



When Civil Wars Recur: Conditions for Durable Peace after Civil Wars

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We argue that the duration of the peace after civil wars is mainly a function of the extent to which the outcome of the previous civil war preserved a condition of multiple sovereignty and the extent to which the post-civil war environment creates incentives for dissident groups to resort to violence rather than sustain the peace. Hazard models suggest that the outcome of the previous conflict does affect the duration of the peace, and this effect varies across time. The introduction of peace-keeping forces has a substantial positive effect on peace duration. We also find evidence of a curvilinear relationship between ethnic fractionalization and post-civil war peace duration. Based on these results, we conclude with recommendations for how peace can be maintained after a civil war.

Keywords: civil war, peacekeeping, peace failure, peace duration

Over the last half-century, civil war has replaced interstate war as the most frequent and deadly form of armed conflict in the international system. What is less often recognized about this period is that once a nation experienced one civil war, it was highly likely to experience another. The *Correlates of War* (Sarkees 2000) documents 104 civil wars that began and ended between 1944 and 1997. These occurred in 54 nations. Only 28 of those 54 nations had one and only one civil war. Doyle and Sambanis (2000) list 124 civil wars that occurred in 69 nations, with only 36 nations having experienced one and only one conflict.

This observation raises the question: why is it so difficult to sustain the peace after a civil war? More precisely, what factors influence whether the peace will endure or the nation will relapse into renewed conflict? Models of civil war *onset* specify a set of national attributes that render a nation more or less susceptible to the *initial* outbreak of civil war. Among these are the level of economic development (Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Sambanis 2004); the extent of democracy–autocracy and change in regime type (Hegre,

Ellingsen, Gleditsch, and Gates 2001); and the degree of ethnic fractionalization or polarization (Reynol-Querol 2002). Intuitively, we would expect some of these same factors to condition both the duration of the peace following civil war termination and the probability of civil war resuming. Research on civil war *duration* and *outcomes* suggests that characteristics of the now-ended civil war affect both the duration and the outcome of the conflict, independent of the national attributes that made the nation susceptible to civil war onset in the first place. We would also expect those attributes of the previous civil war to condition the post-civil war environment in ways that affect the duration of the postwar peace and the risk of peace failure. Among these are the outcome of the previous civil war (that is, whether it ended in a rebel victory, a government victory, or a negotiated settlement; see Licklider 1995; Mason and Fett 1996; Mason, Weingarten, and Fett 1999; Brandt, Mason, Gurses, Petrovsky, and Radin 2008; Quinn, Mason, and Gurses 2007); the terms of the settlement agreement (if the war ended in a negotiated settlement; see Hartzell 1999; Hartzell, Hoddie, and Rothchild 2001; Hartzell and Hoddie 2003, 2007); the presence or absence of multinational peacekeeping forces (Doyle and Sambanis 2000; Fortna 2004); as well as the destructiveness and duration of the conflict (Walter 2004; Hartzell and Hoddie 2007).

We begin by presenting a theoretical framework to identify a set of factors that should affect the duration of the peace after civil war. For the peace to fail, a dissident organization must have the capacity to mount an armed challenge to the post-conflict regime. That dissident group could be a dormant rebel group from a previous conflict, a completely new rebel group, or a coalition of elements from new and previously active groups. The *capacity* of such a group to mount a new armed conflict is captured by Tilly's (1978) concept of *multiple sovereignty*. Multiple sovereignty exists when one or more organized armed challengers emerge and command a significant degree of popular support. For Tilly, multiple sovereignty is the structural condition that makes civil war possible. We argue that *the extent to which multiple sovereignty is preserved in the post-civil war environment varies according to whether the civil war ended in a rebel victory, a government victory, or a negotiated settlement*. In other words, the extent to which multiple sovereignty is dismantled or preserved in the postwar environment accounts for the durability of the post-civil war peace, and the extent to which multiple sovereignty is preserved is determined in large part by whether the previous conflict ended in a government victory, a rebel victory, or a negotiated settlement.

While multiple sovereignty makes a relapse into civil war possible, whether (and when) it does recur is a function of whether the dissidents have the *incentive to revolt* rather than sustain the peace. This element of agency can be modeled as the dissident leaders' choice between resuming conflict versus sustaining the peace, a choice that is based on their estimate of the costs and benefits of each option. We argue that features of the previous civil war and of the post-civil war environment condition this choice.

This framework incorporates elements of structure and agency and allows us to derive a set of hypotheses on the conditions that, first, preserve a condition of multiple sovereignty in the post-conflict environment (making renewed conflict possible) and, second, give the leaders of dissident organizations the incentive to resume conflict rather than sustain the peace. We then test these hypotheses with event history models using Sambanis' (2004) civil war data set.

Multiple Sovereignty: The Capacity to Resume Conflict

When a period of civil war ends, a nation enters a peace spell during which it is at risk of relapsing into renewed civil war. If armed conflict resumes, it can involve the same sets of protagonists, a completely different set of protagonists

on one side or both, or (more often) a mix of old and new protagonists. Cunningham (2006:877) notes that 90 of the 288 internal conflicts in the Uppsala-PRIO Armed Conflict Data involved at least two, and as many as ten, rebel combat organizations active at the same time (see also Nilsson 2008). For those nations, the end of one conflict dyad does not usher in a peace spell as long as one or more other conflict dyads continue. There were three civil wars ongoing in Ethiopia between 1974 and 1991: the Eritrean secession, the Tigrean revolution, and an ethnic Somali uprising in the Ogaden region. The Ogaden war was brief, but its end did not bring peace to Ethiopia because the other two conflicts continued. In this analysis, we focus on peace spells defined as the absence of all civil war in a nation, not simply the termination of one civil war dyad while others persist within that nation.

