two independent variables are correlated at even .53, and the rest of the bivariate correlations are below .35.

TABLE 2
Difference in –2 Log-Likelihood Ratios for
Variables in the Six-Variable and Three-Variable Models

Variable	*–2 Log-Likelihood Ratios*	
	Without Variable	*Difference*
Six-variable model (–2 log likelihood = 28.695)		
Battle death rate	32.747	4.052*
Duration	36.604	7.909**
Size of army	36.591	7.896**
Intervention	28.843	0.148
Ethnic or nonethnic	28.997	0.302
War type	29.457	0.762
Three-variable model (–2 log likelihood = 29.721)		
Battle death rate	33.657	3.936
Duration	39.429	9.708**
Size of army	41.527	11.806***

*$p < .10$; **$p < .05$; ***$p < .01$.

the other five variables is important in determining outcomes. To see that duration alone is not carrying the model, we ran a bivariate model using duration to predict settlements. Although duration remains highly significant at the .001 level and its coefficient is relatively stable at .0186, only 77.2% of the cases are predicted correctly, which is the same percentage predicted by the naive baseline model. Clearly, although the duration of the war is important in determining settlements, other variables are also necessary.

To see which of the other five variables is contributing to the predictive success of the model, we performed a series of chi-square tests using the –2 log likelihood of the model. In each test, the –2 log likelihood of the six-variable model was compared to each five-variable model in which one of the original variables was dropped. The difference between the two –2 log likelihoods is distributed chi-square with one degree of freedom. A statistically significant difference suggests that the deleted variable is affecting the probability of settlements. The results of these tests are found in Table 2.

Table 2 indicates that battle death rate and the size of the government army, as well as duration, may be contributing to the predictive value of the model. To test this possibility, we performed a logistic regression using those three variables to predict settlement. The results are found in the column of Table 1 labeled Model B.

We see that the three-variable model B predicts the same percentage and mix of outcomes as the six-variable model listed as Model A. Furthermore, the coefficients are nearly the same as they were in the six-variable model. Battle death rate appears to have no statistically measurable effect on the likelihood of a settlement, but the *t*-statistic for the size of the government's army almost met the .05 convention for statistical significance ($p < .0577$).

In a final attempt to construct the most parsimonious predictive model, we estimated three additional models, each containing two of the three remaining variables (battle death rate, duration, and size of army). Chi-square tests were performed to determine the effect of each of the remaining three variables on the model. The results of these tests, shown at the bottom of Table 2, indicate that dropping the battle death rate variable does not affect the predictive power of the model. Therefore, we turn to the two-variable model shown in column C of Table 1. That simple model correctly predicts the same percentage of cases as the six-variable model, and the contingency tables for the two models are identically configured. Furthermore, and most important for our hypotheses in the previous section, the coefficients of the duration and army size variables are nearly the same as in the six-variable model, suggesting that the coefficients for these two variables are very robust.

There can be little doubt that the duration of a conflict is positively related to the probability of a negotiated settlement of a civil war, whereas the size of the government's army is negatively related to a likelihood of a settlement. Unfortunately, due to the curvilinear aspect of a logistic regression, it is difficult to interpret the level of the effects of variables by directly examining their coefficients. Therefore, we provide Table 3.

Table 3 shows how the probability of a settlement changes as the conflict duration and size of the government's army change. The duration variable is grouped into five categories, based on natural divisions in the data. There are approximately the same number of cases in each group. For each duration category, the duration variable is set at the category mean, and the army size is allowed to vary in increments of 5,000. The probability of a settlement is then calculated for each pair of values for duration and army size by using the parameter estimates from the logistic regression equation presented for Model C in Table 1. The resulting probabilities are reported in the cells of Table 3.

The most striking feature of Table 3 is that settlement is very unlikely in civil conflicts lasting 48 months or less but becomes highly likely if the war drags on beyond 4 years. In conflicts of very short duration (a month or less), the probability of settlement is less than 1 in 10 for all army sizes greater than 15,000 troops; for wars lasting a year, the likelihood of a settlement is less than 1 in 10 for all army sizes greater than 20,000 troops. These findings support our model's implication that short wars often end in a quick victory by the state, precluding the need for a settlement. Moving across the rows to the last two columns, however, we see that the longer the insurgents can hold out, the better chance they have of a settlement, other things being equal. Even when facing an army of 25,000 troops, the probability of settlement is greater than 1 in 3 if the conflict has lasted 49 months or more. In fact, even in the face of an army of more than 50,000, the probability of settlement is greater than .50 if the conflict has continued for more than 10 years. These findings add further credence to the proposition that a mutually hurting stalemate is the key to achieving a negotiated settlement in a civil war. If the rebels can avoid an early defeat but cannot themselves defeat the government, then the longer they can hold out, the more likely the government is to agree to a settlement.

