Peacekeepers as Signals:
The Demand for International Peacekeeping in Civil Wars

Page Fortna and Lisa L. Martin

July 2005

Prepared for *Power, Interdependence, and Non-State Actors in World Politics: Research Frontiers*, Helen V. Milner and Andrew Moravcsik, eds. (Princeton University Press, forthcoming).

We thank the participants in the Robert Keohane Festschrift, Princeton University, February 2005, for comments, especially Robert Keohane, Helga Haftendorn, John Owen, and Helen Milner.

Peacekeeping – the deployment of international troops and monitors to war-torn areas – is an international institution intended to help recent belligerents maintain peace. The literature on peacekeeping has exploded in the last fifteen years, but analyses of it as an institution promoting cooperation have been hampered by several methodological handicaps. One is a matter of case selection – the majority of studies examine only cases where peacekeepers are involved, with no comparison to cases of non-peacekeeping.[1] The second is an endogeneity issue – peacekeepers are not deployed to conflicts at random, so analysis of their effects must begin with an analysis of where peacekeepers go. Recent studies of peacekeeping have begun to address the first problem[2] but much less has been done to remedy the second. We know very little about why peacekeepers are sent to maintain peace after some conflicts but not others. By definition, peacekeeping missions operate with the consent of the belligerents (this analysis excludes enforcement missions, known in the UN lingo as "chapter VII" missions, that do not necessarily rely on the participants' consent.). In a civil war, the consent of the government is particularly important. But there has been no systematic analysis of the conditions under which warring parties request or consent to peacekeeping by the international community. This paper begins to answer the question of why belligerents sometimes agree to be "peacekept" and sometimes do not by focusing on peacekeeping as a mechanism that enables warring sides to signal their intentions to one another. While the argument should apply to consent-based peacekeeping in both civil and interstate conflicts, we focus here on civil wars, as the most common form of warfare in recent years.

[1] Among many examples, see Coulon 1998; Diehl 1993; Durch 1996; Findlay 2002; James 1990; Krasno et al. 2003; Stedman et al. 2002; and Zacarias 1996.
[2] Doyle and Sambanis 2000.

Bob Keohane revolutionized the study of institutions in international relations by insisting that we think about the demand for international institutions.[3] We follow in his footsteps here by concentrating on the institution of peacekeeping, and modeling the demand for it. We also build on Keohane's work in general terms by thinking about how the willingness to bear the costs of acting within an institutionalized setting can serve as a signal. We conceive of the institution of peacekeeping as a costly signal of intent to abide by a peace agreement, and ask about what patterns of behavior we would expect to follow if this is an accurate conceptualization.

The paper connects insights from Martin's work on treaties as signaling devices and Fortna's work on the causal mechanisms of peacekeeping.[4] Martin examines the choice made by U.S. presidents between formal international treaties that require ratification by two-thirds of the Senate and executive agreements that require no such blessing. Because the former is a costly and time-consuming endeavor, formal ratification serves as a credible signal of reliability. Similarly, Fortna argues that one of the ways in which peacekeepers can have a causal effect on the duration of peace is by serving as a costly, and therefore credible, signal of benign intent. Belligerents who have no intention of abiding by a cease-fire or peace agreement will be less willing to have a contingent of international observers and troops inspecting their actions. Consenting to a peacekeeping mission is more costly for unreliable types than for reliable types. Such consent can therefore provide a credible signal. The signaling model of peacekeeping that we develop here provides a number of empirically testable insights about when agreements are feasible and when belligerents will consent to peacekeeping. We test

[3] Keohane 1983, 1984.
[4] Martin 2005, Fortna 2004a.

these hypotheses on a data set of civil wars from 1989 to 1997.[5] We find relatively strong support for the model's predictions. Factors such as the potential benefits of peace, government costs of allowing peacekeepers in, and rebel assessments of the government's reliability are related as expected to the incidence of peacekeeping.

The small existing literature on where peacekeepers get sent focuses on the supply-side of the equation – where does the UN decide to send peacekeepers? Some arguments emphasize the strategic or economic interests of the permanent five members of the Security Council and argue that there is a strong regional bias to where peacekeepers get sent. Some debate whether the UN is motivated by the humanitarian impulse to stop the worst bloodshed, or perhaps the worst bloodshed televised by CNN. Others suggest it is driven by a desire to spread democracy.[6] As Gilligan and Stedman point out, much of this literature is based on impressionistic accounts or on flawed research design.[7] The methodological sins include tautology, especially with reference to Security Council interests, and selection on the dependent variable, i.e., inference only from the set of peacekeeping cases, not all civil wars. Gilligan and Stedman's article is the only we know of that tests these hypotheses systematically.[8] They use duration analysis to show that the UN sends peacekeepers most quickly to conflicts with higher death tolls; that the international organization tends to avoid peacekeeping in countries with large armies; and that while there is a regional bias, Asia is the most neglected, not Africa. They find that levels of democracy, primary commodity exports, or whether the

[5] This data is adapted from Doyle and Sambanis 2000 and is described further in Fortna 2004b.
[6] On these points, see De Jonge Oudraat 1996; Neack 1995; Jakobsen 1996; and Andersson 2000.
[7] Gilligan and Stedman 2003.
[8] See Gilligan and Stedman 2003, pp.38-42 for a review and critique of the existing literature. Fortna 2004b examines the question of where peacekeepers go, but only in passing.

country is a former colony of a permanent Security Council member have no statistically significant effect on the hazard rate of peacekeeping.