The initial onset of and later reversion to civil war requires that aspiring rebels have both the incentive and the capacity to revolt. The capacity to revolt requires the existence of a dissident organization that has the capacity to solve collective action problems by persuading a sufficient number of citizens to support an organized armed rebellion against the post-conflict regime. Tilly's concept of *multiple sovereignty* provides a framework with which to identify conditions in the post-civil war environment that encourage or discourage the emergence of organized armed challenges to the post-conflict regime. Tilly (1978:200) defines multiple sovereignty as "the appearance of contenders or coalitions of contenders, advancing exclusive alternative claims to the control over the government...; commitment to those claims by a significant segment of the subject population...; the incapacity or unwillingness of the government or its agents to suppress the challenger coalition..." Just as establishing a condition of multiple sovereignty is a prerequisite to civil war onset, dismantling the condition of multiple sovereignty should be critical to sustaining the peace after a civil war. Conversely, any conditions that contribute to the preservation or reemergence of multiple sovereignty in the post-civil war environment should shorten the duration of the peace by increasing the risk of renewed armed conflict.

We argue that the manner in which a civil war ends greatly influences duration of the postwar peace by either preserving or dismantling the condition of multiple sovereignty. Conventional wisdom is that, compared to negotiated settlements, decisive military victories by either the rebels or the government make the recurrence of civil war less likely because decisive victory more thoroughly eliminates multiple sovereignty (Wagner 1993; Licklider 1995; Luttwak 1999; Walter 2004:374; Fortna 2004). Military victory disrupts or destroys the organizational infrastructure of the defeated side's armed forces, making it difficult for that party or a new dissident group to mobilize the human and material resources necessary to resume armed conflict (Wagner 1993:255). By contrast, negotiated settlement preserves both sets of protagonists intact and, therefore, capable of resuming conflict at a later date. This generates our first hypothesis,

Hypothesis 1: *Civil wars that end in military victories will produce a more enduring peace than those that end in negotiated settlements.*

While that hypothesis is not new, the asymmetric nature of civil war—that is, a sovereign state versus one or more nonstate actors—implies that the postwar environment following a rebel victory is different from that established by a government victory. Therefore, the duration of the peace following military victories should vary depending on whether the government or the rebels won.¹ We

¹Mukherjee (2006) found no difference between government victory and rebel victory with regard to the duration of the post-civil war peace. Kreutz (2010) found that government victories rather than rebel victories produce a more durable peace.

argue that conditions of multiple sovereignty are more likely to survive a government victory than a rebel victory. The defeat of an armed rebellion by the government often constitutes little more than a lull in the fighting. Rebels on the verge of defeat can blend into the civilian population to avoid annihilation. Their covert civilian support base and intelligence networks remain largely intact because they are covert and because government victory in and of itself does not resolve the grievances that motivated popular support for rebellion in the first place. In time, the defeated rebels may be able to revive the old rebel organization, or a new one may emerge by appealing to the same civilian support base as the now-defeated group. When the political opportunity structure becomes favorable, a new or revived rebel organization can reinitiate combat operations.

A victorious government can try to preempt the recurrence of rebellion by engaging in repression to eliminate the last vestiges of the defeated rebel organization and to intimidate the civilian supporters of the rebels into withdrawing their support. Or it can undertake significant reforms to “win the hearts and minds” of the civilian population that supported the now-defeated rebels (see Mukherjee 2006). A victorious government is not likely to adopt the reform strategy because what made it susceptible to civil war in the first place was weak state capacity marked by a lack of institutional machinery, redistributable resources, or political will to undertake the sort of accommodative reforms that would have alleviated the grievances that led to civil war (Mason and Krane 1989:177; see also Fearon and Laitin 2003:781). The experience of civil war exacerbates conditions of state weakness. War destroys economic infrastructure and human capital, disrupts production and commerce, and reduces economic output and growth for the civil war nation and its neighbors (Collier, Elliott, Hegre, Hoeffler, Reynal-Querol, and Sambanis 2003; Murdoch and Sandler 2004; Kang and Meernik 2005). This diminishes the revenue base that the victorious government could draw on to finance accommodative reforms. Since nations that experience civil war are, on average, more impoverished than other nations to begin with, a victorious government will confront a postwar environment that renders it even more susceptible to renewed civil war because the destructiveness of the previous civil war exacerbates the economic grievances that fueled the original conflict and lowers the opportunity costs of participation in armed rebellion below what they were prior to the now-ended war (Collier 2000:2; Collier et al. 2003; Walter 2004).

Lacking the institutional capacity, economic resources, or political will to alleviate popular grievances, a victorious government can instead engage in a campaign of repression designed to annihilate the last vestiges of the rebel organization and its civilian support base. A campaign of repression will not win the hearts and minds of a war weary population. It does nothing to resolve the conditions that fed their grievances in the first place. Indeed, it is likely to worsen those conditions and expand the latent support base for renewed rebellion in the future (Mason and Krane 1989). Therefore, both survivors of the rebel defeat and aspiring new rebels will find fertile ground for the renewal of the conflict at a later date. Following the end of the Guatemalan civil war of 1966–1972, the government adopted even more repressive policies and more authoritarian institutions to preempt a recurrence of armed revolt. Civil war resumed in 1978.

Rebel victories dismantle multiple sovereignty more thoroughly than government victories or negotiated settlements because they typically result in the annihilation or exile of the leaders of the defeated government. Officials of a defeated government (including its military) do not normally have the luxury of anonymity that would allow them to blend into the population and bide their time until a change in the political opportunity structure allowed them to mount their own armed challenge to the government installed by victorious rebels. It will

be easier for supporters of the victorious rebels to identify former soldiers who have tried to go underground than it would be for supporters of a victorious government to identify former insurgents who attempt to blend into the population. The leaders of defeated governments usually are either driven into exile (for example, Batista in Cuba, Somoza in Nicaragua) or killed (Doe in Liberia). When a defeated government does attempt to reverse the rebel victory, it is often with the aid of a foreign power, as was the case with the Contras in Nicaragua.

Like victorious governments, victorious rebels also face a postwar environment that is devastated by the destruction of war. Capital flight instigated by economic elites allied with the now-defeated government further diminishes their resource base in ways that the government they defeated would not have faced, had they prevailed. Unlike victorious governments, victorious rebels have to build from scratch the machinery of a new state; at the very least, they have to staff the machinery of governance they now control. That state machinery lacked capacity to begin with or the incumbent regime would not have been defeated by an armed rebellion. Since elements of the defeated regime (and their external allies) might attempt to reverse the outcome by mounting a final strike against the new rebel government, victorious rebels may conclude that their best strategy for preempting renewed war is to use repression to eliminate the last vestiges of the old elite. They can, however, redistribute to their own supporters a portion of the assets controlled by the old regime and its class allies (an option that is not typically available to a victorious government). As the peace endures, the rebels consolidate their power and the risks of war resuming decline. Therefore, if victorious rebels can sustain the peace through the early years following their victory, we would expect the peace that follows a rebel victory to last longer than the peace that follows a government victory.