TABLE 3
Probability of Settlement for Varying Duration and Size of Government Army

Size of Government Army (1,000s)	*Conflict Duration (months)*				
	1 (n = *14*)	*2-12* (n = *12*)	*13-48* (n = *10*)	*49-120* (n = *10*)	*121+* (n = *11*)
1	.205	.224	.316	.610	.922
5	.177	.193	.277	.565	.907
10	.146	.160	.234	.508	.886
15	.119	.131	.195	.451	.861
20	.097	.107	.161	.395	.831
25	.079	.087	.133	.341	.796
30	.064	.071	.108	.291	.756
35	.051	.057	.088	.246	.711
40	.041	.046	.071	.206	.662
45	.033	.037	.057	.171	.609
50	.026	.029	.046	.141	.553
55	.021	.023	.037	.115	.496
60	.017	.019	.030	.094	.438
65	.013	.015	.024	.076	.383
70	.011	.012	.019	.061	.330
75	.008	.009	.015	.049	.281
80	.007	.008	.012	.040	.237
85	.005	.006	.010	.032	.198
90	.004	.005	.008	.025	.164
95	.003	.004	.006	.020	.135
100	.003	.003	.005	.016	.110

NOTE: Duration is set at individual duration category means.

DISCUSSION

Four of the variables in the original model are, apparently, not associated with the probability of a civil war ending in a settlement. However, given the prominence of these four variables in the literature, it is worth considering why they are not statistically significant in our model. What importance might these results have for further studies of civil conflict?

First, our model suggests that we cannot reject the null version of hypothesis 4: intervention appears to have no effect on whether a civil war is concluded by negotiated settlement. This finding is surprising, given the pervasiveness with which outside intervention is mentioned in the literature as a determinant of civil war outcomes. The lack of effect found here could be due to the fact that our indicator of outside intervention does not distinguish between intervention as a combatant on one side or the other as a participant in the conflict and intervention as a neutral mediator to effect a negotiated settlement. Refining the measure to capture this nuance will be part of an ongoing project on the outcomes of civil wars.

The finding of no relationship between the ethnic basis of the conflict and the likelihood of a settlement is another interesting result at odds with most of the

literature. Most studies that address this issue argue that wars in which "identity issues" such as ethnic divisions are at stake should be more difficult to resolve peacefully because stakes defined by ethnicity are not divisible in the way that territory, economic resources, or political offices are. If existing studies are indeed wrong, one explanation might be that settlements based on power-sharing arrangements between the combatants (e.g., federal or consociational arrangements) are easier to enforce in ethnic conflicts than some analysts have anticipated. Following Rogowski (1985), one could argue that when ethnicity is the basis of the division of power and offices in a settlement, violations of the agreement are easier to detect and sanction than when the power sharing is among individual leaders of a government and a rebel organization who are not distinguishable from each other on the basis of ethnicity. Therefore, although the stakes may be more difficult to divide in an ethnic conflict than in one that is not ethnically based, enforcement of the settlement may be easier in the former than in the latter, thereby offsetting any advantage that nonethnic conflicts may have with respect to the task of devising acceptable settlement terms.