The most important difference between the approach we take here and existing studies is that we develop hypotheses about the demand-side of peacekeeping – about when belligerents will agree to a peacekeeping mission.[9] While a peacekeeping mission requires an active decision by the UN or a regional organization (or sometimes an ad hoc group of states) to deploy, it is exceedingly rare for the international community to refuse peacekeepers if the belligerents themselves request them. Despite US admonitions during the 1990s that that it learn to do so, the international community rarely "just says no." Whether or not peacekeepers are deployed in civil wars is a decision made largely by the combatants themselves. We focus on the demand side of peacekeeping for two reasons: first, this is the aspect most overlooked by the rest of the literature on where peacekeepers go, and second, for consent-based peacekeeping it is belligerents' choices that are most important. However, once they arrive, it is peacekeepers' actions as independent agents that underlie the fact that peacekeeping provides a costly signal. It is because they act independently to monitor behavior and raise the cost of aggression that consenting to them is a credible signal of benign intentions.

Below we present a model of the government's decision to continue fighting, to offer an agreement with peacekeeping, or an agreement without peacekeeping, and the rebels' decision to accept an agreement or reject it in favor of continued warfare.

[9] Gilligan and Stedman 2003 suggest two hypotheses that they describe as demand-side but that are either indirectly or partially supply-side arguments: that stronger states are better able to resist pressure to consent to peacekeeping, and that the war aims of rebels affect both the willingness of the government to agree to peacekeepers and the willingness of the UN to send them (p.40).

Model and Comparative Statics

Model: To explore the demand for peacekeepers as a signal of intent to comply with a peace agreement, we develop a simple signaling model. We assume two players, a government and a rebel group, that are in an ongoing conflict. The rebel group does not know whether the government is reliable or not. An unreliable government will not abide by the terms of any peace agreement or truce, imposing costs on the rebel group if they accept a peace agreement. In order for peacekeepers to function as signals of the government's type, there must be some differential cost to the two types of allowing peacekeepers into the country. While both might prefer to avoid the interference of outsiders, the cost relative to benefits for an unreliable government is higher than the cost to a reliable government. Peacekeepers monitor behavior, focus international attention on a conflict, making bad behavior more costly in terms of international aid, diplomatic support and legitimacy, and may provide a trip-wire triggering a more robust military response against violation of a peace deal. For a government that intends to abide by the agreement, these actions by peacekeepers are not costly. But for a government that intends to restart the fight after suckering the rebels with a peace deal, peacekeepers will raise the cost of going back to war. Unreliable governments may also face more internal opposition to allowing peacekeepers in as hardliners will anticipate these effects.

This section formalizes the argument and finds the equilibria of this signaling game. Nature begins by choosing whether the government (G) is reliable (probability r) or unreliable (1-r). G observes this choice, but the rebel group (R) does not. G moves next. G has three choices: continue to fight; offer a peace agreement without

peacekeepers; or offer a peace agreement with peacekeepers. There is a cost associated with offering peacekeepers, but this cost is differentiated by type. The cost/benefit ratio is higher for unreliable than for reliable G's. R observes G's choice, and decides whether to accept G's agreement or to continue fighting. We normalize the payoffs of continued fighting to zero for both sides. We assume that there is some small cost (e) to G for offering an agreement that is rejected.

A reliable G gets payoff Z from having an agreement accepted, and R gets payoff S from this successful peace agreement. An unreliable G gets payoff Y from having an agreement accepted. Y may be different from Z, although in our empirical application we have been unable to identify proxies that effectively differentiate the two. G must also, however, pay some cost for allowing peacekeeping troops into the country. For an unreliable G, we can interpret this as the cost (b) of buying off nationalist interests or future reputational costs from having peacekeepers observe G's unreliability.[10] Even a reliable G bears some general sovereignty cost (a) from inviting peacekeepers in. However, for a reliable G, this cost is smaller relative to benefits than for an unreliable G. Thus, we assume that $Z-a > Y-b$. (Otherwise peacekeepers cannot possibly work as a signal.) R bears cost c from signing an agreement with an unreliable G. This cost could result from, for example, R beginning to disarm and thus being less able to fight G in the future. Figure 1 shows the game, and Table 1 specifies the equilibrium outcomes.[11]

[10] For a discussion of how the presence peacekeepers affects the costs and benefits of reneging on the agreement, see Fortna (2004a).

[11] We do not provide a formal proof of the equilibria in this paper because of space constraints, and because this is a standard signaling model with the usual results. As in most signaling models, two classes of equilibria arise, one in which the second player demands costly signals, and an accommodating one in which she does not. Because we are concerned with a set of cases involving deep animosity, we expect civil war belligerents, by definition deadly enemies, to play strategies that yield the demanding equilibrium rather than the accommodating one. We thus predict that the results from the demanding equilibria should hold and focus on them here.

[Figure 1 and Table 1 about here]

The bottom row of Table 1 shows situations where the benefits of peace are low relative to the costs of peacekeepers for both types of governments. In this case, neither type of government is willing to bear the costs of peacekeepers. When the rebels have prior beliefs that the government is likely unreliable ($r<(c/(S+c))$), they will not accept any offers of peace, and so fighting will continue. But when the government is more likely reliable ($r>(c/(S+c))$), rebels will be willing to take a chance and will accept the government's offer of a peace agreement without peacekeepers.

