

# Short- and Long-Term Effects of United Nations Peace Operations

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In an earlier study Doyle and Sambanis (2000) [Doyle, Michael W., and Nicholas Sambanis. 2000. "International Peacebuilding: A Theoretical and Quantitative Analysis." *American Political Science Review* 94(4):779–801.] showed that United Nations (UN) peace operations have made positive contributions to peacebuilding in the short term, helping parties implement peace agreements. But are the effects of UN peace operations lasting? Because the UN cannot fight wars, such operations should not be used to enforce a peace. Peacekeeping operations contribute more to the quality of the peace—that is, to securing more than the mere absence of war—than to its duration, because the effects of such operations dissipate over time. For peace to be self-sustaining, countries must develop institutions and policies that generate economic growth. UN peacebuilding lacks a strategy for fostering self-sustaining economic growth that could connect increased participation with sustainable peace. The international community would benefit from an evolution that uses economic reforms to plug the gap between peacekeeping and humanitarian assistance on the one hand and development on the other. JEL codes: D74, F35, H56

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In the first quantitative study of the effects of United Nations (UN) peacekeeping in post-civil war transitions Doyle and Sambanis (2000) presented evidence that UN peace missions can help shore up the foundations for successful peacebuilding. They proposed a simple model in which peacebuilding outcomes are a function of three factors: the level of hostility prevalent at the start of the peace process, local capacities for reconstruction and development, and international capacities for peacebuilding (mainly UN peace operations). Controlling for levels of war-related hostility and pre- and postwar levels of local capacities, they found that UN peace missions have had a significant impact, increasing the probability that peace is established following civil war.

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This article extends the earlier study in a number of ways. It conceptualizes successful peacebuilding as the achievement of self-sustaining peace, a view that is more consistent with the policy community's understanding of peace. It analyzes the effect of UN missions (using a definition of peace that includes a modest measure of democratization) and identifies the determinants of the duration of peace (defined simply as the absence of war). The analysis looks beyond the short-term effects of UN missions to consider whether countries that receive UN assistance enjoy better outcomes over the long run than those that do not. The results of extensive robustness tests of the empirical analyses are presented in order to establish the positive effects of UN missions.<sup>1</sup>

The article presents several new empirical results. It shows that the same factors that may lead parties to the negotiation table make implementation of peace agreements more difficult. In countries with deep hostilities after long and bloody wars, for example, factions are more likely to sign a peace treaty when they realize they cannot win a military victory. By that point, however, levels of trust are so low and local capacities so depleted that implementing a peace agreement may prove difficult without external assistance. It is precisely such settings that UN assist in peace implementation can prove invaluable. The UN can help by providing assurances through monitoring and policing and by supporting institution-building efforts by providing technical assistance.

The UN has a greater effect on ensuring "participatory peace" than on securing the mere absence of war.<sup>2</sup> UN missions can have lasting effects if they help keep the peace in the early stages of the peace process, when the risk of a return to war is greatest. They can also help by designing or helping to build institutions that can make the peace self-sustaining. Over the longer term the effects of UN missions diminish; self-sustaining peace relies more on a return to economic growth and development.

The article is organized as follows. Section I discusses conceptualizations of peacebuilding that inform the measure of peacebuilding success used in the analysis. Section II presents the model, the data, and empirical results on the short-term effects of UN missions. Section III discusses how the non-random assignment of UN missions can affect estimates of the effects on UN peacebuilding efforts. Section IV analyzes the longer-term effects of UN missions. Section V concludes with a discussion of policy implications.

## I. WHAT CONSTITUTES A PEACEBUILDING SUCCESS?

Peace can be thought of as a continuum, ranging from no peace (war) to "negative peace" (absence of war) to social harmony (Boulding 1964). Social harmony

1. These robustness tests are too extensive to present here. They are posted on the author's Web site, which provides the data needed to replicate them (<http://pantheon.yale.edu/~ns237/index/research.html#Peace>).

2. For elaboration of the argument that the UN should not fight wars and relevant case evidence, see Doyle and Sambanis (2006).

is an elusive goal for most societies. What standard of peace, then, should be the goal for societies emerging from civil war?<sup>3</sup> The mere absence of war does not reflect what is needed for peace to be self-sustaining in troubled societies; the best standard is what Doyle and Sambanis (2006) call *participatory peace*, a state that involves an end to the war, the absence of significant residual violence, undivided sovereignty, and a minimum level of political openness (participatory peace is inconsistent with extreme authoritarianism).

Peace can also be defined more narrowly, as the mere absence of war. This article analyzes both the determinants of peace defined narrowly as the absence of war and the broader concept of participatory peace. It argues that attaining the goals set by the participatory peace standard helps set the foundations for self-sustaining peace in the long run.

Participatory peace is meaningful if it can be sustained after the peacekeepers leave. In extensive discussions in the UN Security Council, sustainable peace was proposed as the ultimate purpose of all peace operations, with *sustainability* defined as the capacity for a sovereign state to resolve by means other than war the conflicts to which all societies are prone. “Peace-building,” Secretary-General Kofi Annan noted, “is an attempt, after a peace has been negotiated or imposed, to address the sources of present hostility and build local capacities for conflict resolution” (Annan 2001, p. 2). Few observers would think that peace had been successfully built in countries in which armed peacekeepers must remain to deter attacks that would derail the peace.

This article evaluates peacebuilding outcomes, recognizing that a peace that lasts without external assistance is more solid than one that requires the UN to hold the country together. Not all civil wars have had been followed by UN peace operations; among those that did the UN departed soon after the end of the war in some cases and stayed on for several years to manage a fragile peace process in others. This makes it difficult to determine just when the war really ended, as UN reconstruction and peacebuilding mandates sometimes require a UN presence for several years after the end of armed conflict. Although it is easier to evaluate all peace processes at the same point (say, two or five years after the cessation of major hostilities), doing so would be inconsistent with the concept of self-sustaining peace that is the goal of UN intervention.

One way around this problem is to evaluate peacebuilding outcomes two years after the peace process starts, redefining the end of the war to include the peacekeepers’ departure. A peace treaty, military victory, or the completion of a UN operation could mark the start of the peacebuilding process.

There is no *a priori* clear relation between the way a civil war ends and how long the peace process lasts. Wars that end in peace treaties typically last longer

3. Civil wars are defined as large armed conflicts between the government of a sovereign state and domestic challengers able to cause significant destruction in reciprocal violence. Discussion of the concept and measures of civil war, as well as detailed coding notes for the measure used here, can be found in Sambanis (2004).

than wars that end in victories, but the peace process after such wars may be shorter if the treaty provides a roadmap for a more rapid transition to peace.

UN peace operations also differ in their duration and mandate. There is no clear relation a priori between the duration of a UN mission and the probability of peacebuilding success. How long or how short UN missions must be to succeed depends on underlying conditions. A long mission may suggest that the peacebuilding environment is difficult; it also gives the UN more opportunities to fail. The opposite can also be true: the longer the peace is kept, the more likely it is that a stable peace will be built, partly because of the contribution of a UN mission that stays the course.