Likewise, war type (i.e., whether the conflict was a separatist revolt or a revolution) does not appear to be related to whether the conflict ends in a negotiated settlement as opposed to a military victory. Revolutions (in which the rebels seek to replace the incumbent government as the sovereign authority in a existing nation) are no more or less likely to be resolved by negotiated settlements than are separatist revolts (in which the rebels seek to partition the existing nation into two nations, leaving the incumbent government in power over what remains of the original nation-state). This finding is surprising because the stakes in a separatist revolt are divisible: the nation can be partitioned into two separate nation-states or into a federal arrangement that grants a certain amount of autonomy to the contending parties. In either case, the dilemma of former enemies having to live and work with each other under a single set of state institutions (and with a single military) is less of a problem than in the case of a revolution. Therefore, we expected separatist revolts to have a higher probability of ending in a settlement. Perhaps our finding reflects a coding dilemma: it is difficult to envision how a separatist war could be resolved by a negotiated settlement that did not amount to what Pillar (1983) described as the mere ratification of one side's victory. Either the terms of the settlement would leave the original nation-state intact (a de facto victory for the government), or it would result in partition (a de facto victory for the rebels). This logic suggests the hypothesis (not tested here) that separatist wars should be less susceptible to negotiated settlement than revolutions. Accounting for the finding of no relationship is another issue to be explored in further research.

Finally, our study shows that battle death rate is not significantly related to the likelihood of a negotiated settlement. In this case, measurement problems may be the culprit. The battle death rate measure available in the COW may not fully capture the theoretical concept in the model. The theoretical concept in the model is the rate at which *each* participant is absorbing additional costs of war. The sole indicator available in the data measures only the rate at which *both* participants are absorbing human casualties on the battlefield. It does not measure the battle death rate separately for the government and the rebels. The model implies that unsustainable casualty rates by *both* parties should increase the probability of a settlement. The COW figure does

not allow us to determine whether one or both parties is sustaining a high casualty rate. The latter case should make a settlement less likely because it enhances the probability of victory for the party that is not sustaining a high casualty rate. The absence of a robust effect for battle death rates could be a function of the indicator's failure to specify whether one or both parties is sustaining a high casualty rate.

CONCLUSIONS

Civil war has become the predominant form of armed combat in the last half-century. Although our understanding of the causes and dynamics of civil war has grown substantially with the body of research on this topic, only recently have scholars turned their attention to the systematic analysis of what conditions determine the outcome of civil wars. This article represents one effort to contribute to our understanding of how and under what conditions civil wars can be brought to an end through negotiated settlement rather than allowed to drag on indefinitely to a blood-soaked victory through exhaustion. Using the tools of subjective expected utility theory, we presented a model of the decision calculus by which participants in a civil war would choose between continuing to fight in anticipation of eventual victory or, alternatively, agreeing to a negotiated settlement of the war. This model suggests that any factors that (1) lower the probability of victory, (2) increase the rate at which the participants absorb costs, (3) increase their estimate of the time that will be required to achieve victory, or (4) reduce the value of the payoffs from victory relative to those of a settlement make a negotiated settlement relatively more attractive. These hypotheses were supported in part with analysis of data from the COW project.

The data do indicate what amounts to a "war weariness" effect: the longer a civil war has lasted, the more likely the participants are to seek a negotiated settlement as the conflict drags on. The fact that the size of the army is negatively related to the probability of a settlement indicates that unless the government can subdue the rebels quickly, a settlement will become more appealing. Therefore, the choice for both parties becomes one between indefinite bloodletting without foreseeable conclusion or a settlement that establishes peace and gives both combatants some but not all the payoffs they sought from war. In short, Zartman's (1993) mutually hurting stalemate appears to be as relevant to the settlement of civil wars as it is for interstate wars.

What is perhaps equally significant, from the substantive point of view, is the lack of support for any effect for either of the "stakes" variables. Ethnic conflicts were no more or less susceptible to negotiated settlement than nonethnic conflicts, and civil wars were no more or less susceptible to settlement than separatist wars. These findings are at odds not only with the literature on ethnic conflict specifically but also with the more general notion that the indivisibility of the stakes in a civil war makes them more difficult to resolve by negotiations. The findings presented here indicate that war weariness is more important in determining the outcome of the conflict than divisibility or indivisibility of the stakes. More important, they indicate that the political and economic factors often depicted as the causes of civil wars have little to do with determining the outcome of the conflict. Whether the conflict ends in a settlement or

a victory for one side or the other is a function of, first, whether the rebels can avoid early annihilation and, if so, whether the government can avoid collapse long enough for both sides to conclude that a negotiated settlement is preferable to continued bloodletting with no conclusion in sight. The variety of political, economic, and social factors that have been depicted as causes of civil wars may have little to do with determining the outcome of the war.