The next row, moving up, shows a situation where a reliable government is willing to bear the cost of peacekeepers, but an unreliable government is not. Here, we get a separating equilibrium regardless of prior beliefs about the government's reliability, because the two types clearly distinguish themselves from one another. A reliable government will always offer peacekeepers, and the rebels will accept this offer. An unreliable government will not be willing to bear this cost; knowing this, rebels will reject all offers of agreements without peacekeepers.

The top row of Table 1 illustrates the equilibria when the benefits of peace are high relative to the cost of peacekeepers for both types of governments. Here, if the chance that the government is reliable is high, all types will offer peacekeepers and rebels will accept this offer. In this case, an unreliable government has been able to bluff successfully. However, when prior beliefs that the government is reliable are low, rebels will not buy this bluffing strategy quite so easily. Here, we get a complex semi-separating equilibrium. A reliable government will always offer peacekeepers. An unreliable government, knowing that bluffs will not always

be willing to offer peacekeepers. Thus, an unreliable government plays a mixed strategy, offering peacekeepers with some probability between 0 and 1, as specified in the table. The rebels will never accept an agreement without peacekeepers under these circumstances. On observing an offer of peacekeepers, the rebels will also play a mixed strategy, accepting the offer with some probability between 0 and 1 (as shown in the table).

Comparative Statics: This game thus has three possible outcomes: continued fighting, a cessation of hostilities with no peacekeeping troops, or a cessation of hostilities and the presence of peacekeepers, lending itself to empirical analysis via multinomial logit. The game gives rise to a large number of predictions, based on the parameters of the model and the outcome of interest. Here, we will focus our attention on two sets of comparative statics: when we will observe peacekeepers relative to observing continued fighting, and when we will observe peacekeepers relative to a truce without peacekeepers. Tables 2 and 3 allow us to specify these comparative statics by showing the predicted outcomes. Table 2 focuses on the relative incidence of peacekeepers and continued fighting. Cells in which only agreements with no peacekeepers are predicted are shown as empty, and the "agreements without peacekeepers" outcomes are neglected. Analogously, Table 3 shows the relative incidence of peacekeepers and truces without peacekeepers; cells that predict only continued fighting are shown as empty, and the outcome of continued fighting is neglected.

[Tables 2 and 3 about here]

These tables allow us to specify the following comparative statics:

Peacekeeping relative to continued fighting:

1. The incidence of peacekeeping will increase as *Z* and *Y* increase and as *a* and *b* decrease. That is, we will see more peacekeeping relative to continued fighting as the benefits of peace for the government increase, and as the costs of accepting peacekeepers decrease.
2. The incidence of peacekeeping will increase as *r* and *S* increase, and as *c* decreases. That is, we will see more peacekeeping relative to fighting when rebels believe the government is reliable, when the benefits of peace for the rebels are high, and when the costs of exploitation for the rebels are low.

Peacekeeping relative to agreements (or truces) without peacekeepers:

3. The incidence of peacekeeping should decline as *r* and *S* increase, and as *c* decreases. This is, we should see less peacekeeping relative to agreements without peacekeepers when the government is likely reliable, when the benefits of peace for the rebels are high, and when the costs of exploitation for the rebels are low.
4. The incidence of peacekeeping should increase as *Z* and *Y* increase and as *a* and *b* decrease. That is, we should see more peacekeeping relative to agreements without peacekeepers when the benefits of peace to the government are high and the costs of accepting peacekeepers low.

Table 4 summarizes the predicted effects of the model's parameters.

[Table 4 about here]

This model shows how important it is to consider all three outcomes in order to get predictions that are not subject to selection effects. The incidence of peacekeeping relative to continued fighting, and relative to agreements without peacekeepers, is subject to different effects. In order to begin testing these propositions, we need to find proxies for the costs and benefits facing governments and rebels, and for rebels' beliefs. The next section turns to this problem and to specifying the observable implications on which we will focus.

Measuring the Variables

We draw on civil war data collected by Michael Doyle and Nicholas Sambanis (hereafter D&S).[12] We focus on the 64 cases in the period from 1989 to 1997, because the use of peacekeepers underwent fundamental changes with the end of the Cold War. For our purposes, the dependent variable is trichotomous: 1) wars in which fighting ends in victory for one side, or is ongoing (N=25); 2) wars in which the belligerents reach an agreement to stop fighting but no peacekeepers are deployed (N=18); and 3) wars in which an agreement is reached and peacekeepers are deployed (N=21). Because we are interested in the demand for peacekeeping by the belligerents themselves, the measure of peacekeeping includes only consent-based peacekeeping, agreed to by the belligerents, not enforcement missions which do not require this consent.

In terms of the model presented above, the first category (1) represents decisions to continue fighting, or agreements (with or without peacekeepers) that are offered but rejected (and are therefore unobserved in the data). Agreements (in categories 2 and 3)

[12] Doyle and Sambanis 2000. The data are adapted slightly (see data notes at www.columbia.edu/~vpf4 for details). Revised data that go beyond 1997 from Doyle and Sambanis Forthcoming are not yet available.

include both cases of peace treaties and informal truces. The latter represent at least tacit agreement to stop fighting, and in some cases peacekeepers are deployed to oversee these truces.