In all cases examined here the effect of the “therapy” on the eventual health of the “patient” country is evaluated two years after the therapy is complete. Treaties and victories are “therapies” with obvious dates. A UN peace “therapy” ends when military forces are withdrawn.

Participatory peacebuilding success is a binary variable, coded 1 if all the components of participatory peace are satisfied two years after the end of the war (including the departure of the peacekeepers). If war resumes before then, if sovereignty is divided, if there is significant residual violence, or if the country’s Polity score (level of political openness) is below a minimum threshold, the mission is coded 0 (peace failure).<sup>4</sup> Peacebuilding failures can occur while the UN is still there; successes cannot. This sets a high bar for success, causing several cases of successful peacekeeping (that is, cases in which there is participatory peace but the UN remains in place) to be dropped.<sup>5</sup>

The data used in the empirical analysis include peace processes following all civil wars that started after December 31, 1945, and ended before January 1, 2000. Each peace transition is an observation; wars that were ongoing at the end of December 1999 are excluded, unless a significant peace process had begun before then. If a peace process starts and fails immediately, it is coded as a peace failure in the first month.<sup>6</sup> This coding rule leaves 121 cases, 84 of which are coded as failures and 37 of which are coded as successes of participatory peace.

4. The Polity threshold (an index measuring regime characteristics and classifying countries along a democracy-autocracy range) is low (3 on a 20-point scale). This threshold excludes extreme autocracies and the most repressive regimes. This component of the peacebuilding definition excludes “peaces of the grave” (“peaces” in which all of the enemy are dead or in prison).

5. Results are stronger with the DS2000 definition of participatory peace, which is similar to that used here but does not drop cases in which the UN mission was still present when peacebuilding outcomes were measured.

6. In some cases the UN sends troops before the war ends or already has troops in place when a new war starts (an example is Angola, where a new war began in 1997, while UN peacekeepers were on the ground). In such cases if the war does not end within the two-year period, it is coded a peacebuilding failure. In the analysis of the long-run effects of UN missions, if the violence continues (or intensifies) while UN troops are deployed, it is coded a peace failure during the first month of the peace process (an example is Somalia). An argument can be made that such cases should be dropped, because cases of enforcement missions present special challenges. If all such cases are dropped, the results for UN missions become much stronger.

## II. DETERMINANTS OF PEACEBUILDING SUCCESS IN THE SHORT TERM

The main hypothesis tested here is that UN peace operations contribute positively to the peace, controlling for other relevant factors. Drawing on the DS2000 model, the analysis uses different empirical measures for each of the three dimensions that should shape peacebuilding outcomes (hostility, international capacities, and local capacities). The explanatory variables are described briefly here; Doyle and Sambanis (2006) provide an extensive discussion of the rationale for including them in the model.

### *Explanatory Variables*

Hostility is measured by the number of deaths and displacements, the number of factions, the signing of a peace treaty, the type of war (ethno-religious or not), the level of ethnic fractionalization, and the war's duration.<sup>7</sup> Greater hostility (ethno-religious war, high fractionalization, no treaty, many factions, long wars, and many deaths and displacements) should make peacebuilding success less likely.

Local capacities are measured with country-level indicators of socioeconomic development. The overall level of development is measured by electricity consumption per capita or by the annual rate of change in real per capita income and the level of real per capita income—or by all three measures. A higher level of development should help peacebuilding, because the country can more easily rebuild after war.

Another local capacity indicator works in the opposite direction: if the economy is heavily dependent on natural resources, peacebuilding will be more difficult, because the economy will be more susceptible to external commodity price shocks and because resource-rich economies tend to have weak or corrupt political institutions. Resource dependence can be measured using primary commodity exports as a percentage of GDP or a binary indicator of oil export-dependent countries (defined as a country in which fuel exports make up more than a third of total merchandise exports). Local capacities can be seen as measures of institutional quality and of the economic opportunity costs of returning to war: greater capacities imply higher opportunity costs and better institutions, hence a better chance of building peace.

Deficiencies in local capacities and intense postwar hostility may be offset by international capacities. The key measures of international capacities are the presence of UN peace operations, the predominant form of multilateral peace operation since 1945.<sup>8</sup> The mandates of UN missions are coded based on a close reading of each mission's operational guidelines, status of forces agreements

7. Summary statistics and additional controls are presented in the Supplemental Appendix to this article, available at <http://wber.oxfordjournals.org/>

8. Controlling for the presence of non-UN missions (which do not seem to be effective) does not affect the results (see the additional results on the author's Web site). Shimizu and Sandler (2002) show that there is a public good component to peacekeeping, as evidenced by the pattern of contributions, which tend to be borne disproportionately by large countries in both UN and non-

(where available), and UN documents that indicate how much of the mandate was actually implemented.<sup>9</sup> Mandates reflect the mission's strength, its technical and military capabilities, and the level of international commitment. They are classified as observer missions (in which civilian officials or military officers monitor a truce or treaty); traditional peacekeeping (in which formed military units monitor a truce or treaty); multidimensional peacekeeping (in which a peace treaty authorizes international civilian officials and military units to help build or rebuild political, economic, and social institutions); and enforcement missions, some of which included the transitional administration of the country (in the absence of consent, international military forces intervene to impose peace).

The mere presence of a UN mission might help build peace by signaling to the factions that the international community is watching or that more help is available. A binary variable is therefore used that indicates that a UN mission is present, regardless of its mandate. Alternatively, one could distinguish between facilitative missions, which provide monitoring and reporting (observer and traditional peacekeeping operations), and transformational UN missions (multidimensional, enforcement, and transitional administration), which have a more intrusive mandate and seek to transform rather than merely contain a conflict. One could also distinguish consent-based missions from those authorized under Chapter VI of the UN Charter. Coding UN involvement in these different ways allows a nuanced argument to be developed about the conditions under which the UN can help build self-sustaining peace.

Other controls for international capacities can include a measure of foreign economic assistance. It was not possible to measure the amount of economic assistance available to all countries from all sources (NGO, bilateral, multilateral). Moreover, reconstruction assistance is likely to be an endogenous variable. A control was therefore used for the amount of per capita net current transfers to the balance of payments.<sup>10</sup> A number of other controls were also used in robustness tests (see the Supplemental Appendix).

### *Results*

A logistic regression of the variable participatory peace is estimated two years after the war's end (table 1). All variables have the expected relation with peacebuilding success.<sup>11</sup> Model A controls for the presence of transformational

9. Although coding the mandate is difficult in some cases, the results are robust to recoding ambiguous cases (see the additional results on the author's Web site).

10. This measure is obviously not perfect. The Supplemental Appendix reports results without this variable as well as results obtained using slightly different coding of it (results on the UN are not affected). For the period after 1970, data on effective development assistance as a percent of GDP are used (see the discussion on the author's Web site).