The model suggests other effects that are worthy of exploration. For instance, the lack of support for intervention affecting the likelihood of a settlement is unexpected, but the findings for this variable are suspect because of the crudeness of the indicator that was available. Given the theoretical reasons for expecting intervention to be of importance, further research should focus on developing a better indicator for this variable. Likewise, casualty rate figures do not distinguish between casualties for the government versus casualties for the rebels. Nor does this indicator include consideration of other costs of war, such as civilian casualties and destruction of economic assets and disruption of economic production. Because the model suggests that a stalemate makes settlement more attractive, a true test of this aspect of the model would require the ability to distinguish between the casualties of the two sides and include all aspects of the costs of war. The use of expected utility analysis will assist further research by bringing a systematic theoretical framework to inform the selection of variables to be tested and data to be gathered.

APPENDIX

warname	*yrbeg1*	*yrend1*	*duration*	*battdea*	*numarmy*	*cowtype*	*ethnic*	*interven*	*outcome*
Romania	989	989	1	1,014	180	1	0	0	0
Burundi	988	988	1	5,000	7	1	1	0	0
South Yemen	986	986	1	12,000	28	1	0	0	0
Costa Rica	948	948	1	2,000	1	1	0	0	0
Burundi	972	972	1	50,000	2	1	1	0	0
Uganda	966	966	1	2,000	4	1	1	0	0
Guatemala	954	954	1	1,000	7	1	0	0	0
Bolivia	952	952	1	1,500	9	1	0	0	0
Sri Lanka (Ceylon)	971	971	1	2,000	11	1	1	0	0
Yemen Arab Republic	948	948	1	4,000	18	1	0	0	0
Iraq	959	959	1	2,000	57	1	1	0	0
Jordan	970	970	1	2,100	60	1	1	1	0
Hyderabad	948	948	1	2,000	321	0	1	0	0
China (Taiwanese Republic)	947	947	1	1,000	4,013	1	0	0	0
Indonesia	953	953	2	1,000	100	1	1	0	0
Rwanda	963	964	3	2,500	1	1	1	0	0
Argentina	955	955	3	3,000	148	1	0	0	0
Lebanon	958	958	4	1,400	9	1	1	1	1
Dominican Republic	965	965	4	2,526	19	1	0	1	1
Paraguay	947	947	6	1,000	9	1	0	0	0
Algeria	962	963	6	1,500	60	1	0	0	0
Cuba	958	959	7	5,000	19	1	0	0	0

(continued)

APPENDIX Continued

warname	*yrbeg1*	*yrend1*	*duration*	*battdea*	*numarmy*	*cowtype*	*ethnic*	*interven*	*outcome*
Pakistan	971	971	8	500,000	390	0	1	0	0
Nicaragua	978	979	10	35,000	7	1	0	0	0
Iran	981	982	11	14,000	195	1	0	0	0
Sino-Tibetan	950	951	14	1,000	4,000	0	1	0	0
Iran	978	879	16	7,500	410	1	0	0	0
East Timor	975	977	19	30,000	266	0	1	1	0
China	967	968	20	50,000	3,360	1	0	0	0
Philippines	950	952	22	9,000	29	1	0	0	0
Liberia	989	992	25	13,000	2,321	1	1	1	0
Nigeria	967	970	30	1,000,000	20	0	1	0	0
Greece	944	945	37	160,135	15	1	0	1	0
Tibetan	956	959	37	100,000	3,130	0	1	0	0
Nigeria	980	984	39	6,000	160	1	1	0	0
Indonesia	956	960	49	30,000	248	1	0	0	0
Pakistan	973	977	54	8,600	400	1	1	0	0
Kampuchea (Cambodia)	970	975	59	156,000	124	1	0	1	0
Zaire (Congo)	960	965	62	100,050	25	1	1	1	0
Yemen Arab Republic	962	969	82	101,000	2	1	0	1	1
Zimbabwe (Rhodesia)	972	979	84	12,000	5	1	1	0	1
Ugandan	980	988	90	102,000	7	1	1	0	0
Western Sahara	975	983	98	10,000	61	0	1	0	1
Chad	980	988	101	11,200	3	1	1	1	1

Sudan	963	972	101	250,000	11	1	1	0	1
Nicaragua	982	990	130	43,000	41	1	0	0	1
Laos	960	973	149	41,500	29	1	0	1	0
China	927	949	150	1,500,000	4,158	1	0	1	0
El Salvador	979	992	151	25,000	7	1	0	0	1
Cambodia	979	991	154	42,000	10	1	0	1	1
Mozambique	979	992	156	200,550	24	1	1	1	1
Kurdish	961	975	163	5,500	74	0	1	1	0
Colombia	948	962	178	301,400	17	1	0	0	1
Vietnam, Republic	960	975	181	2,360,000	160	1	0	1	0
Angola	975	991	187	345,800	26	1	1	1	1
Eritrean	974	991	209	165,000	45	0	1	1	0

REFERENCES

Brogan, P. 1990. *The fighting never stopped: A comprehensive guide to world conflict since 1945*. New York: Vintage.