Measuring rebels' beliefs, the costs and benefits of peace for various actors, and the costs of peacekeeping for the two types of government is more difficult. We do not have single straightforward proxies for each of these concepts. Instead we posit that a number of characteristics of the war and of the parties should affect the participants' beliefs and their assessment of costs and benefits.

The benefit of peace for both reliable and unreliable governments is a function of the costs of war, which we proxy with duration, on the theory that as the war drags on, the government's estimate of what it will cost to win outright rises. Duration might be thought of as a proxy for rebel costs as well. However, as the old maxim goes: for many rebel groups, not to lose is to win, while for governments not to win is to lose. Duration, we argue, is thus a better proxy of government costs than of rebel costs.[13]

Z and Y should correlate positively with duration.

The more mountainous the terrain, the easier it is for rebels to hide and the lower their costs of war. Rough terrain thus makes it harder for the government to find and defeat rebels, increasing the government's benefit from peace.

S should correlate negatively, while Z and Y may correlate positively with mountainousness.

[13] We also tried a measure of battle deaths as a proxy of both government and rebel costs, and therefore benefits of peace. Deaths had no significant effect on the likelihood of peacekeeping, a finding that is consistent with our predictions about agreements with and without peacekeepers. If deaths raise both S and Y and Z, it will have contradictory effects on the likelihood of peacekeeping. Omitting this variable does not affect any of the other results.

A well-armed government that reneges on a peace agreement is more dangerous to rebel groups than one that is not well-armed.

c may therefore correlate positively with government army size.

R's assessment of G's reliability (*r*) may depend on the government's regime type. Relative to closed political systems, democracies are likely less able to be able to renege on a peace agreement once they have entered into it.

r should be higher for democracies.

There is a cost to both reliable and unreliable governments of letting peacekeepers in, because peacekeepers infringe on the state's sovereignty, and a country's prestige is at stake. Bangladesh, for example, was particularly unwilling to countenance peacekeepers in its civil war in the Chittagong Hill Tracts because Bangladesh prides itself on deploying peacekeepers elsewhere, helping other worse-off countries out of their civil war messes. Allowing peacekeepers in would entail admitting that it needed such help.[14] This cost might vary with the age of the country – those closer to independence might be more prickly about their sovereignty and prestige.

Both a and b should decrease with the number of years since the country gained independence.

[14] Interviews by Fortna in Bangladesh, January 2002. The sovereignty costs of peacekeeping were also quite apparent in interviews with government officials in Mozambique, December 2002.

The strength of a country's economy provides a proxy for how much a country will care about earning a negative reputation with the international community. Poorer countries who depend significantly on international development assistance will be much more sensitive to the negative effects of reneging on an agreement while peacekeepers are present observing their behavior. Richer countries, meanwhile, will care much less about this cost to their reputation.

b should thus be lower the richer the country.

R's prior beliefs about G's reliability will be affected by their history of conflict:

r should be lower if these parties have fought before in the past.

Table 5 summarizes the relationship between observable measures in the data and the variables in the formal model. It also provides information on the measurement and data source for each variable.

[Table 5 about here]

Predictions

Because we have observable measures that tap into more than one variable in the model, predictions are a bit complicated. Some testable hypotheses can be derived however. We start with predictions about agreements with peacekeepers relative to continued fighting.

Agreements with peacekeepers, relative to continued fighting:

Duration: Longer duration of conflict increases the government's benefit from peace (*Z* or *Y*, depending on G's type) and, following comparative statics point 1 (cs1) above, should increase the probability of peacekeeping agreements.

Mountainous terrain: Rough terrain has contradictory effects. To the extent that it increases the government's benefit from peace, it should increase the probability of peacekeeping agreements (cs1). But it also decreases the rebels' benefit from peace, decreasing the probability of peacekeeping relative to ongoing fighting (cs2).

Government army size: The more the government spends on its army, the more vulnerable rebels are to an unreliable government. Thus, we expect a negative relationship between army size and peacekeeping (cs2).

Regime type: Democracy increases the rebel's belief that that the government is reliable (*r*), which has a positive effect in the demanding equilibrium (cs2).

Years sovereign: The longer a country has enjoyed sovereignty and the less prickly it is about the issue, the lower the cost of letting in peacekeepers, and the more likely they should be. We should see a positive relationship between the age of a country and peacekeeping (cs1).[15]

GDP/capita: Similarly, the richer the country, the lower the cost of peacekeepers to unreliable governments (*b*). GDP per capita should thus have a positive effect on peacekeeping (cs1).

Past war: If the parties' history involves previous rounds of fighting, the rebels are less likely to believe the government is reliable (*r*) which should decrease the probability of agreements with peacekeeping, relative to continued fighting (cs2).

Agreements with peacekeepers, relative to agreements without peacekeepers:

The hypotheses for agreements with peacekeeping relative to agreements with no peacekeeping are more straightforward, because where measures tap into more than one variable in the model, the effects point in the same direction.

[15] Civil wars tend to occur in newer states, but as our universe of cases consists only of those experiencing civil war, any effect of a country's age on civil war onset should be selected out.

Duration: By increasing the benefits of peace for the government (*Z* or *Y*, depending on its type), longer duration should make the government more willing to offer peacekeepers (cs4).