11. Clustering and bootstrapping of the standard errors are dropped in the Supplemental Appendix. This affects the results for some variables (electricity consumption in particular is less robust). UN intervention is measured in three ways, all of which yield significant results (confidence intervals with bootstrapping exclude zero).

TABLE 1. Logit Models of Participatory Peace Two Years after the End of War

Variable	Model A	Model B
Ethnic war ( <i>Wartype</i> )	-1.5885* (0.5110)	-1.6075* (0.4952)
Log deaths and displaced ( <i>Logcost</i> )	-0.3179* (0.1370)	-0.3392* (0.1391)
Number of factions ( <i>Factnum</i> )	-0.6074* (0.2291)	-0.5686* (0.2699)
Net transfers per capita ( <i>Transpop</i> )	0.0388* (0.0118)	0.0275* (0.0118)
Multidimensional peacekeeping operation and enforcement ( <i>TransfUN</i> )	3.1039* (1.0290)	
Any UN intervention ( <i>Unintrvn</i> )		1.9247* (0.6118)
Signed peace treaty ( <i>Treaty</i> )	1.5799* (0.6654)	1.6153* (0.6643)
Electricity consumption Per capita ( <i>Idev1</i> )	0.0562* (0.0281)	0.0422 (0.0282)
Primary commodity Exports/GDP ( <i>Iexp2</i> )	-7.7346* (2.1829)	-7.8967* (2.2121)
Constant	5.3226* (1.5400)	5.4447* (1.5529)
Pseudo-R <sup>2</sup>	0.34	0.32
Log-likelihood	-49.02	-49.99

\*Significant at least at the 5 percent level.

*Note:* Reported figures are coefficients. Figures in parentheses are robust standard errors. Number of observations = 119. Participatory peace is coded as a binary variable: it takes the value 1 if, two years after the war's end or the end of a UN mission, there is no new civil war, no significant residual violence, and no divided sovereignty over the country's territory and the political system has a minimum level of political openness (3 on a scale of 1–20 in the Polity IV dataset). It takes the value 0 otherwise. See table S.2 in the Supplemental Appendix for results using slightly different versions of this variable and for more discussion of the coding.

*Source:* Author's analysis based on data is described in the text and in the Supplemental Appendix on the author's Web site (<http://pantheon.yale.edu/~ns237/index/research.html#Peace>).

UN missions only; it compares their effect to no UN intervention and all other types of intervention. Model B controls for any UN intervention, regardless of mandate. The significant positive effects persist when an ordinal measure of peacebuilding is used that distinguishes mixed outcomes from unquestionable successes (see the additional results available in the Supplemental Appendix and on the author's Web site).

The definition of *self-sustaining peace* creates a left-censoring problem in a few cases. Because UN missions are required to leave before they can be coded as peacebuilding successes, in a few cases outcomes are coded more than two years after the end of the armed conflict; in all other cases coding is done at the two-year mark. (This issue is addressed at length in the Supplemental



Appendix, which shows that it does not affect the results.) Only 10 cases are coded with a time lag. One way to get at the fact that in these cases the UN had more time to implement its mandate is to control for the duration of all peace missions. Adding this control to the model and interacting it with UN mandates makes transformational UN missions less significant, although a joint significance test with mission duration overwhelmingly rejects the null hypothesis of no effect ( $P = 0.01$ ).<sup>12</sup>

Using the core model with a categorical variable denoting the type of UN mandate (facilitative or transformational), the probability of peacebuilding success changes when one changes the values of some of the explanatory variables while holding other variables at their means (for continuous variables) or medians (for binary or categorical variables). Moving from a facilitative to a transformational peacekeeping operation increases by 36 percent (the confidence interval ranges from 9 to 55 percent).<sup>13</sup>

These results are robust to extensive specification and robustness tests. Some of the additional controls include the size of the government military (per capita), a measure of the government's capacity to deter external intervention, including by the UN; an indicator variable for Cold War conflicts, a measure of systemic constraints to UN intervention (the UN could intervene with greater ease after the Cold War); region-specific effects;<sup>14</sup> and time trends in the data, captured with a variable denoting the decade during which the war started. Results are also robust to alternative econometric assumptions and estimation methods (as shown in the Supplemental Appendix).

Getting the UN mandate right is critically important. It is not sufficient to send large numbers of troops to the field; troops must be given rules of engagement and a mandate to make peace. The number of peacekeeping troops alone is not a good predictor of peacebuilding success: there is no statistically significant difference between the number of peacekeepers per square kilometer that participate in transformational and facilitative missions.<sup>15</sup> This result suggests that the Security Council often underfunds and underresources transformational missions, which on an average should be given more troops to deal

12. The correlation between transformational UN and interaction with mission duration is 83 percent. Controlling for the duration of all UN missions makes the coefficient of transformational UN significant ( $P$ -value is 0.001), as shown in the Supplemental Appendix.

13. This analysis can also be conducted for joint effects, changing more than one variable at once if such changes tend to go together. One could, for example, combine the shift from facilitative to transformational peacekeeping with a change in the treaty variable from 0 to 1, as most transformational peacekeeping missions require a treaty.

14. No regional differences in peacebuilding outcomes were found, although the UN is less likely to intervene in Asia and more likely to intervene in Europe or Africa. Geographic region was thus used as an instrumental variable in a two-stage least squares model that treats UN intervention as an endogenous regressor. UN intervention is still positive and significant in these regressions (see the Supplemental Appendix and the author's Web site).

15. A comparison of the means cannot reject the null hypothesis of no difference ( $P = 0.94$ ). See the results on the author's Web site.



with more-difficult peacebuilding environments. It also suggests that if transformational peacekeeping works better it is not because a larger military force is used.

The effects of peacekeeping troops per square kilometer on the probability of participatory peace success are negative (though non-significant, as reported in the Supplemental Appendix). A large troop deployment with a weak mandate is a sure sign that the Security Council lacks commitment, which creates an impediment for effective intervention. Large numbers of troops per capita in monitoring missions (observer missions and traditional peacekeeping operations) actually reduce the chance of peacebuilding success [examples include Cyprus, Lebanon, and Rwanda, where a large troop deployment (in per capita terms) was given no authority to intervene to stop the violence]. Such deployments are inefficient and potentially counterproductive. A large troop deployment with a narrow mandate in monitoring operations indicates that the Security Council recognizes the severity of the conflict but is unwilling or unable to give troops an adequate mandate to resolve the conflict (that is, a mismatch between the problem and the treatment). Better-targeted mandates should improve the effectiveness of UN missions.

This analysis focuses on participatory peace. Other scholars favor more restrictive definitions of peace. The analysis in the Supplemental Appendix therefore unpacks the complex peacebuilding measure, analyzing each of its components. That analysis shows that the model presented here does not explain other concepts of peace as well as it explains participatory peace. Sovereign peace (which includes all the criteria for peacebuilding success except participation) is more robustly associated with income growth. By contrast, transformational UN missions are more important than income growth for postwar democratization (see table S.11 in the Supplemental Appendix). Different parts of the model are better at explaining different components of peacebuilding.