Hypothesis 2: *Rebel victories will produce a more enduring peace than government victories.*

Previous studies have argued that negotiated settlements produce a less durable peace than decisive victories by either rebels or governments because negotiated settlements preserve intact the organizational infrastructure of both warring parties, making it easier for them to resume combat operations than would be the case had either suffered a decisive defeat at the hands of their rival (Licklider 1995; Walter 2004). Negotiated settlements are subject to credible commitment problems: neither side can trust their former enemy to abide by the terms of the agreement because both sides know that they would benefit by defecting from the agreement and attacking while their rival continued to believe they were abiding by the agreement (Walter 2002). Their capacity to defect assumes that they maintained their organizational autonomy after the settlement is reached, which means a condition of multiple sovereignty persists.

Contrary to this conventional wisdom, Hartzell and Hoddie (2007:7) contend that, when data are updated to include post-Cold War conflicts, there is evidence that negotiated settlements “may in fact produce just as stable a peace as military victories.” They attribute this to power-sharing institutions and peacekeeping forces. Power-sharing institutions involve the dismantling or weakening of multiple sovereignty. For instance, military power-sharing involves the disarming and demobilization of rebel forces, and their integration into the national army. As such, military power-sharing reduces the rebels’ capacity to mount a new armed challenge to the government and the government’s capacity to repress former rebels and their civilian supporters. Constructing and consolidating power-sharing institutions takes time, and the risk of peace failure should diminish with time. The longer the peace is sustained under the terms of the settlement agreement, the more the rebels’ ability to mobilize their civilian support base and to

mount armed attacks decays as a function of the dismantling of their organizational infrastructure through disarming and demobilizing. While multiple sovereignty may be preserved in the aftermath of civil wars that end in negotiated settlement, it should weaken as the peace endures. Thus, we hypothesize,

Hypothesis 3: *Negotiated settlements initially will have a higher risk of peace failure than military victories, but this effect will diminish over time.*

An example of this effect would be the disarming and demobilization called for in the peace agreement that ended Mozambique's civil war. Because of the severity and duration of that conflict, the postwar environment was described as a very "delicate peace" and the prospects for that peace enduring were considered remote (Alden and Simpson 1993:1). Because the rebel group (RENAMO) was quite large, demobilization took much longer than anticipated. The UN force charged with implementing demobilization included over 6,000 troops from 22 countries and an estimated 1,000 observers operating 49 demobilization sites across the country (Msabaha 1995). Years later, the postwar rehabilitation effort in Mozambique would be described as a "model for Afghanistan" (Itano 2002:1) as well as Africa's "only post-conflict success story" (Manning 2002:4). The initial pessimism was no doubt related to an observed capacity of RENAMO guerrillas to renew war, but this capacity declined over time as a function of the demobilization process that was at the core of the settlement agreement.

The introduction of peacekeeping forces is the other factor that contributes to the durability of peace following negotiated settlements. The credible commitment problem inherent in negotiated settlements can be resolved by a third party that is willing and able to enforce guarantees against either side defecting from the agreement and achieving through deception what they could not achieve on the battlefield (Walter 2002). Peacekeeping forces can make the peace more durable by enforcing the terms of a settlement agreement and enabling both sides to disarm without fear of their rival cheating (Doyle and Sambanis 2000, 2006; Fortna 2004). Thus, we expect peacekeepers to help dismantle multiple sovereignty and provide the basis for a more durable peace.

Hypothesis 4: *Outcomes enforced by international peacekeeping forces will result in a more enduring peace.*

Regardless of how a war ends, ethnic divisions in a war-torn country help to preserve the social basis for multiple sovereignty, making renewed conflict more likely and peace less durable. Ethnic divisions represent an identity-based foundation for multiple sovereignty. An ethnically based rebel organization can mobilize its supporters more easily than an ideologically based movement because the former's recruiting base already has a shared identity and shared grievances that have been strengthened by the experience of the previous civil war. Elbadawi and Sambanis (2002) contend that the relationship between ethnic fractionalization and the probability of civil war onset should follow an inverted-U pattern: ethnically homogeneous societies and those that are fragmented among a large number of relatively small ethnic groups should be less susceptible to civil war than those that have a small number of relatively large ethnic groups (see also Ellingsen 2000; Sambanis 2001; Collier et al. 2003). When a society is polarized among two or three ethnic groups, at least one of which is large enough to aspire to hegemony over the others, ethnic security dilemmas are more likely to arise, making civil war more likely to occur and recur (Ellingsen 2000; Reynol-Querol 2002; Collier et al. 2003). Therefore, in the aftermath of a civil war, we would expect the duration of the peace to be greater among (i) ethnically homogeneous societies, and (ii) those that are highly fragmented among a large number of groups. The societies that have a small

number of relatively large ethnic groups should be more likely to experience shorter peace spells, *ceteris paribus*.

Hypothesis 5: *Ethnic fractionalization has an inverted-U relationship to post-civil war peace duration: the lowest and highest levels of fractionalization are related to longer post-civil war peace, with moderate levels of fractionalization leading to shorter post-civil war peace.*