Cimbala, S. J., and S. R. Waldman, eds. 1992. *Controlling and ending conflict: Issues before and after the cold war*. New York: Greenwood.

Damrosch, L. F., ed. 1993. *Enforcing restraint: Collective intervention in internal conflicts*. New York: Council on Foreign Relations.

Frohlich, N., and J. A. Oppenheimer. 1973. Governmental violence and tax revenue. In *Violence as politics*, edited by H. Hirsch and D. Perry, 72-88. New York: Harper.

———. 1974. The carrot and the stick: Optimal programs mixes for entrepreneurial political leaders. *Public Choice* 19:43-61.

Gurr, T. R. 1970. *Why men rebel*. Princeton, NJ: Princeton University Press.

———. 1993. *Minorities at risk: A global view of ethnopolitical conflicts*. Washington, DC: U.S. Institute of Peace Press.

Gurr, T. R., and B. Harff. 1994. *Ethnic conflict in world politics*. Boulder, CO: Westview.

Hartlyn, J. 1993. Civil violence and conflict resolution: The case of Columbia. In *Stop the killing: How civil wars end*, edited by R. Licklider, 37-62. New York: New York University Press.

Holl, J. 1993. When war doesn't work: Understanding the relationship between the battlefield and the negotiating table. In *Stop the killing: How civil wars end*, edited by R. Licklider, 269-92. New York: New York University Press.

Iklé, F. C. 1971. *Every war must end*. New York: Columbia University Press.

Licklider, R. 1992. How civil wars end: Preliminary results from a comparative project. In *Controlling and ending conflict: Issues before and after the cold war*, edited by S. J. Cimbala and S. R. Waldman, 219-37. New York: Greenwood.

———. 1993. How civil wars end: Questions and methods. In *Stop the killing: How civil wars end*, edited by R. Licklider, 3-19. New York: New York University Press.

———. 1995. The consequences of negotiated settlements in civil wars, 1945-1993. *American Political Science Review* 89:681-90.

Mason, T. D. 1996. Insurgency, counterinsurgency, and the rational peasant. *Public Choice* 86:63-83.

Miall, H. 1992. *The peacemakers: Peaceful settlement of disputes since 1945*. New York: St. Martin's.

Pillar, P. R. 1983. *Negotiating peace: War termination as a bargaining process*. Princeton, NJ: Princeton University Press.

Rogowski, R. 1985. Causes and varieties of nationalism: A rationalist account. In *New nationalism of the developed west: Toward an explanation*, edited by E. Tiryakian and R. Rogowski, 87-108. Boston: Allen & Unwin.

Singer, J. D., and M. Small. 1993. *Correlates of war project: International and civil war data, 1816-1992* [computer file]. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [distributor].

Sivard, R. 1989. *World military and social expenditures, 1989*. Leesburg, VA: World Priorities.

———. 1991. *World military and social expenditures, 1991*. Leesburg, VA: World Priorities.

Stedman, S. J. 1991. *Peacemaking in civil war: International mediation in Zimbabwe, 1974-1980*. Boulder, CO: Lynne Rienner.

———. 1993. The end of the Zimbabwean civil war. In *Stop the killing: How civil wars end*, edited by R. Licklider, 125-63. New York: New York Universities Press.

Walters, B. F. 1995. The resolution of civil wars: Why negotiations fail. Unpublished manuscript, Columbia University.

Wittman, D. 1979. How a war ends: A rational model approach. *Journal of Conflict Resolution* 23:743-63.

Zartman, I. W. 1993. The unfinished agenda: Negotiating internal conflict. In *Stop the killing: How civil wars end*, edited by R. Licklider, 20-34. New York: New York University Press.