In general, the resumption of war in the short run is explained by local capacity variables: higher income reduces the risk of a new war, as do less dependence on natural resources and less fractionalization of the society (see tables S.5 and S.6 in the Supplemental Appendix). A more developed and more rapidly growing economy with less dependence on natural resources is not less likely to experience divided sovereignty after civil war, however. Ethnic wars, by contrast, are much more likely to be followed by peacebuilding failure, because of persisting claims over sovereignty. High levels of hostility are particularly damaging with respect to higher-order, positive peace; they are also more likely to lead to persistent divisions in state sovereignty. Treaties are more important for the design of participatory peace; they are generally not significant in ensuring that sovereignty will be undivided or that war or other forms of large-scale violence will recur. UN missions are not very effective in preventing resumption of full-scale war in the short run, but they are helpful in

preventing peace failures that result from persistent divisions in sovereignty, minor armed conflict, or a failure of political institutions.

### III. WHERE DOES THE UNITED NATIONS INTERVENE?

The fact that the UN does not randomly assign its missions should be reassuring to its member countries, but it complicates the evaluation of the effect of UN missions. This section examines the strategies used to account for selection effects in the UN's decision of where and when to intervene.

The first, and more important, strategy is to use knowledge of the institutional structure of the UN to assess the plausibility of arguments that it selects easy cases and to gauge the likely direction of bias in the statistical estimates (if such bias exists). The second strategy is to use estimation methods that can account for selection on observables or unobservables.

#### *Accounting for the Logic of UN Intervention*

Underlying the logit regression results is an assumption that all right-hand-side variables are exogenous. Although right-hand-side variables in the model may be correlated with other explanatory variables, they are not caused by peacebuilding outcomes. This is a reasonable assumption, given that peacebuilding outcomes are coded years after right-hand-side variables are coded.

Estimates of the coefficient for the UN variable would also be biased if explanatory variables that are correlated both the UN variable and the dependent variable (participatory peace) are omitted. Although the results are robust to many specification tests, it is not easy to establish that some variables were not omitted.

Critics might argue that some explanatory variables may have been omitted and that there is logic to the UN's decision to intervene that must be modeled before the effects of UN intervention can be assessed. It is possible, for example, that the UN chooses easy cases in order to maximize its chances of success. It is also possible that it intervenes in very difficult situations, where help is needed most. In either case situations in which the UN intervenes may look very different from cases in which it does not.

A variable that may explain both the decision to intervene and the outcome of peace processes is the degree of interest by major powers. This variable is not directly controlled for in the model, but interest by the major powers should be a function of the measures of hostility and local capacities, as well as other included controls. The fact that the UN sends a mission means that the major powers in the Security Council are interested in the case; the degree of interest should be reflected in the mandate (a more intrusive mandate implying greater interest) or in the number of troops sent (more troops implying more interest). Controlling for type of mandate or size of troops does not change the results. The effect of UN missions remains strong when mountainous terrain, political instability, and several other variables that are typically included as

regressors in models of civil war onset are included (see the Supplemental Appendix).

The analysis accounts for possible selection problems in a number of ways. First, a two-stage model is estimated, with a “choice” equation explaining whether or not the UN will intervene, and an outcome equation that is the original peacebuilding model. Such a model is identified only if it includes an instrumental variable that explains UN intervention without also explaining the peacebuilding outcome.<sup>16</sup>

Because such instruments are hard to come by in cross-country studies, some variables with a plausible relation with UN intervention were tested, after establishing that they were not empirically correlated with peacebuilding outcomes. An indicator variable was used for whether or not a country had been a British or French colony, because one might expect that intervention would be more frequent in countries in which permanent members of the Security Council have political, cultural, or other interests. The size of the government military was also used, because one might expect the UN to intervene less often in countries with large militaries (in order to avoid the high costs of a potential military confrontation).<sup>17</sup> A dummy variable for Cold War conflicts was used, because the difficulty of reaching consensus in the Security Council meant that the UN was much less likely to intervene during this period. Dummy variables were also used for geographical regions, to reflect the expectation that, because of the regional interests of the permanent Council members, some regions (Europe or Latin America) are more likely to attract the attention of the Security Council than others (Africa or Asia).

None of these instruments is perfect; various conditions could violate the exclusion restrictions for each of them. Thus although the exogeneity assumption could not be rejected using these instruments and instrumental variables estimation of the model produced substantive results that are consistent with the results of the logit model, the analysis is merely suggestive (see the additional results on the author’s Web site). Some of these instruments are significantly correlated with UN intervention, but the  $R^2$  in the first-stage regressions is low, and weak instruments can affect the size of the estimates in the second-stage regressions. Moreover, other complications, not addressed here, could invalidate the instruments used.

Because it was not possible to find good instrumental variables, the problem of possible endogeneity of UN missions has not been fully addressed, making this analysis necessarily tentative. Nevertheless, it is possible to argue that UN missions can be treated as exogenous explanatory variables in the model

16. The covariance between the instrument and the disturbance term in the outcome equation must be zero; the covariance between the instrument and the treatment variable (UN intervention) must be different from zero.

17. The absolute size of the military is more relevant than the per capita measure. In theory the size of the military may also affect peacebuilding, but there is no significant correlation between military size and peacebuilding outcomes.

because of the particular institutional organization of the UN. This is the main claim in support of the exogeneity assumption for UN intervention. The UN's complex decision-making process suggests that there is no simple utility-maximizing logic underlying its decision to send peacekeepers. Bargaining inside the UN is too complex to respond in a straightforward manner to a particular logic of intervention. The interests of the Security Council, the Secretariat, and the General Assembly are rarely aligned in such a way as to produce a unifying logic for the deployment of blue helmets. This explains why there is often a mismatch between underlying conflict conditions and the mandate and resources given to UN peacekeeping missions. In some cases (such as El Salvador and Namibia) there is a good match, and the UN responds in a unified way to the challenges it faces. In other cases (such as Rwanda) the UN mission barely hides the major powers' indifference.

Moreover, once the mandate and resources are determined, there is a high degree of agency slack in the field. A review of cases suggests that the same mandate can be interpreted either as a ceiling or a floor under different conditions, such as different force commanders or different regions within the same country (see the discussion of Cyprus in Doyle and Sambanis 2006). Leadership decisions in the field are not easily anticipated or necessarily connected to any of the important macro-level variables in the model. The actual impact of UN operations has as much to do with how the mandate is implemented as it does with what mandate is given; the agency slack available to field commanders creates an independent institutional effect of UN peacekeeping.