Incentives to Resume Conflict vs. Sustaining the Peace

The persistence of multiple sovereignty in the post-civil war environment makes a relapse into civil war possible. Whether or not dissident organizations actually resume armed conflict is a function of whether they conclude they would be better off resuming war or sustaining the peace. Presumably, dissidents would prefer to resume conflict only if they believe they can eventually win or at least extract more favorable settlement terms than the status quo. Mason and Fett (1996) model this choice with expected utility functions depicting the actor's expected payoffs from resuming conflict versus sustaining the peace. The payoff from resuming conflict is depicted as follows:

$$EU_c = p_v(U_v) + (1 - p_v)(U_d) - \sum_{t_i=0}^{t_v} C_{ti} \quad (1)$$

where EU_c is the expected utility of resuming armed conflict, U_v is the actor's estimate of the payoff from eventual victory, p_v is the actor's estimate of the probability of victory, U_d is the actor's estimate of the cost from defeat, $(1 - p_v)$ is the estimated probability of defeat, and C_{ti} is the actor's estimate of the rate at which the costs of conflict will accrue from the present ($t_i = 0$) to that time in the future when the actor estimates victory can be achieved (t_v). For a resumption of civil war to be preferred, the expected utility of resuming the war, EU_c , must be greater than the expected utility of sustaining the peace, EU_p . The payoffs from sustaining the peace are:

$$EU_p = U_s + \sum_{t_i=0}^{t_v} C_{ti} \quad (2)$$

where EU_p is the expected utility from sustaining the peace and U_s is the payoff from the post-civil war status quo. The payoff from the status quo is augmented by avoiding the costs that would have to be absorbed in order to achieve victory

$$\sum_{t_i=0}^{t_v} C_{ti}.$$

This model suggests that any attribute of the post-conflict environment that (i) decreases the actor's estimate of the probability of victory (p_v), (ii) decreases the actor's estimate of the payoffs from victory (U_v), (iii) increases their estimate of the rate at which the costs of conflict would have to be absorbed in order to achieve victory (C_{ti}), (iv) increases the protagonists' estimate of the time required to achieve victory (t_v), or (v) increases their estimate of the payoffs from sustaining the peace (U_p) should reduce the probability of peace failure (that is, increase the duration of the peace) by reducing the incentives for dissidents to initiate armed conflict. One critical difference between the initial onset and the recurrence of civil war is that the experience of the now-ended conflict enables potential rebels in the post-civil war environment to estimate more realistically the expected costs and benefits of resuming conflict. The experience of the previous war gives them a more realistic estimate of the likely duration,

costs, and probability of victory in a new war, information they did not have prior to the onset of the original war.

This model suggests several hypotheses on the incentives for dissident groups to renew armed conflict versus sustaining the peace. First, it suggests that the longer the previous civil war lasted, the more durable the peace should be. Several studies have found that the longer a civil war lasts, the less likely either side is to achieve military victory (Mason and Fett 1996; Mason et al. 1999; Fearon 2004:276; Brandt et al. 2008). Thus, we would expect the duration of the previous conflict to reduce the incentives for dissident groups to resort to armed conflict rather than sustain the peace. The duration of the previous civil war provides actors with information about the probability of winning (p_v) as well as the amount of time they can expect to fight in order to achieve victory (t_v), should they choose to resume fighting. The longer the previous war lasted, the greater will be their estimate of the time over which they will have to absorb the costs of renewed conflict before they can ever achieve victory (t_v). The longer their estimate of t_v , the higher will be their estimate of the accrued costs required to achieve victory $\sum_{t=0}^{t_v} C_{ti}$. As their estimate of the accrued costs required to achieve victory approaches their expected utility from victory ($p_v(U_v)$), sustaining the peace becomes more attractive. Since long wars rarely result in decisive victory, the longer the previous war lasted, the lower will be the aspiring rebels' estimate of their chances of winning (p_v), should they resume the conflict. Victory in a long civil war is more uncertain because the longer a war lasts, the more time there is for unexpected contingencies (such as third-party intervention) to arise that would alter the probability of victory for both sides (see Cunningham 2010). Unless one protagonist estimates it can win or at least force the government to agree to more favorable settlement terms (U_s), there is little incentive for that party to resume conflict. Since the best estimate of the likely duration of a renewed war is the duration of the previous war, we would expect wars of longer duration to be followed by longer periods of peace and a lower probability of a nation's reversion to civil war, *ceteris paribus*.

Hypothesis 6: *The longer the duration of the previous civil war, the longer the peace will last following the termination of that conflict.*

The casualty rate of the previous war provides contending groups in the post-civil war environment with an estimate of the rate at which they will have to absorb costs, should they choose to fight. The higher their estimate of the casualty rate they will have to absorb (C_{ti}), the higher will be their estimate of the accrued costs required to achieve victory $\sum_{t=0}^{t_v} C_{ti}$. Unlike interstate wars, the protagonists in civil wars draw on the same population for recruits and on the same economy for the material resources needed to sustain combat operations. Therefore, the higher the casualty rate in the previous war, the smaller will be the available pool of recruits for aspiring rebels to draw upon for the purpose of resuming conflict. High casualty rates also create a recruiting dilemma for aspiring rebels. Having lived through the previous civil war, potential recruits are aware of the deadliness and destructiveness of that conflict. Therefore, the more destructive that war was, the less inclined citizens will be to assume the risks that accompany participating in a new rebellion. The marginal costs of recruiting rebel soldiers will be higher, the higher the casualty rate was in the previous war. This effect should extend the duration of the peace by making it less likely that aspiring rebels will be able to build an army sufficient to initiate a new armed uprising. Accordingly, we would expect the following to hold:

Hypothesis 7a: *The higher the casualty rate of the previous civil war, the longer the duration of the peace.*

There is a rival hypothesis that higher casualty rates in the previous civil war make the resumption of armed conflict *more* likely. This argument hinges not on the calculus of the expected costs and benefits of renewed conflict but on the persistence of multiple sovereignty in the post-civil war environment: high casualty rates reinforce the mutually antagonistic identities that serve as the framing devices for renewed mobilization. Walter (2004:373) suggests that, “wars that inflict high costs on combatants and supporters could exacerbate animosity between them and create a strong desire for retribution even if the war ends.” By this logic, high casualty rates make it less likely that former enemies will ever successfully integrate into a single coherent society. The mutually antagonistic identities that defined the multiple sovereignty of the previous war will persist and the post-civil war peace will be more likely to fail. This produces the rival hypothesis to 7a:

Hypothesis 7b: *The higher the casualty rate of the previous civil war, the shorter the duration of the peace.*

A final cost-benefit consideration that should deter dissidents from resuming combat operations is what Gurr (1970) termed the *coercive balance*: the balance of military capability between the government and the opposition organization considering a renewal of rebellion. Rebels almost always start off with a substantial disadvantage: they have to build a military organization from scratch in the shadow of a government that already has an established army (Mason and Fett 1996). Therefore, the larger the army of the post-civil war regime, the more potential rebels will be deterred from attempting to resume armed conflict. Their estimate of surviving that initial disadvantage should vary inversely with the size of the government army, as should their estimate of the probability victory (p_v) and their estimate of the rate at which they will have to absorb costs (C_{ti}) in order to achieve victory. We thus expect the following:

Hypothesis 8: *The larger the government’s army, the longer the duration of the peace.*

To recap, we expect that the duration of post-civil war peace is affected by the extent to which a condition of multiple sovereignty is preserved (or reemerges) in the postwar environment because this determines the *capacity* of an opposition group to renew armed conflict. Second, the duration of the peace should vary with the *incentives* to resume war versus sustain the peace. We turn now to a test of these propositions.