Mountains: Rough terrain increases the benefit of peace for the government, but decreases it for the rebel side. So both comparative static predictions (cs 3 and 4) suggest that peacekeepers will be more likely in countries with mountainous terrain.

Government army size: The strength of the government's army should have a positive effect. It increases the vulnerability of rebels, and increases their demand for peacekeepers as the price of agreement (cs3).

Regime type: Democracy increases the rebel's beliefs that the government is reliable (*r*). This should decrease the probability of peacekeepers (cs3).

Years sovereign: If countries that have more recently won independence are indeed more sensitive to the infringement of peacekeepers on their sovereignty, then the cost of peacekeeping (*a* and *b*, depending on the government's type) is lower the older the state. This should increase the prevalence of peacekeeping among those wars that end with an agreement (cs4). We thus expect a positive relationship between years sovereign and peacekeeping.

GDP/capita: Governments of richer countries, who care less about the reputational costs of peacekeepers if they renege on their agreements, will be more likely to accept peacekeepers. GDP per capita should increase the likelihood of peacekeeping (cs4).

Past war: By decreasing the rebel's beliefs that the government is reliable (r), at least one previous round of conflict should increase their demand that the government incur the added cost of peacekeeping to prove its reliability (cs3). Peacekeeping should thus be more likely if this war is a repeat of earlier fighting.

Table 6 summarizes these predictions.

[Table 6 about here]

Empirical Testing

To test these predictions, we run a multinomial logit on the data set of civil wars. The dependent variable is the trichotomous outcome: continued fighting, agreement without peacekeeping, and agreement with peacekeeping. The results are shown in Tables 7 and 8. The tables show the results of the same multinomial logit model. However, for ease of interpretation, we show the results both when continued fighting is the baseline (Table 7) and when an agreement without peacekeepers is the baseline (Table 8). For both, the results that interest us the most are shown first, for the use of

peacekeepers relative to the omitted category.[16] Because some of the observations in this data set are not independent of each other (e.g., whether peacekeepers deploy to one conflict may be affected by whether peacekeepers have been involved in that country in the past) we calculate robust standard errors with observations clustered by country. In other words, the various civil wars in India are considered potentially related, whereas the civil war in Nicaragua is considered independent of the war in Peru.[17]

[Tables 7 and 8 about here]

Consider first Table 7, where the first part shows the results for the incidence of peacekeeping relative to continued fighting. These results are quite strong and consistent with our model. Wars of longer duration are associated with more peacekeeping, indicating that higher potential peace benefits for the government lead to more peacekeeping, as predicted. More mountainous terrain, on the other hand, is associated with less peacekeeping. This result is consistent with the model if we assume that rough terrain is a better proxy for benefits to the rebels than benefits for the government. If rough terrain tends to decrease rebel's peace benefits by lowering the cost of ongoing fighting, we would predict the negative effect of mountains on peacekeeping that we find here.

The results show a strong negative effect of government army size on peacekeeping. This is consistent with the model, indicating that a larger government

[16] The model also provides predictions about the use of agreements without peacekeepers relative to continued fighting. As these are of less interest, we do not discuss them here. However, their inclusion in the model is necessary to avoid selection bias, and the results are largely consistent with the signaling model's predictions.

[17] Note that the cluster variable used to calculate robust standard errors is slightly different from the cluster variable used to determine whether there was a previous war between the same parties. In the D&S data, the former is named "clust2" and the latter "cluster." The former groups together all conflicts in a given country, whether or not they are related (so the Sikh conflict in India is in the same "clust2" cluster as the war in Kashmir). The latter only groups conflicts that involved the same parties (so the Sikh and Kashmir war do not share a cluster).

army makes rebels more vulnerable to government reneging, so reducing the incidence of peacekeeping relative to continued fighting. Similarly, democracy has a strong positive effect on peacekeeping as the model predicts, indicating that more reliable governments are associated with more peacekeeping (and less continued fighting). The sign on past wars is negative as predicted, although not statistically significant. We find a positive effect of per capita GDP on peacekeeping, as expected, indicating that rich governments bear a relatively low sovereignty cost for allowing peacekeepers in.

One surprising result is the strong negative effect of years sovereign on the incidence of peacekeeping. We had hypothesized that newly sovereign governments would be more sensitive to the intrusive presence of peacekeepers, leading to a negative correlation between years sovereign and the parameters *a* and *b*. This led us to predict a positive correlation between years sovereign and peacekeeping, as states more confident in their sovereign status would be more willing to allow peacekeepers in. Instead, we find just the opposite. As we will see below, of those wars that end with an agreement, peacekeeping is more likely in older states. But as the negative and significant coefficients in both halves of table 7 indicate, the most likely outcome in older states, ceteris paribus, is continued fighting rather than agreement (with or without peacekeepers). It is possible that newly independent states are more susceptible to international pressure to negotiate an end to their civil wars, while older states can more easily resist this pressure.[18]

Overall, the results for peacekeeping relative to continued fighting provide strong support for the signaling model, With the exception of a state's age, all the results are in the predicted direction, and all but one of these effects are statistically significant.

[18] On the rise and possible demise of a norm of negotiated settlement in civil wars, see Howard 2003.