Given that some variables may still be omitted, is it possible to gauge the likely direction of any bias on estimates of the effects of UN intervention? To get a sense of this, one would need to consider the likely effect of the omitted variables on peacebuilding outcomes and the likely sign of the regression coefficient of the same (omitted) variables on UN intervention. Precise calculation depends on the variance-covariance matrix of these variables, which is not known. If both these relations are positive, however, the bias would result in an overestimate of the effects of UN missions; if one or both of the coefficients is negative the bias would underestimate the effects of UN missions.

Omitted variables of interest should help explain why the UN picks the kinds of cases it does. First-stage regressions estimated in the instrumental variables models reveal that the UN intervenes in more-difficult cases. Even casual observation makes this clear: an organization concerned about its success rate would not have intervened in the quagmire of the Democratic Republic of the Congo in the late 1990s: a vast underdeveloped country with deep hostility, no democratic traditions, and many incoherent and uncooperative factions does not suggest an easy transition to self-sustaining peace. As any omitted variables would have to explain why the UN intervenes in difficult cases, the omission of any such variables would likely have a negative overall effect on estimates of the UN's effects (because positive correlates of the probability of UN intervention would be negatively associated with the probability of peacebuilding

success). Consistent with this logic, if any bias in the estimates presented is corrected by the addition of more variables to the model, the effect of UN missions should increase.

Another possible source of bias in the estimates of the effects of UN missions is selection on observables. The non-random assignment of UN missions implies that values of the other covariates may be systematically different in the treatment (cases with UN missions) and control (cases without UN missions) groups. Indeed, in general the UN picks more difficult cases in terms of deaths, other hostility, and local capacity variables. In light of this, the model is reestimated in the Supplemental Appendix, adding interactions between UN intervention and other covariates and estimating the effects of UN intervention by matching on the propensity score and on covariates.<sup>18</sup>

### *Effect of Selection on the Signing of a Peace Treaty*

Peace treaties are usually necessary for certain UN mandates, especially multi-dimensional ones. Treaties and UN missions work in concert, enhancing the chances for peace (see the results on the author's Web site). Because treaties are sometimes necessary for the UN to send troops, the effects of UN operations on participatory peace are estimated while selecting on *treaty* and *war termination* (see table S.10 in the Supplemental Appendix). Doing so uncovers an interesting new result: some variables that lead the parties to sign a peace treaty make implementation of the peace more difficult (this is the case for longer wars and high levels of deaths and displacements, for example). Consistent with rational choice models of war, a long and bloody war should resolve uncertainty over the parties' relative resolve and capabilities, pushing them to the negotiating table. But once a settlement is reached, implementation becomes more difficult in the presence of such high hostility. It is precisely in such circumstances that UN missions can help, by guiding and reassuring the parties through the peace implementation process.

## IV. HOW DURABLE IS THE PEACE?

UN missions appear to have a positive impact in the short term. What are the longer-run effects?

In some cases the peace fails soon after the two-year cutoff point; as with many other types of intervention, one would expect the benefits of UN missions to be concentrated in the short run. In the long run new challenges, which may be unrelated to the previous war or to the peace process, develop which can undermine the peace. Nevertheless, countries that have had some

18. See the Supplemental Appendix and the author's Web site. Matching estimates of the effects of UN peace operations indicate a positive and significant effect on peacebuilding. But matching methods are better suited to analyze datasets with many observations and many variables to explain the assignment of both the treatment and the outcome. The limited applicability of this method to the peacebuilding data is discussed on the author's Web site.

UN assistance during the peace process should have a better chance of achieving self-sustaining peace, largely because of the much-needed help they receive in the critical first years of their transition from war.

Survival analysis can be used to analyze the duration of the peace over the longer term. Survival models estimate the hazard (or risk) of peace failure at time  $t$  given that failure has not occurred until then; they can account for right-censoring (the fact that the peace has not failed up to the end of analysis time does not mean that it cannot fail afterward) (for a methodological discussion, see Box-Steffensmeier and Jones 2003). The dependent variable (*peace duration*) is continuous and measured in months, counting from the start of the peace process until the peace fails or the censoring point (end of December 1999) is reached. Peace failure implies that a new civil war erupts. This understanding of peace is a departure from the complex definition of participatory peace used up to this point (see the Supplemental Appendix for a discussion of the duration of participatory peace).

The analysis begins with the same single-record single-failure dataset used earlier; it then switches to a time-series cross-section of the data. Because time-series data do not exist for all the original model variables, the model is somewhat different.

#### *War Recurrence as Peacebuilding Failure*

The absence of war is a common standard definition of “peace” in the literature. It is used here mainly because participatory peace cannot be coded as a continuous variable in the same way in which it was coded for short-term outcomes, for several reasons. First, there are no reliable data on levels of residual violence over time. Second, levels of political openness can vary over time. Thus a country’s Polity score can fall below the threshold associated with peacebuilding failure in the coding of short-run outcomes, then rise above that threshold a few years later before falling back below it. Third, coding undivided sovereignty requires some sort of deadline: peace processes are often designed to resolve persisting problems of divided sovereignty, and they do so gradually. One therefore has to decide how to treat cases in which sovereignty was divided a few months into the peace process, with gradual improvement leading to a resolution of the problem a year or two into the peace process. Such considerations illustrate the usefulness of using a cutoff point that allows one to ask whether the UN mission helped resolve these issues within a given time frame. Because of the conceptual ambiguity associated with a continuous measure of participatory peace, the analysis of long-term effects of UN missions focuses only on the recurrence of war.

The single-record, single-failure dataset of 138 peace processes includes 73 failures (*peacend*), with mean peace duration of 53 months. The shortest duration is one month, the longest 634 months.

The core model is estimated from Table 1 using a Cox proportional hazards model. Given its versatility the Cox model is a better initial choice than the

more frequently used Weibull model or other parametric hazard models. It gives the hazard rate for the  $i$ th individual as  $h_i(t) = h_0(t) \exp(\beta'x)$ , where  $h_0$  is the baseline hazard rate and  $\beta'x$  are the estimated coefficients and covariates. This model assumes a proportional hazard rate and uses the ordered duration times to derive estimates for the regression covariates. The analysis tests the proportional hazard assumption. Where it is not satisfied another model—such as the Weibull model, which is appropriate if the hazard rate is monotonically increasing or decreasing—is used.

Model 1 is the core model with added controls for real per capita income, the rate of growth of real income at the end of the war, and the level of ethnic fractionalization (table 2). None of these variables has a significant association with participatory peace in the short run. They are added because the longer-run analysis uses a different concept of peacebuilding and the literature links these variables to the onset of civil war.