Data and Model Specification

We test our hypotheses with Sambanis’ (2004) data set on civil wars that started between 1945 and 1999. He provides detailed criteria by which to determine the start and end dates of a civil war, which is critical to any effort to model the duration of the peace following a civil war.²

²Sambanis (2004:829–831) defines a civil war as an organized armed conflict that takes place within the territory of a recognized nation state with a population of at least 500,000 involving the government and at least one dissident movement that has a political and military organization. The starting year of the war is the first year that the conflict causes at least 500–1,000 deaths and organized armed violence sustained throughout the duration of the conflict. The conflict is coded as ended if a 3-year interval produces fewer than 500 battle deaths or a signed peace treaty produces at least six months of peace, or a decisive victory by the rebels produces a new government.

Dependent Variable

The dependent variable is peace duration in years after a civil war has ended. We define a peace spell as beginning once all civil wars in a nation have ended; the peace spell is counted as persisting until a new civil war onset occurs. We have 98 peace spells in the analysis.³ Of these, 48 end in new civil wars or the failure of peace.

Several studies on the durability of the peace after civil war have used the civil war dyad as the unit of analysis: when a conflict between the government and a particular rebel group ends, the peace spell is counted as continuing until the war resumes with the same pair of protagonists (Fortna 2004; Walter 2004). DeRouen and Bercovitch (2008) examine recurrent civil wars as domestic enduring rivalries. If a new civil war breaks out involving a different rebel group and/or a different government, it is treated as a different war that does not mark the end of the original dyad's peace spell. Our concern is with the duration of the peace in a nation, *not* the recurrence or nonrecurrence of a particular conflict dyad. The latter is a legitimate but separate research question that has been explored by Walter (2004), Fortna (2004), Cunningham (2006), Kreutz (2010), Mukherjee (2006), and Nilsson (2008). We count a peace spell as ending when *any* new civil war occurs. Other studies have used the same measurement strategy for peace spells (Doyle and Sambanis 2000, 2006; Hartzell and Hoddie 2003, 2007; Quinn et al. 2007; Collier, Hoeffler, and Söderbom 2008; Flores and Nooruddin 2009).

This approach is justified on several grounds. First, our focus is on sustaining the peace in the nation as a whole. We want to understand under what circumstances that nation's political and economic institutions encourage or allow the emergence of multiple sovereignty where (potential) rebels are able to mobilize sufficient human and material resources to mount a challenge to the state's power. Conversely, we want to understand what conditions are supportive of peacebuilding efforts. Peacebuilding cannot proceed if a conflict between the government and one rebel group ends but other rebel groups continue to prosecute armed conflict against the same government. An end to all civil war is a prerequisite to UN peacekeeping and peacebuilding missions, and that condition is not captured by dyadic peace. The government of Ethiopia defeated a rebellion of ethnic Somalis in the Ogaden region, but two other rebellions continued unabated. The defeat of one rebel movement did not eliminate the condition of multiple sovereignty for the nation of Ethiopia nor did it usher in a peace spell for the nation of Ethiopia; civil war still prevailed in the nation.

Second, treating each civil war dyad—and the peace that follows it—as distinct from all others may lead to overly optimistic conclusions about the success of peacebuilding in a post-civil war country. Defining peace spells dyadically equates cases that have far different histories of conflict. For example, all available data sets count both the Moluccan rebellion in Indonesia and the Leftist revolution in Paraguay as never having recurred. However, Indonesia and Paraguay have not been equally peaceful. Paraguay never experienced another civil war after 1947 whereas Indonesia has had at least six more civil wars since the Moluccan conflict ended in 1950, and each of those subsequent wars was fought by groups other than the Moluccans. Therefore, treating Indonesia and Paraguay as equally peaceful for the period under analysis fails to capture the variation in these two countries' susceptibility to relapse into civil war.

³The Sambanis' (2004) data set includes 151 civil wars for the period under analysis. Due to ongoing wars (that is, no peace spell), missing data, and our measurement strategy, we have 98 "peace spells" in our analysis.

Third, it is not always clear whether a new civil war is a resumption of the previous one or a new war. For example, several nations (for example, Afghanistan, Chad, Guatemala, Iraq, and Myanmar) have had multiple civil wars that involved some of the same protagonists as previous civil wars but new protagonists as well. Some “new” protagonists are splinter factions from an original rebel group (for example, the Moro Islamic Liberation Front is a splinter faction from the Moro Islamic National Front in the Philippines). Even if one could determine that a civil war in a nation is a different conflict from a previous civil war, the previous war still has a substantial impact on the probability of the new war’s onset. The outbreak of civil war within a nation may have a demonstration effect and encourage other dissidents to mount a challenge to the government because the government’s capacity to suppress rebellion has been exposed as suspect and weakened by the costs of defeating the prior rebellion. Thus, even if a war is fought between different groups to achieve different goals, the inception of the second war is not independent from the occurrence of the previous war.⁴

Independent Variables

We define three dichotomous civil war outcome variables—*rebel victory*, *government victory*, and *negotiated settlement*—using data from Doyle and Sambanis (2000) and Sambanis (2004). To test the hypothesis that military victory, regardless of which side won, produces a more enduring peace, we generated an additional variable, *victory*, equal to “1” if a war ended in either rebel or government victory, and “0” otherwise.⁵

To test for the effect of *peacekeeping operations* on the duration of post-civil war peace, we defined both time-varying and time-constant peacekeeping variables. The time-varying version is set to “1” for each peace year in which peacekeeping forces are present in the post-civil war nation and “0” otherwise. The time-constant version is set to “1” for all years in the peace spell if peacekeeping forces were deployed at any point during the peace spell and “0” otherwise. The UN DPKO Web site, Doyle and Sambanis (2000), Fortna (2004), and Sambanis (2004) notes were used to generate peacekeeping variables.⁶