Turn now to Table 8, which shows the same multinomial logit model but makes agreements without peacekeepers the baseline category, so that we can directly see effects on the incidence of peacekeeping relative to these agreements. The results here are not as strong as for peacekeeping relative to continued fighting, but still suggestive. As expected, we find that war duration has a positive effect on peacekeeping. If governments see a high potential benefit of peace, they will be more willing to offer agreements with peacekeepers, leading to the result we find here. The sign of the coefficient for mountainous terrain is positive as predicted, though it is not statistically significant. The effect of government army size runs counter to our predictions, however. A larger government army has a strong negative effect on peacekeeping.[19]

As noted above, we find a positive effect of years sovereign on peacekeeping. As predicted in our model, newer states appear to be more sensitive to infringements on their sovereignty, while older states are more likely to offer peacekeepers (given that an agreement is reached). The coefficient for past wars is positive, as the model predicts, but this effect is not significant. Neither democracy nor GDP/capita have effects that are statistically distinguishable from zero ($p \geq 0.9$).

Overall, we find that the model is less powerful at distinguishing between agreements with and without peacekeepers than between peacekeeping and continued fighting. The results in table 7 support our model strongly, while those in table 8 are more mixed.[20] Nonetheless, given that some of the proxies used here are crude, we feel

[19] We treat this variable as a proxy for rebel vulnerability, but it may well also pick up the effect of the government's cost of war. If governments with larger armies have a lower cost of war and therefore a lower benefit of peace (Z and Y) this should decrease the demand for peacekeeping, yielding the result we see here.

[20] This, along with the fact that the results in table 7 show similar findings for both agreements with peacekeeping and those without, relative to continued fighting, may reflect the fact that the choice between

the overall results suggest that there is a substantial signaling element to the demand for peacekeepers.

Conclusion

The small existing literature on where peacekeepers go focuses on supply – on when the international community chooses to deploy international personnel. Here we focus on the demand for this institution – when do belligerents agree to be peacekept.

We develop a signaling model in which governments choose whether or not to offer an agreement, and if so whether to offer to allow peacekeepers in. Rebels choose whether or not to accept this offer. The increased cost of peacekeeping to a government that intends to renege on the deal makes the offer of peacekeeping a credible signal of reliability. The model highlights the effects of the benefits of peace (or the cost of war), the cost of allowing peacekeepers to intrude, rebels' a priori level of trust in the government's reliability, and their vulnerability to exploitation.

While none of these variables can be observed outright, we propose at least crude proxies for testing the model's predictions. Most of these predictions are supported empirically. We find quite strong support for our expectations about agreements with peacekeeping relative to ongoing fighting. The findings about peacekeeping relative to agreements without peacekeeping are more mixed, but nonetheless generally support our expectations. As Keohane's work has long emphasized, focusing on strategic demands for institutions leads to powerful insights about their incidence.

---

agreement and fighting to the finish is more predictable than the choice of whether to invite peacekeepers if agreement is reached.

Figure 1

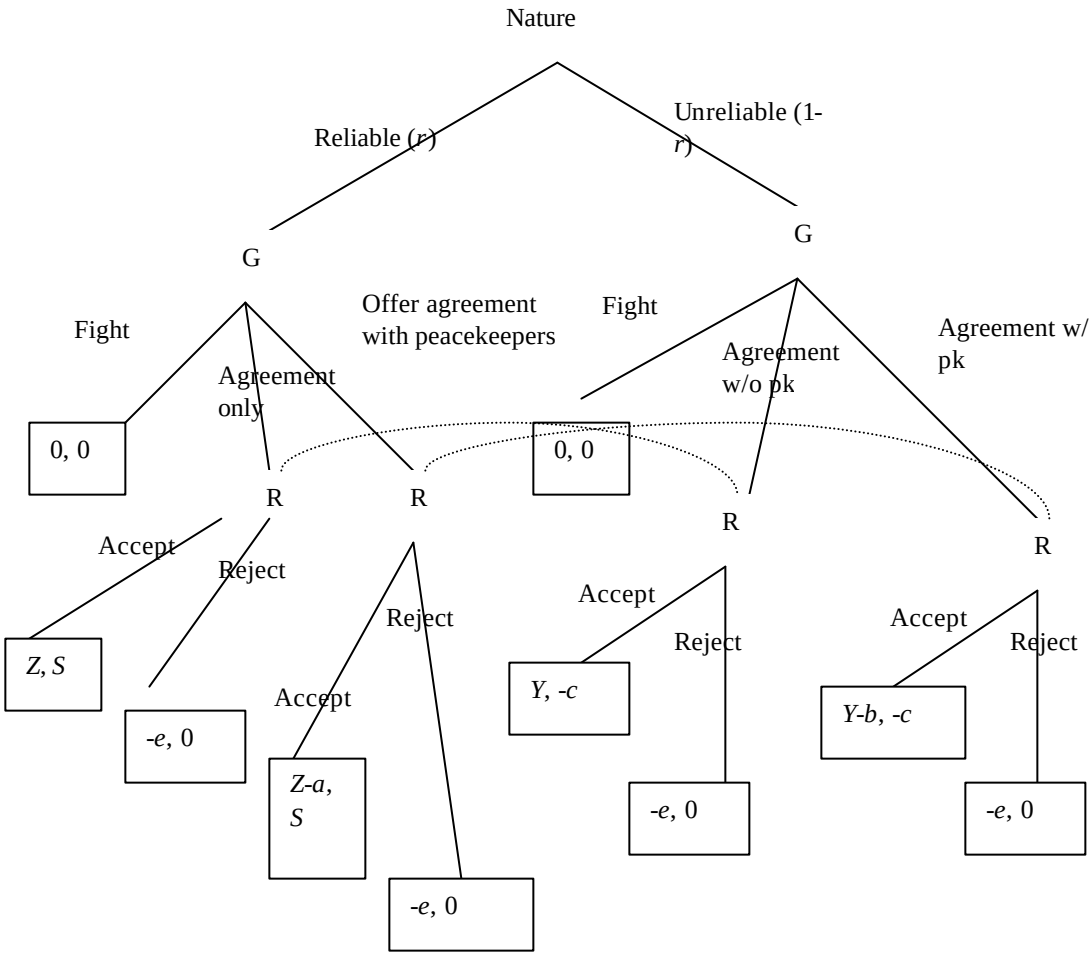
Nature
Reliable (*r*)
Unreliable (1-*r*)
G
G
Fight
Offer agreement with peacekeepers
Fight
Agreement only
Agreement w/o pk
Agreement w/ pk
0, 0
0, 0
R
R
R
R
Accept
Reject
Reject
Accept
Reject
Accept
Reject
Accept
Z, *S*
-*e*, 0
Z-*a*, *S*
-*e*, 0
Y, -*c*
-*e*, 0
Y-*b*, -*c*
-*e*, 0