UN intervention is significant ( $P = 0.039$ ) and reduces the risk of peace failure by about 50 percent (the effect is robust to controlling for non-UN missions). Consistent with much of the literature on the onset of civil war, the strongest result is that local capacities are critical in determining proneness to a new outbreak of war. Local capacity variables take away some of the effect of the hostility variables (only deaths and displacements is significant, and it is not very robust). Countries with higher levels of income, fast-growing postwar economies, and less dependence on natural resource exports are far more likely to experience longer peace durations, despite the negative effects of postwar hostility. The effects of variables such as the number of factions or the nature of the war (whether, for example, it was an ethnic conflict) are non-significant (one might expect any impact they have to be limited to the immediate postwar period).<sup>19</sup> High fractionalization has a significant ( $P = 0.007$ ) negative effect on peace duration.<sup>20</sup>

The results on local capacities are robust to small specification changes. The effects of UN intervention are less robust. One problem is that UN enforcement missions seem to have negative effects on peace duration, probably because of the very challenging circumstances in which they are deployed and the fact that they are designed to end wars rather than build long-lasting peace.

Model 2 drops enforcement missions, controlling only for consent-based UN missions, which are significant ( $P = 0.044$ ) and positive with respect to peace

19. Treaty is dropped from the model on the basis of a likelihood ratio test. The proportional hazards assumption cannot be rejected ( $P = 0.13$ ). Re-estimating the model assuming a Weibull distribution improves the results slightly, as does estimating the model using Cox regression with interactions with the log of time for two variables that come close to failing the proportional hazards test (see the Supplemental Appendix).

20. Models of civil war duration also reveal a significant association between greater fractionalization and longer duration (Fearon 2004), which may be non-linear (Collier, Hoeffler, and Soderbom 2004). These results are in contrast to those of models of war onset. Consistent with the nationalism literature, ethnic differences seem to be “activated” to support mobilization for violence once conflict levels are high (during and after war).



TABLE 2. Duration Models of the Hazard of War Recurrence

Variable	Model 1	Model 2	Model 3	Model 4
Ethnic war	1.14 (0.31)	0.996 (0.27)	0.95 (0.29)	1.12 (0.31)
Dead and displaced (log)	1.14* (0.065)	1.12** (0.070)	1.13 (0.077)	1.20* (0.08)
Number of factions	1.04 (0.099)	1.06 (0.08)	1.06 (0.085)	1.01 (0.07)
Net current transfers	0.999 (9.18e-07)	0.999 (1.13e-06)	0.999 (1.22e-06)	0.999 (1.01e-06)
Ethnic fractionalization	3.78* (1.88)	3.81* (1.98)	3.94* (2.11)	4.32* (2.32)
Electricity consumption	0.999 (0.0002)			
Real GDP growth	0.96* (0.012)	0.96* (0.014)	0.96* (0.015)	0.96* (0.014)
Real GDP (log)		0.78 (0.10)	0.79** (0.11)	0.74** (0.13)
Primary commodity exports/GDP	3.52* (1.90)	3.29* (2.00)	2.92** (1.79)	2.38 (1.42)
Any UN intervention	0.54* (0.16)			
UN Chapter VI missions		0.48* (0.17)	0.47* (0.18)	0.41* (0.16)
Negotiated settlement		0.43* (0.17)	0.37* (0.14)	0.33* (0.13)
Military outcome		0.54* (0.18)	0.50* (0.16)	0.38* (0.12)
1940s peace start				0.22** (0.197)
1950s peace start				3.37* (1.80)
1960s peace start				1.30 (0.50)
1970s peace start				0.80 (0.33)
1980s peace start				0.57 (0.33)
Time dependence ( <i>P</i> )			0.62* (0.055)	
Number of observations	129	131	131	131
Number of failures	69	70	70	70
Log pseudo-likelihood	-267.95 73.73	-268.91 102.88	-182.74 108.93	-260.32 154.32
Wald $\chi^2$ (degrees of freedom)	(9 degrees of freedom)	(11 degrees of freedom)	(11 degrees of freedom)	(16 degrees of freedom)

\*Significant at least at the 5 percent level.

\*\*Significant at the 5 percent level with one-tailed test.

*Note:* Reported figures are hazard ratios. Numbers in parentheses are robust standard errors.

*Source:* Author's analysis based on data described in the text and in the Supplemental Appendix on the author's Web site (<http://pantheon.yale.edu/~ns237/index/research.html#Peace>).

duration (the odds ratio indicates that consent-based missions reduce the risk of peace failure by about 50 percent). This effect is not reduced when the outcome of the previous war is controlled for. Both negotiated settlements and military victories lead to longer peace durations than do truces or military stalemates. Model 2 replaces the generally non-significant electricity consumption per capita variable with the log of per capita real income, which is positively associated with longer peace durations ( $P = 0.054$ ), consistent with similar results from the literature on the onset of civil war. The proportional hazard assumption is not satisfied.<sup>21</sup>

Model 3, estimated by Weibull regression, yields substantively similar results, suggesting that peace becomes more stable over time. To account for the fact that exposure to the risk of peace failure is higher in countries in which the war ends early relative to the end of the analysis period, the model includes controls for the decade during which the peace process started (model 4). Model 4 marginally satisfies the proportional hazards assumption underlying the Cox model and improves some of the results, making the deaths and displacements variable highly significant ( $P = 0.008$ ).<sup>22</sup>

These results highlight the importance of including economic rehabilitation in a peacebuilding mandate. They dovetail with recent findings in the literature on civil war that demonstrate the power of these variables in influencing the risk of war onset. Civil war scholars use per capita income as a measure of state strength. They show that heavy dependence on oil results in authoritarian state structures.

The results presented here suggest that postwar authoritarianism and state weakness may increase the risk of war recurrence. Consent-based UN missions have a positive impact, but their impact is overshadowed by local capacity variables (though it may be possible that, if the UN presence helps a country return to growth, some of its positive impact is captured by the growth variable). These results suggest that in countries emerging from civil war, a UN war-prevention strategy should be to help build institutions that resist the corrupting pressure of resource-dependent economies and facilitate economic growth. The UN's impact in rebuilding institutions will be particularly important in ethnically divided societies, which are at higher risk of a return to civil war.<sup>23</sup>

21. The model was re-estimated by adding time interactions for those variables that failed the test. The hazard ratio for per capita income drops substantially and is significant at the  $P = 0.008$  level. The results on UN consent-based missions are also stronger.

22. The  $R^2$  test of the proportional hazards assumption is only narrowly not rejected ( $P = 0.055$ ). The results are similar using a Weibull model (see the Supplemental Appendix).

23. The Supplemental Appendix presents more robustness tests. A different measure of peace duration is used, based on different assumptions about which cases of war resumption represent war recurrence and which represent new wars. Cases that some scholars might not characterize as civil wars are dropped. The results are generally robust to those changes, although they differ somewhat from the results obtained using the alternative peace duration variable. The logistic regression estimates are robust to all of these coding changes.