We use Fearon and Laitin’s (2003) *ethnic fractionalization* index and include the square of this variable to test the inverted-U relationship between ethnic fractionalization and peace failure. We use the *duration of the previous conflict* in years to measure the effect of duration on the willingness of potential rebels to resort to armed conflict rather than sustain the peace. To control for the casualty rate, we use the natural log of the war deaths.⁷ Data are from Doyle and Sambanis (2000), *Correlates of War*, Sambanis (2004), and Lacina and Gleditsch (2005). We used the natural log of the number of military personnel to measure

⁴That said, as a robustness check we conducted a dyadic analysis as well. The results from dyadic analysis confirmed the time aspect of the peacebuilding. The peace following rebel victories and negotiated settlements seems to be fragile only in the first few years; the peace becomes more durable as it survives. Rebel victory, war duration, and PKO variables, however, lost their significance. This suggests that dyadic peace and national peace may be sufficiently distinct that they warrant separate analysis.

⁵Doyle and Sambanis (2000) define truce as an outcome. In our analysis, negotiated settlement includes both truces and settlements. Using truce as a separate outcome did not lead to any substantial changes in the results.

⁶We estimated the model with all peacekeeping (both UN and non-UN) forces and obtained very similar results.

⁷We use the deaths for the last war to test the costs of conflict hypotheses. When a country experienced more than one war within the same period, we use the total number of deaths. For instance, Ethiopia experienced three civil wars between 1974 and 1991. The Tigrean (1978–1991) and Ogaden (1976–1988) wars ended before the larger Eritrean secessionist war (1974–1991) ended. For such cases, we used the total number of deaths caused by all simultaneous wars.

the state's coercive capacity. These data are from the COW National Capabilities data set.

Control Variables

Civil war redistributes power among the politically relevant actors leading to substantial postwar regime changes (Wantchekon 2004; Gurses and Mason 2008). Regardless of how a war ends, the introduction of more democratic institutions provides incentives for former or potential rebel groups to seek nonviolent institutional means to redress their grievances. Similarly, an autocratic post-civil war regime generates a political environment inhospitable to the preservation of multiple sovereignty. Such regimes possess the overwhelming coercive capacity to repress opposition movements preemptively and to intimidate citizens into withholding their support from a nascent opposition organization. Partial democracies that are not fully consolidated (referred to as "semi-democracies," "weak authoritarian regimes," and "anocracies") are more susceptible to the emergence of multiple sovereignty than are full democracies or autocracies. Such regimes lack both the democratic institutions to defuse opposition violence and the coercive capacity to repress it preemptively (see, for instance, Hegre et al. 2001). This implies that the establishment of a strongly democratic *or* strongly autocratic government in the postwar environment should reduce the probability of civil war recurrence and extend the duration of the peace. We use the 21-point POLITY IV *democracy-autocracy* scale to measure regime type. To control for the expectation that highly democratic and highly autocratic states are less vulnerable to civil war recurrence than anocracies, we add the square of the POLITY IV democracy-autocracy score for each peace year in a nation.

Several studies (for example, Fearon and Laitin 2003; Collier and Hoeffler 2004; Sambanis 2004) have found a strong and robust relationship between the level of economic development and the probability of civil war onset. We expect a similar relationship to hold for civil war recurrence and for the duration of the peace following a civil war. Following Walter (2004), we control for the impact of economic well-being on the duration of the peace by using infant mortality rate (IMR). IMR data were compiled by Henrik Urdal from the UN Population Division's *World Population Prospect: The 1998 Revision*.

Studies have pointed to the difficulties involved in peacebuilding following ethnic and/or territorial wars (Collier et al. 2003; Kreutz 2010; Walter 2004; Doyle and Sambanis 2006; Chapman and Roeder 2007). To control for these aspects, we coded two dichotomous variables to separate the peace spells that followed ethnic versus ideological conflicts (Sambanis 2004) and conflicts over territorial versus government incompatibilities (Buhaug 2006).

Empirical Model

Since the dependent variable is the duration of the post-civil war peace, we estimate a series of survival models to test our hypotheses. These models assess the risk or hazard rate of the peace failing (that is, civil war resuming) in a given year. Factors that prolong the peace decrease the hazard rate compared to the baseline hazard, whereas factors that shorten the peace increase the hazard rate (Box-Steffensmeier, Reiter, and Zorn 2003; Box-Steffensmeier and Jones 2004).

We used the Cox model since it does not "parameterize time dependency" but instead allows us to test and control for the possible nonproportionate effects of each variable (Box-Steffensmeier et al. 2003:42, fn. 6). Failure to control for nonproportional hazards can lead to "false inferences about a variable's substantive and statistical significance" (Box-Steffensmeier et al. 2003:34). Since the Cox model assumes that the hazard rate is proportionate, we tested for the

presence of nonproportional hazards. Results from Schoenfeld residuals tests indicate nonproportionality of the hazards for some of the key variables. Alternative specifications of the models show that the effects of rebel victory, negotiated settlement, deaths, and army size vary over time: they violate the assumption of proportional hazards. To address this, we estimated the models with interaction terms between each of these variables and natural logarithm of time (Box-Steffensmeier et al. 2003; Box-Steffensmeier and Jones 2004). An alternative would be to employ a parametric event history model (for example, Weibull, gamma, or log-logistic specifications) that could explicitly model the increase or decrease in the hazard rate. This, however, would impose a time-varying effect that may not be consistent with the data and, as Box-Steffensmeier et al. (2003: 40, fn. 6) state, “tests and remedies for nonproportionality in parametric context [are] largely nonexistent.”