Table 1
Equilibria

	$r<c/(S+c)$	$r>c/(S+c)$
$Z>a$ and $Y>b$	Semi-separating: reliable G's offer peacekeepers. Unreliable G's offer peacekeepers with probability $rS/(c-cr)$. R accepts offers with probability $(b+e)/(Y+e)$	Pooling: all types of G offer agreements with peacekeepers; all are accepted
$Z>a$ and $Y<b$	Separating: only reliable G's offer agreements with peacekeepers; all offers are accepted	Separating: only reliable G's offer agreements with peacekeepers; all offers are accepted
$Z<a$ and $Y<b$	No peace offers made	Pooling: all types of G offer agreements without peacekeepers; all offers are accepted

Table 2
Peacekeeping relative to continued fighting

	$r<c/(S+c)$	$r>c/(S+c)$
$Z>a$ and $Y>b$	Some peacekeeping and some fighting; higher proportion of pk	Peacekeeping only
$Z>a$ and $Y<b$	Some peacekeeping and some fighting; lower proportion of pk	Some peacekeeping and some fighting; lower proportion of pk
$Z<a$ and $Y<b$	Fighting only	XXX

Table 3
Peacekeeping relative to agreement without peacekeepers

	$r<c/(S+c)$	$r>c/(S+c)$
$Z>a$ and $Y>b$	Peacekeeping only	Peacekeeping only
$Z>a$ and $Y<b$	Peacekeeping only	Peacekeeping only
$Z<a$ and $Y<b$	XXX	Agreements only

Table 4
Predicted effects of model's parameters

Parameter	**Peacekeeping relative to fighting**	**Peacekeeping relative to agreements without pk**
Z, Y	+	+
S	+	-
a, b	-	-
c	-	+
r	+	-

Table 5
Observable Measures

Observable measure	Relationship to model variables	Measurement and data source
Duration of war	Increases G's benefit of peace (*Z* &*Y*)	In months: (end year-beginning year x 12) for ongoing wars: (1999-beginning year x 12) (D&S)
Mountains	Decreases R's benefit of peace (*S*) Increases G's benefit (*Z* & *Y*)	Log (% mountainous+1) (Fearon & Laitin 2003)
Govt. army size	Increases R's vulnerability (*c*)	Troops (thousands) (D&S)
Democracy	Increases G's reliability (*r*)	average Polity score over 5 years before the war (D&S)[21]
Years sovereign	Decreases cost of pk for both types of G (*a* & *b*)	Year war began – year of independence (D&S and COW)
Economic strength	Decreases cost of pk for unreliable G (*b*)	Real GDP per capita (D&S)
Past war	Decrease *r*	Dummy for previous civil war between same parties (from D&S "cluster" variable)

D&S = Doyle and Sambanis 2000

Table 6
Predicted effects of observable measures[22]

Measure	Peacekeeping relative to fighting	Peacekeeping relative to agreement without pk
Duration of war	+	+
Mountains	~	+
Govt. army size	-	+
Democracy	+	-
Years sovereign	+	+
Economic strength	+	+
Past war	-	+

[21] Because regime type may be endogenous to the agreement – sometimes non-democracies agree to democratic institutions or at least elections as part of the agreement – we use a measure of regime type taken before the war begins.

[22] Entries indicated "~" result from our observable measure being correlated with more than one model parameter. For example, mountainous terrain is positively correlated with *Z* and *Y*, but negatively correlated with *S*. The former leads us to predict a positive effect of peacekeeping relative to ongoing fighting, the latter a negative effect , leading to an ambiguous overall prediction.