*Analysis of the Hazard of Peace Failure Using Time-Varying Covariates*

The peacebuilding data can be set up as a multiple-event, multiple-failure dataset with both ordered and unordered events (peace failures). The dependent variable (peace duration) is measured in months at peace until peace failure or censoring. Because there are multiple peace failures in a country and the cross-sectional unit is the peace process (*cnumb*), multiple records for each cross-section are added, making clustering on country necessary, as multiple records of country-level variables will be the same across conflicts. The unit of analysis is the peace process year, not the country year, as is typical with binary time-series cross-sectional datasets in international relations and comparative politics. (This set-up is discussed in more detail in the Supplemental Appendix.)

The model is slightly different, but it includes a measure for all three concept variables (hostility, international capacities, and local capacities). A Cox proportional hazards model is estimated with UN intervention as the main variable and lagged log of per capita GDP, lagged oil export-dependence, log of deaths and displacements, ethnic war, signed treaty, level of ethnic fractionalization, and population size as additional covariates.

The analysis concentrates on results pertaining to the presence of any UN mission (a binary variable coded 0 if there was no UN mission and 1 if there was a UN mission, with coding starting at the year of initial deployment and continuing until the peace either fails or analysis time runs out). This allows the effect of UN missions to be studied even after the UN departs by distinguishing cases that received some UN assistance at some point in their peace process from cases that received no UN assistance.<sup>24</sup> A different version of this variable might code a case 1 only after the UN departs; doing so would cause all observations with ongoing missions to be dropped. The difference in the results between these two variables might reveal something about the difference in the effectiveness of UN missions in peacekeeping compared with peacebuilding. Both versions are used in the analysis, lagged one year (table 3).

Lagged per capita GDP (in logs) is very significant ( $P = 0.005$ ) and reduces the hazard of peace failure substantially. By contrast, higher ethnic fractionalization ( $P = 0.01$ ) and more deaths and displacements ( $P = 0.03$ ) significantly increase the risk that the peace will fail (regression 1). Dependence on oil exports, signed treaty, population size, and ethno-religious war do not have significant effects.

UN missions are weakly significant ( $P = 0.056$ ), as in the single-record, single-failure data. They become more significant ( $P = 0.025$ ) if cases in which

24. Coding the presence of UN missions only for years in which they were actually there and peace lasts beyond the departure of UN troops reveals a negative association between UN intervention and self-sustaining peace (by construction there would be no observations of self-sustaining peace coinciding with UN presence).

TABLE 3. Duration Models of the Risk of War Recurrence with Time-Varying Covariates

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Ethnic war	1.391 (0.422)	1.402 (0.436)	1.283 (0.410)	1.284 (0.411)	1.199 (0.401)	1.290 (0.412)	1.221 (0.400)	1.201 (0.396)	1.209 (0.396)
Ethnic fractionalization	2.973* (1.293)	3.119* (1.387)	3.222* (1.420)	3.109* (1.340)	3.409* (1.570)	3.268* (1.445)	3.228* (1.449)	3.066* (1.356)	3.104* (1.384)
Dead/displaced (log)	1.130* (0.065)	1.178* (0.064)	1.145* (0.065)	1.148* (0.066)	1.127* (0.064)	1.146* (0.065)	1.130* (0.063)	1.131* (0.064)	1.129* (0.064)
GDP per capita (log)	0.670* (0.095)	0.707* (0.099)	0.707* (0.107)	0.710* (0.109)	0.690* (0.102)	0.705* (0.108)	0.704* (0.099)	0.708* (0.097)	0.702* (0.097)
Population (log)	0.909 (0.077)	0.928 (0.087)	0.912 (0.073)	0.909 (0.073)	0.947 (0.076)	0.910 (0.073)	0.934 (0.070)	0.935 (0.070)	0.936 (0.070)
Oil exports	1.597 (0.543)	1.468 (0.434)	1.456 (0.546)	1.473 (0.566)	1.420 (0.457)	1.475 (0.562)	1.375 (0.434)	1.373 (0.423)	1.393 (0.437)
Treaty signed	1.411 (0.499)	1.453 (0.501)	1.194 (0.405)	1.241 (0.417)	1.066 (0.352)	1.174 (0.409)	1.180 (0.409)	1.256 (0.420)	1.199 (0.401)
UN intervention	0.483** (0.184)	0.446* (0.162)	0.490** (0.195)			0.470** (0.202)	0.349 (0.247)		
Chapter VI UN operations				0.418* (0.180)				0.177** (0.168)	0.218 (0.211)
Multidimensional peacekeeping operation					0.449*				
Interacted with peacekeeping operation duration					(0.036)				
Traditional peacekeeping operation					1.001				
Interacted with peacekeeping operation duration					(0.003)				
Time dependence ( $p$ )			0.618* (0.059)	0.620* (0.059)	0.617* (0.060)	0.623* (0.059)	0.629* (0.059)	0.635* (0.062)	0.633* (0.062)

(Continued)

TABLE 3. Continued

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Wald $\chi^2$ (degrees of freedom)	50.99	46.42	46.15	44.64	167.93	45.48	45.42	39.65	37.94
Log-likelihood	-246.01	-168.99	-171.47	-170.95	-172.13	-171.40	-171.65	-170.64	-171.28

\*Significant at least at the 5 percent level.

\*\*Significant at the 5 percent level with one-tailed test.

*Note:* Figures are hazard ratios. Numbers in parentheses are coefficient robust standard errors. Number of observations = 1,323. Number of subjects = 122. Number of failures = 64.

*Source:* Author's analysis based on data described in the text and in the Supplemental Appendix on the author's Web site (<http://pantheon.yale.edu/~ns237/index/research.html#Peace>).

the peace lasted for at least 10 years are dropped in an informal “splitting” model (see the Supplemental Appendix). This result suggests that the effects of UN missions are greater in the first few years of the peace process.<sup>25</sup> This interpretation is consistent with the hypothesis that the UN has become better at peacekeeping over time, as by dropping cases in which the peace lasts more than 10 years, one is more likely to select against cases that occur early in the data.<sup>26</sup> The significance of the UN variable also improves ( $P = 0.026$ ) in a stratified Cox regression (regression 2, where the variable *pstrata* identifies the number of civil wars in the country).

A theoretical argument can be made that the hazard of war recurrence should decrease with time spent at peace if peace (like war) generates its own rewards and incentives for people to keep it going. Thus even though the proportional hazards assumption cannot be rejected, the Weibull model (estimated in regression 3) may be more appropriate. The substantive results remain unchanged. Duration dependence is negatively associated with the recurrence of war, confirming the intuition that the highest risk of recurrence occurs during the first few years following the end of civil war. Given that UN peace missions have their greatest effect in the short run; this suggests that their long-term effect on the durability of the peace reflects successful peace implementation during the first few years of transition, which helps set the stage for self-sustaining peace.