We have several countries with more than one peace spell in the data set. Treating these observations as if they were independent “could yield misleading variance estimates and possibly biased estimates of the coefficients” (Box-Steffensmeier and Jones 2004:155; also see Cleves, Gould, and Gutierrez 2002). To clarify, we assume that the odds of peace failure for a country with previous peace failures are higher than those of a country with no previous peace failures. To control for this, we generate a count variable that differentiates between a peace spell that occurs after a single civil war and the hypothetically more fragile peace that occurs after the end of one in a series of civil wars in a given nation. We then stratify the estimation by this variable to “allow each strata to have *its own baseline hazard rate* while coefficients are restricted to be the same across strata” (Box-Steffensmeier and Jones 2004: 160, emphasis in the original).⁸

Findings

We have 98 separate peace spells with a total of 1,174 peace-years in our analyses. In the period under study (1945–1999), peace failed 48 times. Of the 48 peace spells that failed, 24 of the preceding civil wars ended in government victory, 10 in rebel victory, and 14 in negotiated settlement. The results of the event history analyses, summarized in Table 1, are presented as hazard ratios; a coefficient less (greater) than “1” indicates that the variable lowers (increases) the risk of the peace failing, prolonging (shortening) the duration of the peace.

We first present results from combining government victories and rebel victories into a single dichotomous variable, *victory*. The results (Model 1) do lend some support to the argument (H1) that military victories, regardless of whether government or rebels won, produce a more durable peace than negotiated settlements (the omitted category in Model 1). It should be noted, however, that this coding does not distinguish between rebel and government victories. Our theory as well as previous findings (for example, Quinn et al. 2007) on the differing effects of government versus rebel victory suggests the need for more careful scrutiny of the effect of outcome on the duration of peace.

In Models 2 and 3, we contrast rebel victory and negotiated settlement with government victory (the omitted category). The presence or absence of UN peacekeeping forces enters as a time-constant variable in Model 2, while Model 3 employs the time-varying version of the peacekeeping variable. The effect of the previous war’s outcome on the duration of the peace indicates a rather complex relationship because the hazard function changes over time. The odds of peace failure following a rebel victory and a negotiated settlement are high

⁸We also checked for unobserved heterogeneity and found no evidence for it.

TABLE 1. Stratified Cox Regression Results for Peace Duration after Civil War

Variable category	Variable	Model 1	Model 2	Model 3	Model 4	Model 5	
Civil war outcome	Victory	0.52 [.05]**					
	Rebel victory		2.84 [.08]*	2.63 [.09]*	0.63 [.50]	3.47 [.02]**	
	Rebel victory × time		0.43 [.02]**	0.43 [.03]**	1.75 [.12]	0.45 [.03]**	
	Government victory				0.22 [.02]**		
	Government victory × time				1.75 [.07]*		
	Settlement		4.46 [.02]**	3.58 [.03]**		4.08 [.02]**	
	Settlement × time		0.57 [.07]*	0.59 [.08]*		0.53 [.04]**	
	UN PKO (time-constant)	0.25 [<.01]***	0.26 [<.01]***			0.26 [<.01]***	0.23 [<.01]***
	UN PKO (time-varying)			0.29** [.03]			
	National attribute	Ethnic fractionalization	4.76 [.03]**	5.16 [.02]**	4.92 [.02]**	5.88 [.01]***	4.37 [.02]**
(Ethnic fractionalization) ²		0.02 [.10]*	0.02 [.10]*	0.03 [.15]	0.02 [.10]*	0.003 [.03]**	
POLITY score		1.05 [.21]	1.04 [.26]	1.04 [.29]	1.04 [.26]	1.06 [.15]	
(POLITY score) ²		0.98 [.01]***	0.98 [.02]**	0.98 [.02]**	0.98 [.02]**	0.98 [.007]***	
War duration		0.89 [.01]***	0.91 [.03]**	0.91 [.01]***	0.90 [.01]***	0.92 [.04]**	
Deaths (logged)		1.54 [<.01]***	1.45 [<.01]***	1.34 [<.01]***	1.45 [<.01]***	1.39 [.003]***	
Cost/benefits	Death × time	0.96 [.57]	0.98 [.84]	1.004 [.99]	0.99 [.84]	0.97 [.71]	
	Army size (logged)	0.79 [.09]*	0.82 [.12]	0.86 [.41]	0.82 [.23]	0.82 [.10]*	
	Army size × time	0.99 [.88]	0.97 [.75]	0.97 [.72]	0.97 [.75]	1.05 [.55]	
	Infant mortality rate	1.005 [.27]	1.007 [.09]*	1.007 [.12]	1.007 [.09]*	1.009 [.02]**	
	Ethnic war					3.87 [.006]***	
	Territorial war					0.65 [.31]	
	Observations	1174	1174	1174	1174	1174	
	$p > \chi^2$	<.0001	<.0001	<.0001	<.0001	<.0001	

(Notes: Robust standard errors are adjusted for clustering on same-country observations. Hazards ratios are reported. p -Values for the one-tailed test are in brackets for the hypothesized variables, two-tailed for others. *Significance at .10 level; **significance at .05 level; ***significance at .01 [or better] level.)

relative to government victory in the early years after a civil war ends, but this effect declines substantially to the point that within three-four years after a rebel victory, the odds of peace failure are substantially lower than they are following a government victory. In the first year following a rebel victory, the risk of the peace failure is almost 200% higher than it is for a government victory. After three years, the risk of peace failure is 67% lower than it is for a government

victory. We argued that rebel victories dismantle the conditions for multiple sovereignty more thoroughly than do government victories. The findings indicate that this is the case, if the victorious rebels can survive in power for about four years.⁹ This suggests that it does take time for rebels to consolidate their victory and eliminate the last remnants of the defeated government and/or rival rebel groups. Sandinista rebels overthrew the Somoza regime in Nicaragua in 1979, but within two years the peace ended with the onset of the Contra war. Rebels took power in Bolivia in 1952 and Costa Rica in 1948, and in neither case has the government faced another civil war.

Turning to the conventional wisdom that settlements produce a less durable peace than military victories, our findings indicate that this proposition is supported only for the first years after the war ends. The risk of peace failure declines over time following a negotiated settlement so that after 14 years the risk of peace failure is lower for negotiated settlements than for government victories, by about 43%. The quick failure of several peace agreements in Angola illustrates the early fragility of negotiated settlements. It takes time for multiple sovereignty to be dismantled under the terms of a negotiated settlement and time for the former enemies to become convinced of the credibility of each other's commitment to abide by the terms of the agreement.