Table 7
Multinomial logit model, incidence of peacekeeping relative to continued fighting

	Coefficient	Robust Std. Error	z
Peacekeeping			
Duration	0.0180**	0.00744	2.42
Mountains	-0.970**	0.445	-2.18
Govt. army size	-0.0114**	0.00304	-3.74
Democracy	0.298**	0.111	2.68
Years sovereign	-0.0403**	0.0203	-1.99
Past war	-0.489	0.876	-0.56
GDP per capita	0.00119*	0.000617	1.92
Constant	1.49	1.35	1.11
Agreement without peacekeepers			
Duration	0.0110*	0.00655	1.68
Mountains	-1.33**	0.583	-2.28
Govt. army size	-0.00530**	0.00195	-2.71
Democracy	0.297**	0.111	2.68
Years sovereign	-0.0593**	0.0232	-2.55
Past war	-1.17	0.998	-1.17
GDP per capita	0.00121**	0.000609	1.98
Constant	2.76*	1.65	1.67

Number of observations 56
Pseudo R2 0.355
* indicates estimated coefficients significant at the 0.10 level, ** coefficients significant at the 0.05 level

Table 8
Multinomial logit model, incidence of peacekeeping relative to agreement without peacekeepers

	Coefficient	Robust Std. Error	Z
Peacekeeping			
Duration	0.00699*	0.00379	-1.85
Mountains	0.357	0.326	-1.10
Govt. army size	-0.00606**	0.00248	2.45
Democracy	0.00133	0.0930	-0.01
Years sovereign	0.0189*	0.0102	-1.86
Past war	0.683	0.805	-0.85
GDP per capita	-0.0000175	0.000139	0.13
Constant	-1.27	0.938	1.35
Continued fighting			
Duration	-0.01099*	0.00655	-1.68
Mountains	1.32748**	0.58251	2.28
Govt. army size	0.00530**	0.00195	2.71
Democracy	-0.29686**	0.11091	-2.68
Years sovereign	0.05927**	0.02321	2.55
Past war	1.17152	0.99806	1.17
GDP per capita	-0.00121**	0.00061	-1.98
Constant	-2.75923*	1.65040	-1.67

Number of observations 56
Pseudo R2 0.355
* indicates coefficients significant at the 0.10 level, ** coefficients significant at the 0.05 level

References

.

Andersson, Andreas. 2000. Democracies and UN Peacekeeping Operations, 1990-1996. *International Peacekeeping* 7:1-22.

Coulon, Jocelyn. 1998. *Soldiers of Diplomacy: The United Nations, Peacekeeping and the New World Order*. Toronto: University of Toronto Press.

De Jonge Oudraat, Chantal. 1996. The United Nations and Internal Conflict. In *The International Dimensions of Internal Conflict*, edited by M. E. Brown. Cambridge, MA: MIT Press.

Diehl, Paul F. 1993. *International Peacekeeping*. Edited by R. N. Lebow, *Perspectives on Security.* Baltimore: Johns Hopkins University Press.

Doyle, Michael W., and Nicholas Sambanis. 2000. International Peacebuilding: A Theoretical and Quantitative Analysis. *American Political Science Review* 94 (4):779-802.

Doyle, Michael W., and Nicholas Sambanis. Forthcoming. *Making War and Building Peace: The United Nations since the 1990s*.

Durch, William J., ed. 1996. *UN Peacekeeping, American Politics and the Uncivil Wars of the 1990s*. New York: St. Martin's Press.

Fearon, James D., and David D. Laitin. 2003. Ethnicity, Insurgency, and Civil War. *American Political Science Review* 97 (1):75-90.

Findlay, Trevor. 2002. *The Use of Force in UN Peace Operations*. Oxford: SIPRI and Oxford University Press.

Fortna, Virginia Page, 2004a. *Peacekeeping and the Peacekept: Maintaining Peace in the Aftermath of Civil War*. Columbia University, ms.

_____. 2004b. Does Peacekeeping Keep Peace? International Intervention and the Duration of Peace after Civil War. *International Studies Quarterly* 48 (2):269-92.

Gilligan, Michael, and Stephen John Stedman. 2003. Where do the Peacekeepers Go? *International Studies Review* 5 (4):37-54.

Howard, Lise Morjé. 2003. The Rise and Decline of the Norm of Negotiated Settlement. Paper read at Georgetown Junior Faculty Workshop on Intervention, October 23-24, at Washington DC.

Jakobsen, Peter Viggo. 1996. National Interest, Humanitarianism or CNN: What Triggers UN Peace Enforcement after the Cold War? *Journal of Peace Research* 33 (2):205-215.

James, Alan. 1990. *Peacekeeping in International Politics*. New York: St. Martin's Press.

Keohane, Robert O. 1983. The Demand of International Regimes. In *International Regimes*, edited by S. D. Krasner. Ithaca, N.Y.: Cornell University Press.

_____. 1984. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton: Princeton University Press.

Krasno, Jean, Bradd C. Hayes, and Donald C. F. Daniel, eds. 2003. *Leveraging For Success in United Nations Peace Operations*. Westport: Praeger.

Martin, Lisa L. 2004. The United States and International Commitments: Treaties as Signaling Devices. Harvard University, ms.

Neack, Laura. 1995. UN Peace-keeping: In the Interest of Community or Self. *Journal of Peace Research* 32 (2):181-196.

Stedman, Stephen John, Donald Rothchild, and Elizabeth M. Cousens, eds. 2002. *Ending Civil Wars: The Implementation of Peace Agreements*. Boulder: Lynne Rienner.

Zacarias, Agostinho. 1996. *The United Nations and International Peacekeeping*. London: Tauris Academic Studies.