Trying to get at the impact of different types of UN mandates is difficult. Multidimensional mandates cannot be included in the regression, because they predict peacebuilding success perfectly. Although earlier results from the survival analysis suggest that enforcement missions increase the risk of a new war, there have been so few missions that the results would not be robust (and there may well be a selection effect, as the war is often not over when enforcement missions are sent to the field). For this reason enforcement is dropped and only consent-based operations are considered in regression 4. The results suggest that they have a significant effect ( $P = 0.04$ ) in reducing the risk of a new war.<sup>27</sup>

Do longer-lasting UN interventions reduce the risk of peace failure? This question is investigated by creating an interaction between the type of mandate and the duration of UN missions. Regression 5 indicates that longer-lasting multidimensional missions do have such an effect. This result is consistent with the fact that rebuilding institutions and enhancing local capacities takes time, suggesting that a quick exit is not likely to be a good strategy on an average. By contrast, longer-lasting traditional peacekeeping does not make a difference.

25. This procedure also addresses the problem of uneven exposures to failure risk for peace processes that started earlier than others.

26. The author thanks an anonymous reviewer for making this point.

27. This result is robust to adding year dummies and controls for the geographical region.

This result is consistent with the fact that such missions do not transform a conflict and may well be merely monitoring a political stalemate.<sup>28</sup>

Several time lags of the UN intervention variable are used, as well as a version of this variable that takes the value of 1 only after the UN departs. The results of a Weibull regression (regression 6) become weakly significant after the first lag but non-significant after the second lag. It may not matter how a sustainable peace is achieved, but achieving it, whether by domestic or international means, does make a difference in the long run. If one controls for UN intervention only after the UN has left (regression 7), there is no effect (although results are close to statistical significance with other methods<sup>29</sup>), because all mandates, including enforcement, are lumped together in this variable. If one looks separately at consent-based peace operations, more-lasting effects ( $P = 0.068$ ) are found, even after these missions depart (regression 8), although the effects become non-significant after the second lag (regression 9). Overall, these results suggest that the UN's positive contribution with respect to the avoidance of war recurrence is concentrated in the short term, primarily to the period in which the UN forces remain on the ground.

## V. CONCLUSION

UN missions have a robust positive effect on peacebuilding outcomes, particularly participatory peace, but the effects occur mainly in the short run and are stronger when peacekeepers remain. This finding is reassuring, because the longer a peace lasts, the more stable it becomes. Interventions that shore up the peace in the immediate postwar period can thus have a lasting effect, as the best predictor of participation and peace tomorrow is participation and peace today.

Economic factors drive the long-term prospects of peace in the average post-civil war country. This finding is consistent with the prevailing opinion in the quantitative literature on the causes of civil war (see, for example, Fearon and Laitin 2003; Collier and Hoeffler 2004). Long-term peace can be facilitated by the presence of a UN mission with a mandate to monitor and police cease fires and rebuild institutions. Simply sending large numbers of troops will not solve the problem; they need to have a well-defined mandate. Economic assistance alone is also unlikely to do the trick, although more evidence is necessary to fully assess this claim. While economic factors may be more significant than other factors in preventing the resumption of war, more than mere financial assistance is needed to rebuild political institutions and implement complex peace agreements in the early years of postwar transitions.

28. In light of the fact that there have been too few missions of different mandates, this analysis is not pushed farther. Interested readers can read extensive case studies in Doyle and Sambanis (2006).

29. Results from random effects probit model are presented in the Supplemental Appendix.



The value added of UN missions lies precisely in its ability to play a vital role in transitions from civil war.

Countries that have had a UN mission tend to recover in a more sustainable manner from civil wars than countries that have not had a UN mission, but the effect wanes over time. Success in the early postwar years may account for the return to long-run growth, so that some of the impact of UN missions may well be reflected in the economic variables. Over time economic development is critically important; UN missions must be designed so that they can make a significant difference with respect to this critical determinant of peace. As good as UN peacebuilding is in expanding political participation, it must also help to jump-start self-sustaining economic growth. Economic reconstruction is usually treated as follow-on to peace rather than the vital partner that it is. It provides the visible benefits of peace that help mollify hostilities, the civilian jobs that absorb demobilized soldiers, and the tax revenues that strengthen state capacity. Economic reconstruction also funds the national army, which sustains public order. It pays for soldiers who demine rather than mine battlefields.

In addition to being a significant determinant of sustainable peace, growth is also a determinant of sustainable democracy (Przeworski and others 2000; Collier and Hoeffler 2004). Efforts are under way to fill the policy gap between peacekeeping (which focuses on humanitarian assistance) and development assistance (which emphasizes structural transformation). One example of such efforts is the creation, in 2006, of the UN Peacebuilding Commission. This commission should coordinate UN peacekeeping interventions with development assistance provided by international financial institutions, such as the World Bank.

Much remains to be learned about recovery from civil war: no recipes are available for the right mix or sequencing of security and development strategies following such conflicts. The international community would benefit from an evolution that uses economic reform to plug the gap between peacekeeping and humanitarian assistance on the one hand and development on the other.

#### SUPPLEMENTARY MATERIAL

Supplementary Material is available at The World Bank Economic Review Online.

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## REFERENCES

- Annan, Kofi. 2001. "No Exit without Strategy: Security Council Decision-Making and the Closure or Transaction of United Nations Peacekeeping Operations." Report presented to the Security Council April 20. Document S/2001/394. United Nations, New York.
- Boulding, Kenneth. 1964. "Toward a Theory of Peace." In Roger Fisher, ed., *International Conflict and Behavioral Science*, 70–87. New York: Basic Books.
- Box-Steffensmeier, Janet M., and Bradford S. Jones. 2003. *Timing and Political Change: Event History Modeling in Political Science*. Ann Arbor: University of Michigan Press.
- Collier, Paul, and Anke Hoeffler. 2004. "Greed and Grievance in Civil War." *Oxford Economic Papers* 56(4):563–95.
- Collier, Paul, Anke Hoeffler, and Mans Soderbom. 2004. "On the Duration of Civil War." *Journal of Peace Research* 41(3):253–74.
- Doyle, Michael W., and Nicholas Sambanis. 2000. "International Peacebuilding: A Theoretical and Quantitative Analysis." *American Political Science Review* 94(4):779–801.
- . 2006. *Making War and Building Peace: United Nations Peace Operations*. Princeton, N.J.: Princeton University Press.
- Fearon, James D. 2004. "Why Do Some Civil Wars Last So Much Longer than Others?" *Journal of Peace Research* 41(3):275–301.
- Fearon, James D., and David D. Laitin. 2003. "Ethnicity, Insurgency and Civil War." *American Political Science Review* 97(1):75–90.
- Przeworski, Adam, Michael Alvarez Fernando Limongi, and Jose Cheibub. 2000. *Democracy and Development*. Cambridge: Cambridge University Press.
- Sambanis, Nicholas. 2004. "What Is Civil War? Conceptual and Empirical Complexities of an Operational Definition." *Journal of Conflict Resolution* 48(6):814–59.
- Shimizu, Hirofumi, and Todd Sandler. 2002. "Peacekeeping and Burden-Sharing, 1994–2000." *Journal of Peace Research* 39(6):651–68.