Our theory suggests that government victories lead to shorter peace durations because they often repress rebellion but fail to annihilate rebels. Analyzing the data with settlements as the base category shows that the peace spells following government victories are stable only for the first few years. With time, the defeated rebels can regroup or new rebel groups can emerge, resulting in the odds of peace failure increasing after the first few years of peace following government victory (Model 4). For example, Guatemala has had several conflicts that escalated to civil war. In all but the last conflict, the government won in the sense that the level of armed conflict declined substantially for a period, only to reemerge a few years later.

The models also offer strong support for Fortna's (2004) findings that introducing peacekeepers significantly reduces the risk of the peace failing, by 74% in the time-constant measure (Model 2) and by 71% in the time-varying peacekeeping measure (Model 3). The finding for the time-constant version of this variable is especially significant since it suggests that the presence of peacekeepers at *any* point during the peace spell contributes to a more durable peace, even after the peacekeepers have departed.

We find some support for the inverted-U relationship between the degree of ethnic fractionalization and the risk of peace failure. Ethnic fractionalization increases the probability of civil war resuming, but the hazard ratios for the square of this variable reveal that the relationship is not linear: as expected, the risk of peace failure is greater in nations with a small number of relatively large ethnic groups, compared to nations that are either ethnically homogeneous or highly fragmented among a large number of relatively small groups.

With respect to the incentives to resume conflict, the findings on civil war duration provide consistent support across models of a war weariness effect: the longer the previous war lasted, the lower is the risk of the peace failing and civil war resuming. For each additional year that the previous war lasted, the probability of peace failure declines by about 10%. The findings on war deaths

⁹The model assumes that the coefficient on rebel victory changes as a function of logged time. The direct effect, therefore, is $1.04/0.84 = 1.24$ times the size of the interaction; 1.04 and 0.84 are the log of the hazard ratios for rebel victory and rebel victory \times lnT variables, respectively. They cancel each other at $\exp(1.24) = 3.45$. The same holds for settlement variable. For more on this, see Box-Steffensmeier and Zorn (1998).

support the hypothesis that higher casualties harden the hostility and distrust between former protagonists, making them more likely to resume conflict at a later date. The alternative hypothesis—that high casualty rates raise the cost of recruiting supporters for renewed conflict, reducing the risk of the peace failing—is not supported by our results. Thus, the deadliness of the prior civil war affects the duration of the peace through its effect on multiple sovereignty, not through war weariness. For the other cost variables, overall the insignificant hazard ratios for the size of the government's army mean dissidents' cost-benefit calculus has less effect on the durability of the peace than duration of the previous civil war.

With respect to control variables, the insignificant hazard ratios for the POLITY score and the significant values for its squared value provide limited support for the hypothesis of an inverted-U relationship between the extent of democracy and the risk of the peace failing. The support is strengthened by the test that the coefficients for the POLITY score and its square are jointly nonzero (p -values less than or equal to .05 for all models). As expected, both democratic and autocratic states are more capable of preserving the peace after a civil war, but only slightly so. Weak authoritarian regimes and partial democracies (-5 to $+5$ on the POLITY2 scale) are most likely to fail to sustain the peace in the aftermath of civil war. These findings hold for both the dichotomous and trichotomous measures of civil war outcome. We find limited support for the relationship between IMR (our measure of economic well-being) and the risk of peace failure, vindicating somewhat previous findings on this (for example, Walter 2004). Finally, we add controls for ethnic and territorial aspects of the conflict (Model 5). As noted earlier, these two variables impact the risks for postwar peace failure. Peace spells that include an ethnic component seem to be significantly more fragile than those without any ethnic element. The effect of the type of incompatibility (territorial or government) that marked the previous war, however, is not discernable.

Discussion and Conclusions

We began with the proposition that the prospects for sustaining the peace following civil war improve to the extent that the conditions of multiple sovereignty are dismantled and dissident factions do not have strong enough incentives to choose armed conflict rather than sustaining the peace. We found empirical support for the roles of both structure (multiple sovereignty) and agency (cost/benefits) in explaining peace failure. With respect to structure, we found support for the proposition that the extent to which multiple sovereignty persists in the postwar environment—and, therefore, the risk of peace failure—is influenced by whether the previous civil war ended in a government victory, rebel victory, or a negotiated settlement. The findings have some important implications for both students of civil war and policymakers involved in post-civil war reconstruction and reconciliation. First, the durability of the peace does vary with the outcome of the previous civil war but the pattern is not simple. Contrary to the existing literature on civil war outcome and peace duration, negotiated settlements do not necessarily produce a more fragile peace than decisive military victories. The peace that follows negotiated settlements is more fragile initially but more durable with time. The findings also confirm our expectation that not all military victories are alike. Rebel victories produce a more durable peace than government victories but only if the new rebel regime can survive the first few years following their victory. Government victories produce a peace that is stable early only because it takes some time for new rebel organizations to emerge or defeated rebels to regroup, rebuild, and resume combat. Over time, the peace produced by government victory becomes more

fragile. This does not mean that all peace spells that follow government victory are destined to fail. The mean IMR for the peace spells that failed following government victories is 112.96 vs. 48.82 for those where the peace following government victory did not fail. The difference is statistically significant. Governments that are able to redress people's grievances by restoring a decent level of economic well-being can avoid a resumption of civil war. The question then becomes whether the weak states that prevail in a civil war can muster the resources, institutional capacity, and political will to undertake the reforms necessary to sustain the peace.

The second substantive implication of the findings is that peacekeeping works: the introduction of peacekeeping forces produces a more durable peace. This confirms findings by Doyle and Sambanis (2000) and Fortna (2004). The value of peacekeeping is highlighted when we consider that the UN does not "cherry pick" conflicts for peacekeeping; instead, peacekeepers go to conflicts that are the most difficult to resolve (Gilligan and Stedman 2003). Of all the policy manipulable variables in the model, peacekeeping produces the most substantial reduction in the risk of renewed civil war. Some clear policy implications flow from these findings. Since protracted conflicts are not likely to end in a decisive victory (Mason and Fett 1996; Mason et al. 1999; Brandt et al. 2008), the international community has at its disposal a set of policy instruments with which to bring these conflicts to a conclusion—brokering a negotiated settlement, and to enhance the prospects that the resulting peace will endure—enforce the settlement with peacekeeping operations.

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